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**WEST VIRGINIA CODE CHAPTER 22**  
**ARTICLE 11A**

WV Legislature

**§22-11A-1. Legislative findings.**

(a) The Legislature finds that:

- (1) Carbon dioxide is a colorless, odorless gas that can be produced by burning carbon and organic compounds;
- (2) Carbon dioxide is emitted into the atmosphere from a number of sources including fossil-fueled power plants, automobiles, certain industrial processes and other naturally occurring sources;
- (3) By far, fossil-fueled power plants are the largest source of carbon dioxide emissions. These power plants emit approximately one-third of carbon dioxide emissions worldwide;
- (4) On average, the United States generates approximately fifty-one percent of its electricity from coal-burning power plants, which are a prominent source of carbon dioxide emissions;
- (5) West Virginia's reliance on electricity produced from coal is even more pronounced, as West Virginia generates approximately ninety-eight percent of its electricity from coal-burning power plants;
- (6) There is increasing pressure, both nationally and worldwide, to produce electrical power with an ever-decreasing amount of carbon dioxide emissions;
- (7) West Virginia is a state rich in natural resources, and its economy depends largely upon the demand for energy produced from materials found within the state, not the least of which is coal;
- (8) As demand for energy produced from alternative and renewable resources rises, new technologies are needed to burn coal more cleanly and efficiently if West Virginia is to remain competitive as an energy producing state;
- (9) Carbon dioxide capture and sequestration is the capture and secure storage of carbon dioxide that would otherwise be emitted to, or remain in, the atmosphere. This technology is currently being used and tested to reduce the carbon footprint of electricity generated by the combustion of coal;
- (10) The science of carbon dioxide capture and sequestration is advancing rapidly, but the environmental effects of large, long-term carbon dioxide sequestration operations are still being studied and evaluated;
- (11) Although the state is committed to expanding its portfolio of alternative and renewable energy resources, electricity generated from these resources is insufficient in the near term to meet the rising demand for energy;
- (12) It is in the public interest to advance the implementation of carbon dioxide capture and

sequestration technologies into the state's energy portfolio;

(13) The transportation by pipeline and sequestration of carbon dioxide by a public utility engaged in the generation of electricity may be integral to the construction, maintenance and operation of electric light, heat and power plants operating in the state; and

(14) Therefore, in order to expand more rapidly the generation of electricity with little or no carbon dioxide emissions, it is critical to encourage the development of carbon dioxide capture and sequestration technologies; to examine factors that may be integral to the construction, maintenance and operation of carbon dioxide sequestration facilities; and to study the economic and environmental feasibility of large, long-term carbon dioxide sequestration operations.

(b) It is therefore the purpose of this article to:

(1) Establish a legal and regulatory framework for the permitting of carbon dioxide sequestration operations;

(2) Designate a state agency responsible for establishing standards and rules for the permitting of carbon dioxide sequestration operations including, but not limited to, rules pertaining to:

(A) Environmental surveillance of carbon dioxide sequestration operations;

(B) The monitoring of geologic migration of carbon dioxide and the detection of carbon dioxide excursions;

(C) Construction standards for carbon dioxide sequestration operations;

(D) Bonding or other financial assurances; and

(E) The closure of carbon dioxide sequestration operations, including post-closure monitoring, verification and maintenance; and to

(3) With the aid of a carbon dioxide sequestration working group, develop a long-term strategy for the regulation of carbon dioxide sequestration.

**§22-11A-2. Definitions.**

Unless the context in which used clearly requires a different meaning, as used in this article:

- (a) "Department" means the Department of Environmental Protection;
- (b) "Carbon dioxide sequestration" means the injection of carbon dioxide and associated constituents into subsurface geologic formations intended to prevent its release into the atmosphere;
- (c) "Carbon dioxide sequestration facilities" means the surface equipment used for transport, storage and injection of carbon dioxide, excluding pipelines used to transport carbon dioxide from one or more capture facilities to the sequestration injection site or sites.
- (d) "Carbon dioxide sequestration site" means the underground carbon dioxide formations where the carbon dioxide is stored or is intended to be stored;
- (e) "Excursion" means the migrating of carbon dioxide at or beyond the boundary of a carbon dioxide sequestration site; and
- (f) "Secretary" means the Secretary of the Department of Environmental Protection.

**§22-11A-3. Prohibition of underground carbon dioxide sequestration without a permit; injection of carbon dioxide for the purpose of enhancing the recovery of oil or other minerals not subject to the provisions of this article, application to existing sequestration sites.**

(a) The provisions of §22-11-1 *et seq.* of this code apply to all permits issued pursuant to this article except, where the express provisions of this article conflict with the provisions of §22-11-1 *et seq.* of this code, the express provisions of this article control.

(b) Except as set forth in subsection (c) of this section, no person shall engage in underground carbon dioxide sequestration in this state unless authorized by a permit issued by the department in accordance with §22-11-1 *et seq.* or §22-11B-1 *et seq.* of this code.

(c) The injection of carbon dioxide for purposes of enhancing the recovery of oil or other minerals pursuant to a project approved by the department shall not be subject to the provisions of this article.

(d) The provisions of this article apply to all permits issued and to all applications for permits submitted prior to the effective date of §22-11B-1 *et seq.* of this code. If the permit holder for an underground carbon dioxide sequestration facility that was granted a permit prior to the effective date of §22-11B-1 *et seq.* of this code seeks a modification of that permit after that article became effective, then the permit holder shall have the option to proceed either pursuant to the provisions of this article or the provisions of §22-11B-1 *et seq.* of this code.

(e) Any entity owning or operating an underground carbon dioxide sequestration facility which has commenced construction on or before the effective date of this article is hereby authorized to continue operating until such time as the secretary has established operational and procedural requirements applicable to such existing facilities and the entity owning or operating such facility has had a reasonable opportunity to comply with those requirements.

**§22-11A-4. General powers and duties of the secretary with respect to carbon dioxide sequestration.**

(a) The secretary, after receiving public comment and after consultation with the state geologist and the working group established in section six of this article, shall promulgate legislative rules in accordance with the provisions of article three, chapter twenty-nine-a of this code to implement the provisions of this article, including without limitation:

- (1) The requirements for issuance of permits for carbon dioxide sequestration;
- (2) The requirements for carbon dioxide sequestration permit applications;
- (3) The issuance of notice following the approval of a permit application, which shall identify the location at which the public may examine the permit, describe the nature of the public's opportunity to comment, and list any public hearing that may be held in connection with the permit. The secretary shall allow no less than thirty days for public comment on the draft permit and may for good cause extend the comment period up to an additional thirty days. Notice of any public hearing shall be given no less than thirty days prior to its conduct; and
- (4) The creation of subclasses of wells within the existing Underground Injection Control (UIC) program administered by the United States Environmental Protection Agency pursuant to Part C of the Safe Drinking Water Act, 42 U.S.C. §300h, et seq., to protect human health, safety and the environment and to allow for the permitting of the sequestration of carbon dioxide;
- (5) The appropriate bonding or other financial assurance procedures necessary to ensure that carbon dioxide sequestration sites and facilities will be constructed, operated and closed in accordance with the purposes and provisions of this article; and
- (6) The proper duration of the post-closure care period for carbon dioxide sequestration sites.

(b) The secretary shall propose amendments to the rules promulgated under this section and take such action as may be required in order to fulfill the state's primary responsibility for assuring compliance with the federal Safe Drinking Water Act, including any amendments thereto.

**§22-11A-5. Permit application requirements and contents; permit application fees.**

(a) A carbon dioxide sequestration permit application shall include:

(1) A description of the general geology of the area to be affected by the injection of carbon dioxide, including geochemistry, structure and faulting, fracturing and seals, and stratigraphy and lithology, including petrophysical attributes;

(2) A characterization of the injection zone and aquifers above and below the injection zone that may be affected by the injection of carbon dioxide, including applicable pressure and fluid chemistry data to describe the projected effects of injection activities;

(3) The identification of all other drill holes and operating wells that exist or have existed within and adjacent to the proposed sequestration site;

(4) An assessment of the effect on fluid resources, on subsurface structures and on the surface of lands that may reasonably be expected to be affected by the injection of carbon dioxide, together with the measures required to mitigate those effects;

(5) The plans and procedures for environmental surveillance and excursion detection, prevention and control programs;

(6) A site and facilities description, including a description of the proposed carbon dioxide sequestration facilities and documentation sufficient to demonstrate that the applicant has, or will have prior to the commencement of the operation, all legal rights, including without limitation the right to surface or pore space use, necessary to sequester carbon dioxide and associated constituents into the proposed carbon dioxide sequestration site;

(7) Proof that the proposed injection wells are designed, at minimum, to the construction standards set forth by the department;

(8) A plan for periodic mechanical integrity testing of all wells;

(9) A monitoring plan to assess the migration of the injected carbon dioxide and to ensure the retention of the carbon dioxide in the sequestration site;

(10) Proof of bonding or financial assurance to ensure that carbon dioxide sequestration sites and facilities will be constructed, operated and closed in accordance with the purposes and provisions of this article and the rules promulgated pursuant to this article;

(11) A detailed plan for post-closure monitoring, verification, accounting, maintenance and mitigation;

(12) Procedures for the operator of the facilities to provide immediate verbal notice to the department of any excursion after the excursion is discovered, followed by written notice to all surface owners, mineral claimants, mineral owners, lessees and other owners of record of

subsurface interests within thirty days of discovering the excursion;

(13) Procedures for the termination or modification of any applicable Underground Injection Control (UIC) permit issued under Part C of the Safe Drinking Water Act, 42 U.S.C. §300h, et seq., if an excursion cannot be controlled or mitigated;

(14) A plan to provide proof of notice to surface owners, mineral claimants, mineral owners, lessees and other owners of record of subsurface interests regarding the contents of the application. At a minimum, the notice shall include:

(A) The publication of a Class I legal advertisement in a newspaper of general circulation in each county of the proposed operation. The applicant shall publish the notice at the time of filing and shall identify in the notice the location where the public may examine the application;

(B) The mailing of a copy of the notice to all surface owners, mineral claimants, mineral owners, lessees and other owners of record of subsurface interests that are located within one mile of the proposed boundary of the carbon dioxide sequestration site; and

(15) Any other requirement set forth in legislative rules promulgated under this article.

(b) Upon filing an application, an applicant shall pay a reasonable fee, as established by the secretary in legislative rules, to the department for the costs of reviewing, evaluating and processing the permit, serving notice of an application and holding any hearings. The fee shall be credited to a separate account and shall be used by the department as required to complete the tasks necessary to process, publish and reach a decision on the permit application.

**§22-11A-6. Carbon dioxide sequestration working group.**

- (a) The secretary shall establish the carbon dioxide sequestration working group.
- (b) The secretary, in cooperation with the state geologist, shall appoint at least fifteen persons to serve on the working group.
- (c) In selecting persons to serve on the working group, the secretary and the state geologist shall appoint at least three persons who are experts in carbon dioxide sequestration or related technologies, at least one person who is an expert in environmental science, at least one person who is an expert in geology, at least one person who is an attorney with an expertise in environmental law, at least one person who is an expert in engineering, at least one person who is an expert in the regulation of public utilities in West Virginia, one person who is a representative of a citizen's group advocating environmental protection, a representative of a coal power electric generating utility advocating carbon dioxide sequestration development, at least one person who is an engineer with an expertise in the underground storage of natural gas, the chairman of the National Council of Coal Lessors or his/her designee, a representative of the West Virginia Coal Association, a representative of the West Virginia Land and Mineral Owners Association, and at least one representative advocating the interests of surface owners of real property.
- (d) The working group shall study issues pertaining to carbon dioxide sequestration including, but not limited to, scientific, technical, legal and regulatory issues, and issues regarding ownership and other rights and interest in subsurface space that can be used as storage space for carbon dioxide and other associated constituents, or other substances, commonly referred to as "pore space," and shall report to the secretary and the Legislature its recommendations with respect to the development, regulation and control of carbon dioxide sequestration and related technologies.
- (e) In addition, the working group shall develop a long-term strategy for the regulation of carbon dioxide sequestration in West Virginia.
- (f) The working group may conduct or initiate studies, scientific or other investigations, research, experiments and demonstrations pertaining to carbon dioxide sequestration, and to this end, the working group may cooperate with state institutions of higher education or any public or private agency. The secretary may receive on behalf of the state for deposit in the state Treasury any moneys which such institutions or state agencies may be authorized to transfer to the Secretary, and all gifts, donations or contributions which such private agencies or other may provide, to defray the expenses of the working group. Any amounts so received shall be expended by the secretary solely for the purposes set forth in subsection (d) of this section.
- (g) The working group shall issue a preliminary report to the secretary and the Legislature by July 1, 2010, containing any preliminary recommendations or findings of the working group.

(h) The working group shall issue a final report to the Legislature by July 1, 2011, which report shall, at a minimum:

- (1) Recommend appropriate methods to encourage the development of carbon dioxide sequestration technologies;
  - (2) Assess the economic and environmental feasibility of large, long-term carbon dioxide sequestration operations;
  - (3) Recommend any legislation the working group may determine to be necessary or desirable to clarify issues regarding the ownership and other rights and interest in pore space;
  - (4) Recommend methods of facilitating the widespread use of carbon dioxide sequestration technology throughout West Virginia;
  - (5) Identify geologic sequestration monitoring sites to assess the short-term and long-term impact of carbon dioxide sequestration;
  - (6) Assess the feasibility of carbon dioxide sequestration in West Virginia and the characteristics of areas within the state where carbon dioxide could be sequestered;
  - (7) Assess the costs, benefits, risks and rewards of large-scale carbon dioxide sequestration projects in West Virginia;
  - (8) Assess the potential carbon dioxide sequestration capacity in this state;
  - (9) Identify areas of research needed to better understand and quantify the processes of carbon dioxide sequestration; and
  - (10) Outline the working group's long-term strategy for the regulation of carbon dioxide sequestration in West Virginia.
- (i) The working group, along with the state geologist, shall assist the secretary in developing and promulgating legislative rules under this article.

**§22-11A-7. Reporting and accountability.**

The department shall include within the reports to the Legislature required by section six, article twelve of this chapter its observations concerning all aspects of compliance with this article, including without limitation the promulgation of rules, the formation of the carbon dioxide sequestration working group, the permitting process and any pertinent changes to federal rules or regulations.

WV Legislature

**§22-11A-8. Oil, natural gas and coalbed methane activities at carbon dioxide sequestration sites; extraction of sequestered carbon dioxide.**

(a) Nothing in this article shall be deemed to affect the otherwise lawful right of a mineral owner to drill or bore through a carbon dioxide sequestration site, if done in accordance with the rules promulgated under this article for protecting the carbon dioxide sequestration site against the escape of carbon dioxide.

(b) Nothing in this article is intended to impede or impair the ability of an oil, natural gas or coalbed methane operator to inject carbon dioxide through an approved enhanced oil, natural gas or coalbed methane recovery project and to establish, verify, register and sell emission reduction credits associated with the project.

(c) The Office of Oil and Gas shall have jurisdiction over any subsequent extraction of sequestered carbon dioxide that is intended for commercial or industrial purposes.

**§22-11A-9. Cooperative agreements.**

The secretary is authorized to enter into cooperative agreements with other governments or government entities for the purpose of regulating carbon dioxide storage projects that extend beyond state regulatory authority under this article.

WV Legislature