

The Texas Commission on Environmental Quality (TCEQ or commission) adopts the amendment to §331.11 *without change* to the proposed text as published in the November 25, 2005, issue of the *Texas Register* (30 TexReg 7831) and will not be republished.

#### BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULE

House Bill (HB) 2201, passed by the 79th Legislature, 2005, directs the commission to establish by rule, streamlined permitting procedures for FutureGen projects. FutureGen refers to a combination of technologies for carbon sequestration, carbon dioxide enhanced oil recovery, electric generation, and hydrogen production. FutureGen is a technology demonstration project that is a partnership between industry participants and the United States Department of Energy. In HB 2201, the legislature concluded in its findings that this technology demonstration project could result in major economic, social, and environmental benefits for Texas, and that streamlining the permitting process for FutureGen projects would serve the public's interest by improving the state's ability to compete for federal funding for FutureGen projects. A specific requirement of HB 2201 is that FutureGen permit applications shall not be subject to a contested case hearing. Under the adopted FutureGen rules, the eligible permit applications for FutureGen projects will be subject to the same permitting and public participation processes that would otherwise apply to applications for most types of commission permits, except for contested case hearings. Other portions of HB 2201 reflected in the adopted rules define relevant terms, establish an emissions profile, and clarify jurisdiction issues between TCEQ and the Railroad Commission of Texas. Much of the content of the rules originates from new Texas Health and Safety Code (THSC), §382.0565, Clean Coal Project Permitting Procedure, and Texas Water Code (TWC), new §5.558 and §27.022, which were created by HB 2201.

The purpose of the amendment to Chapter 331 is to implement the requirements of HB 2201 with respect to the jurisdiction over injection wells used for the injection of carbon dioxide (CO<sub>2</sub>) produced by a clean coal project into a zone that is below the base of usable quality water and that is not productive of oil, gas, or geothermal resources.

Corresponding rulemakings are published in this issue of the *Texas Register* that includes changes to 30 TAC Chapter 39, Public Notice; 30 TAC Chapter 50, Action on Applications and Other Authorizations; 30 TAC Chapter 55, Requests for Reconsideration and Contested Case Hearings; Public Comment; 30 TAC Chapter 91, Alternative Public Notice and Public Participation Requirements for Specific Designated Facilities; and 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

## SECTION DISCUSSION

### *§331.11. Classification of Injection Wells.*

The amendment adds a new subsection (d) that states that the commission has jurisdiction over the injection of CO<sub>2</sub> produced by a clean coal project into a zone that is below the base of usable quality water and that is not productive of oil, gas, or geothermal resources. This implements new TWC, §27.022 from HB 2201. Under federal requirements, Class II injection wells are used for injection of waste in connection with oil or gas production, enhanced recovery of oil and gas, and storage of hydrocarbons. In Texas, the Railroad Commission regulates Class II injection wells. The commission could not authorize the injection of CO<sub>2</sub> produced by a clean coal project for purposes of storage or sequestration into a zone that is below the base of usable quality water and that is not productive of oil, gas, or geothermal resources in a Class II injection well. The commission could authorize the injection

of CO<sub>2</sub> for storage or sequestration in a Class I or Class V injection well depending on site-specific information such as the proposed injection formation and the location of underground sources of drinking water. Class I injection wells are authorized by a permit. Class V injection wells are generally authorized by rule.

#### FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the rule does not meet the definition of a “major environmental rule.” Under Texas Government Code, §2001.0225, “major environmental rule” means a rule the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure, and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The rule is intended to establish procedural requirements for authorizing certain types of projects required for the FutureGen project without holding a contested case hearing. The rule clarifies the commission’s jurisdiction over injection wells that inject CO<sub>2</sub> produced by a clean coal project into a zone that is below the base of usable quality water and that is not productive of oil, gas, or geothermal resources. The rule is intended to describe the commission’s jurisdiction over these wells and does not alter the underlying technical requirements. Therefore, because this rulemaking will not adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state, the rulemaking does not fit the Texas Government Code, §2001.0225, definition of “major environmental rule.”

Furthermore, the rulemaking does not meet any of the four applicable requirements listed in Texas Government Code, §2001.0225(a). Texas Government Code, §2001.0225(a), only applies to a major environmental rule adopted by an agency, the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

In this case, the rule does not meet any of these applicability requirements. First, the rule is consistent with and does not exceed the standards set by federal law. Second, the rule does not exceed an express requirement of state law, instead the rule implements HB 2201. Third, the rule does not exceed an express requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program. Fourth, the commission does not adopt the rule solely under the general powers of the agency, but rather under the authority of HB 2201, which directs the commission to implement rules under TWC, §27.022, which establishes the commission's jurisdiction over the injection of CO<sub>2</sub> produced by a clean coal project to the extent authorized by federal law.

Because this adoption does not constitute a major environmental rule, a regulatory impact analysis is not required.

TAKINGS IMPACT ASSESSMENT

The commission evaluated this rulemaking and performed an assessment of whether this rulemaking would constitute a takings under Texas Government Code, Chapter 2007. The rule is intended to establish a streamlined process for authorizing certain types of projects required for the FutureGen project. The rule is procedural and establishes a system to administer the program for permitting FutureGen projects and is not specifically intended to protect the environment or to reduce risks to human health. The rule is intended to provide an alternative mechanism for public participation and does not alter the underlying technical review requirements. Promulgation and enforcement of the rule will not affect private real property in a manner that would require compensation to private real property owners under the United States Constitution or the Texas Constitution. The rule also will not affect private real property in a manner that restricts or limits an owner's right to the property that would otherwise exist in the absence of the governmental action. Consequently, this rule does not meet the definition of a takings under Texas Government Code, §2007.002(5). Therefore, the rule will not constitute a takings under Texas Government Code, Chapter 2007.

#### CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission determined that this rulemaking relates to an action or actions subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act of 1991, as amended (Texas Natural Resources Code, §§33.201 *et seq.*), and commission rules in 30 TAC Chapter 281, Subchapter B, Consistency with Texas Coastal Management Program. As required by §281.45(a)(3), Actions Subject to Consistency with the Goals and Policies of the Texas Coastal Management Program, and 31 TAC §505.11(b)(2), relating to Actions and Rules Subject to the Coastal Management Program, commission rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission reviewed this action for consistency with

the CMP goals and policies in accordance with the rules of the Coastal Coordination Council, and determined that the action is consistent with the applicable CMP goals and policies. The CMP goal applicable to this rulemaking is the goal to protect, preserve, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas (31 TAC §501.12(l)). The revisions include procedural mechanisms to authorize new sources of air contaminants; however, the revisions do not create any new types of authorizations for new sources of air contaminants. The CMP policy applicable to this rulemaking is the policy that commission rules comply with federal regulations in 40 Code of Federal Regulations to protect and enhance air quality in the coastal areas (31 TAC §501.14(q)). This rulemaking complies with 40 Code of Federal Regulations Part 51, Requirements for Preparation, Adoption, and Submittal of Implementation Plans. Therefore, in accordance with 31 TAC §505.22(e), the commission affirms that this rulemaking is consistent with CMP goals and policies.

#### PUBLIC COMMENT

A public hearing for this rulemaking was held on December 20, 2005, in Austin, and the comment period closed on December 27, 2005. The commission received comments from the United States Environmental Protection Agency, the Environmental Defense, the FutureGen Texas Advisory Board, the Sierra Club Houston Regional Group (HSC), the Center for Energy and Economic Development, and the Clean Coal Technology Foundation of Texas on the FutureGen rulemaking. HSC commented specifically on the proposed amendment to §331.11.

#### RESPONSE TO COMMENTS

HSC submitted numerous comments speculating on the effects of CO<sub>2</sub> sequestration and underground injection, and acknowledged that little data exists on this technology. HSC urged the commission to

determine air, water, and land effects through its permitting authority. Examples of its concerns included: 1) the effects of existing wells in the carbon sequestration area; 2) the effect of CO<sub>2</sub> injection on saline aquifer water quality; and 3) the harm that may come to soil bacteria as a result of carbon sequestration.

**The commission's federally authorized Underground Injection Control (UIC) Program has significant experience and data relating to protection of fresh water from the potential adverse impact of underground injection of liquid waste, including proper evaluation of injection and confining zones, subsurface faults and fractures, and other wells in the area of review. While the commission does not have data on some of the specific CO<sub>2</sub> injection concerns listed by HSC, the commission notes that underground injection of CO<sub>2</sub> has been commonly used for enhanced recovery of oil and gas under Railroad Commission of Texas jurisdiction without any known harmful effects. The commission also recognizes that the technical concerns posed by HSC are the subject of significant research efforts being conducted by the Texas Bureau of Economic Geology in association with a number of other research institutions, participating industries, and government agencies. The commission will review individual requests for well authorization under this rule using the environmentally protective rules and procedures of the UIC well permitting program. Therefore, the commission has not changed the rule in response to these comments.**

HSC commented that §331.11 should include a definition of the term "usable quality water."

**The definition section of Chapter 331 was not opened for the proposal so the commission is unable to include a definition at this adoption. Usable quality water means water that is an underground source of drinking water or is fresh water as those terms are defined in §331.2, Definitions.**



**SUBCHAPTER A: GENERAL PROVISIONS**

**§331.11**

**STATUTORY AUTHORITY**

The amendment is adopted under TWC, §5.103, concerning Rules, and §5.105, concerning General Policy, which authorize the commission to adopt rules necessary to carry out its powers and duties under the TWC and other laws of the state. The amendment is also adopted under TWC, §27.029, which requires the commission to adopt rules and procedures reasonably required for the performance of its powers, duties, and functions under TWC, Chapter 27. The amendment is adopted under Section 13 of HB 2201, which requires the commission to adopt rules under TWC, §27.022.

The adopted amendment implements TWC, §27.022.

**§331.11. Classification of Injection Wells.**

(a) Injection wells within the jurisdiction of the commission are classified as follows.

(1) Class I:

(A) wells used by generators of hazardous wastes or owners or operators of hazardous waste management facilities to inject hazardous waste, other than Class IV wells;

(B) other industrial and municipal waste disposal wells which inject fluids beneath the lower-most formation which within 1/4 mile of the wellbore contains an underground source of drinking water (USDW); and

(C) radioactive waste disposal wells which inject fluids below the lower-most formation containing a USDW within 1/4 mile of the wellbore.

(2) Class III. Wells which are used for the extraction of minerals, including:

(A) mining of sulfur by the Frasch process; and

(B) solution mining of minerals which includes sodium sulfate, sulfur, potash, phosphate, copper, uranium and any other minerals which can be mined by this process.

(3) Class IV. Wells used by generators of hazardous wastes or of radioactive wastes, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous wastes or radioactive wastes into or above a formation which within 1/4 mile of the wellbore contains a USDW.

(4) Class V. Class V wells are injection wells not included in Classes I, II, III, or IV. Generally, wells covered by this paragraph inject nonhazardous fluids into or above formations that contain USDWs. Except for Class V wells within the jurisdiction of the Railroad Commission of

Texas, all Class V injection wells are within the jurisdiction of the commission and include, but are not limited to:

(A) air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump;

(B) closed loop injection wells which are closed system geothermal wells used to circulate fluids including water, water with additives, or other fluids or gases through the earth as a heat source or heat sink;

(C) large capacity cesspools or other devices that receive greater than 5,000 gallons of waste per day, which have an open bottom and sometimes have perforated sides;

(D) cooling water return flow wells used to inject water previously used for cooling;

(E) drainage wells used to drain surface fluid, primarily storm runoff, into a subsurface formation;

(F) drywells used for the injection of wastes into a subsurface formation;

(G) recharge wells used to replenish the water in an aquifer;

(H) salt water intrusion barrier wells used to inject water into a freshwater aquifer to prevent the intrusion of salt water into the fresh water;

(I) sand backfill wells used to inject a mixture of water and sand, mill tailings, or other solids into mined out portions of subsurface mines;

(J) septic systems designed to inject greater than 5,000 gallons per day of waste or effluent;

(K) subsidence control wells (not used for the purpose of oil or natural gas production) used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water;

(L) aquifer storage wells used for the injection of water for storage and subsequent retrieval for beneficial use;

(M) motor vehicle waste disposal wells which are used or have been used for the disposal of fluids from vehicular repair or maintenance activities, such as an automotive repair shop, auto body shop, car dealership, boat, motorcycle or airplane dealership, or repair facility;

(N) improved sinkholes;

(O) aquifer remediation wells, temporary injection points, and subsurface fluid distribution systems used to inject nonhazardous fluids into the subsurface to aid in the remediation of soil and groundwater; and

(P) subsurface fluid distribution systems.

(b) Class II wells and Class III wells used for brine mining fall within the jurisdiction of the Railroad Commission of Texas.

(c) Baseline wells and monitor wells associated with Class III injection wells within the jurisdiction of the commission are also subject to the rules specified in this chapter.

(d) The commission has jurisdiction over the injection of carbon dioxide produced by a clean coal project into a zone that is below the base of usable quality water and that is not productive of oil, gas, or geothermal resources.

