



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

As required by the Washington State Administrative Act, RCW 34.05.

IMPLEMENTATION PLAN FOR THE ADOPTION OF  
*CHAPTER 173-218 WAC*  
*UNDERGROUND INJECTION CONTROL PROGRAM*

**AND**

*CHAPTER 173-407 WAC*  
*CARBON DIOXIDE MITIGATION PROGRAM, GREENHOUSE GASES EMISSIONS*  
*PERFORMANCE STANDARD AND SEQUESTRATION PLANS AND PROGRAMS FOR*  
*THERMAL ELECTRIC GENERATING FACILITIES*

06/17/2008

Publication Number: 08-02-019

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CHAPTER 173-218 WAC  
Underground Injection Control Program

**AND**

CHAPTER 173-407 WAC  
Carbon Dioxide Mitigation Program, Greenhouse Gases Emissions Performance  
Standard and Sequestration Plans and Programs for Thermal Electric Generating  
Facilities

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## Implementation Plan for Chapter 173 - 218 WAC

### 1. Please describe how the Agency intends to implement and enforce the rule. Please include a description of the resources the Agency intends to use.

In general, the Washington State Department of Ecology (Ecology) will implement and enforce the Underground Injection Control (UIC) Program revised rule in the same way the current rule is implemented and enforced. Ecology headquarters staff and the regional offices will continue to provide technical assistance through, phone and email requests and compliance inspections.

Geologic Sequestration of Carbon Dioxide under the revised rule will require a Waste Discharge Permit under Ch 173-216 WAC prior to injection. Regional staff will issue and manage individual permits with support from headquarters.

#### *Clarification of the requirements*

Clarifications were added to the rule to provide a better understanding of what is needed to inject Carbon Dioxide for Geologic Sequestration in Washington. The rule includes:

- Geologic Sequestration by definition of the rule does not meet the non-endangerment standard for rule authorized.
- Geologic Sequestration of Carbon Dioxide requires a Waste Discharge Permit.
- Quarterly and annual reports are required.
- Closure and Post-Closure requirements.
- Financial assurance requirements.
- A mitigation and remediation plan is required.

To operate a UIC well in Washington, the well must be rule authorized or receive a state waste discharge permit to operate. UIC wells used for the geologic sequestration of carbon dioxide must obtain a state waste discharge permit to operate.

#### *Permit Application*

State Waste Discharge Permit application forms can be found on the Department of Ecology website, for the Water Quality Program. Requests for additional information and questions should be directed to the appropriate Ecology regional office. Contact information is also listed on Ecology's web site. .

Waste Discharge Permits applications must include an opportunity for public review and comment, prior to permit issuance. Ecology provides on-line, read-only access to water quality permits including state waste discharge permits, so the public and interested parties can view all issued permits and permit conditions.

### 2. Please describe how the Agency intends to inform and educate affected persons about the rule.

The affected persons include the public, power generation plants, public water supply systems, business owners, environmental groups and local and state government. To help inform and educate the affected persons, Ecology is doing the following:

Before the rule is finalized:

- Ecology's current rule-making website includes information on the program and rule-making process.
- Stakeholder Advisory Committee meeting minutes are posted on the current rule-making website.
- A Greenhouse Gas rule advisory committee was formed. Industries, academics, power companies, environmental interest groups, state government and consultants were members of the committee and they can pass on the information to their constituents.
- Two public hearings were conducted during the formal rule making process. An overview of the rule revision was presented.

Once the rule is adopted:

- Issue a press release announcing the adoption of the rule.
- Distribute copies of the final rule and the Concise Explanatory Statement to all interested parties.
- Post the final rule and Concise Explanatory Statement on the internet for public access.
- Ecology's UIC website will include information on the program requirements, access to the UIC database and rule revision process.
- Ecology's Laws and Rules website will continue to include information on the program and rule-making process under the Archived Rules section.

**3. Please describe how the Agency intends to promote and assist voluntary compliance for this rule.**

The actions mentioned above, to inform and educate affected persons on the changes, also help promote voluntary compliance. Program staff are available to respond to stakeholder phone and e-mail queries.

A number of other activities will be useful to help promote voluntary compliance. They include the following:

- The regulations and guidance documents are available on Ecology's web site.
- Training of regional staff on revised regulations.
- The interested party list may be used to pass on program information and updates.

**4. Please describe how the Agency intends to evaluate whether the rule achieves the purpose for which it was adopted, including to the maximum extent practicable, the use of interim milestones to assess progress and the use of objectively measurable outcome.**

Washington legislation directed Ecology to:

- Establish a clear regulatory framework for the permitting and management of the geologic sequestration of carbon dioxide. (Ch 80.80 RCW)

- Protect public safety, the environment and the quality of ground water resources that we use for irrigation and drinking water. (Ch 90.48 RCW)
- Ensure that geologic sequestration facilities are properly closed at the end of their useful life in a way that protects public health and the environment.

The purpose of the UIC program is to prevent contamination of the State's ground water by regulating discharges into UIC wells. The state waste discharge permit for a facility will require proper site selection and management to prevent problems. Required monitoring and reporting will detect any unexpected releases from the facility before usable aquifers are degraded. The closure and post-closure requirements will ensure that a facility is properly closed and monitored at the end of its useful life.

Ecology will measure the following outcomes:

- Number of applications submitted and permits issued.
- Monitoring results demonstrating that the ground water quality is not degraded.
- Completion of proper closure at the end of a facility's useful life.
- Continued monitoring through the post-closure period to ensure that the carbon dioxide is permanently sequestered.

**5. Please describe how the Agency intends to train and inform Ecology staff regarding new rule or rule amendment.**

Regional staff:

- Reviewed and provided comments on the rule revision.
- Attended public hearings on rule revision.
- Participated in permitting of early sequestration pilot study.

Additional training at the regional offices will take place after the rule is adopted.

**6. Please identify supporting documents that may need to be revised because of the rule amendment. Or Identify new supporting documents that need to be developed because of a new rule.**

UIC and state waste discharge permit guidance documents will need to add a section addressing geologic sequestration of carbon dioxide. Geologic sequestration of carbon dioxide is an emerging technology that currently does not exist in the state of Washington. As this technology develops and we learn more about the benefits and risks associated with sequestration, Ecology will provide additional guidance documents or rule amendment as needed.

## Implementation Plan for Chapter 173 - 407 WAC

**1. Please describe how the Agency intends to implement and enforce the rule. Please include a description of the resources the Agency intends to use.**

Ecology's Air Quality Program (AQP) will implement and enforce the greenhouse gases emissions performance standard for those sources that are under the threshold (350 megawatts) for permitting by the Energy Facilities Siting Evaluation Council. Implementation and enforcement will be done by AQP permitting staff.

**2. Please describe how the Agency intends to inform and educate affected persons about the rule.**

The affected persons include the public, baseload electric generation facilities, baseload electric cogeneration facilities, consumer owned utilities, investor owned utilities, and environmental groups. To help inform and educate the affected persons, Ecology is doing the following:

Before the rule is finalized:

- Ecology's current rule-making website includes information on the program and rule-making process.
- Stakeholder Advisory Committee meeting minutes are posted on the current rule-making website.
- A Greenhouse Gas rule advisory committee was formed. Industries, academics, power companies, environmental interest groups, state government and consultants were members of the committee and they can pass on the information to their constituents.
- Two public hearings were conducted during the formal rule making process. An over-view of the rule revision was presented.

Once the rule is adopted:

- Issue a press release announcing the adoption of the rule.
- Distribute copies of the final rule and the Concise Explanatory Statement to all interested parties
- Post the final rule and Concise Explanatory Statement on the internet for public access
- Ecology's Laws and Rules website will continue to include information on the program and rule-making process under the Archived Rules section.

**3. Please describe how the Agency intends to promote and assist voluntary compliance for this rule.**

Compliance with the greenhouse gases emissions performance standard is mandatory for facilities meeting the applicability requirements in WAC 173-407-120. However, the actions listed above for informing and educating affected persons also help promote compliance.

Additionally, program staff are available to respond to stakeholder inquiries about methods of compliance. It will also be important to train staff and to communicate and coordinate with local air authorities and the Energy Facility Site Evaluation Council.

**4. Please describe how the Agency intends to evaluate whether the rule achieves the purpose for which it was adopted, including to the maximum extent practicable, the use of interim milestones to assess progress and the use of objectively measurable outcome.**

The legislative intent, as described in Chapter 80.80 RCW, and the purpose of this rule is to “authorize immediate actions in the electric power generation sector for the reduction of greenhouse gases emissions”. To accomplish this, Chapter 80.80 RCW directed Ecology to:

- Establish a clear regulatory framework for implementing and enforcing the greenhouse gases emissions performance standard.
- Include criteria for evaluating sequestration plans.

The rule requires those existing facilities that must comply with the emissions performance standard to report to Ecology by January 31 of each year their emissions for the previous calendar year. Ecology will review these reports to determine compliance with the performance standard. Consistent compliance with the emissions performance standard will confirm that the rule is achieving its purpose of reducing emissions of greenhouse gases.

For proposed new power plants under Ecology jurisdiction, Ecology will review their application and will not issue the necessary permits until there is certainty that the facility will meet the emissions performance standard either through plant design or through sequestration of greenhouse gases.

**5. Please describe how the Agency intends to train and inform Ecology staff regarding new rule or rule amendment.**

Air Quality Program staff:

- Reviewed and provided comments on the rule revision.
- Attended public hearings on rule revision.

Additional training of permit writers will take place, as needed, after the rule is adopted.

**6. Please identify supporting documents that may need to be revised because of the rule amendment. Or identify new supporting documents that need to be developed because of a new rule.**

The Air Quality Program will not need to revise any supporting documents or develop any new documents for this rule.