

The Texas Commission on Environmental Quality (commission) adopts amendments to §§331.2, 331.7, 331.9, and 331.132. Sections 331.2, 331.9, and 331.132 are adopted *without changes* to the proposed text as published in the February 17, 2006, issue of the *Texas Register* (31 TexReg 1008) and will not be republished. Section 331.7 is adopted *with change* to the proposed text and will be republished.

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

House Bill (HB) 2651, 79th Legislature, 2005, amended the Texas Water Code (TWC) by adding Chapter 32, Subsurface Area Drip Dispersal Systems. Subsurface area drip dispersal systems apply fluid into the soil below the surface of the soil, and therefore, are classified as Class V injection wells in accordance with §331.11(a)(4), Classification of Injection Wells. The commission amends Chapter 331 to address the applicability of this chapter to subsurface area drip dispersal systems as defined by TWC, Chapter 32.

The commission also adopts additional rulemaking in 30 TAC Chapter 30, Occupational Licenses and Registrations; Chapter 55, Requests for Reconsideration and Contested Case Hearings; Public Comment; Chapter 222, Subsurface Area Dispersal System; Chapter 281, Applications Processing; Chapter 305, Consolidated Permits; and Chapter 309, Domestic Wastewater Effluent Limitation and Plant Siting, to implement HB 2651 in this issue of the *Texas Register*.

SECTION BY SECTION DISCUSSION

The commission adopts administrative changes throughout these sections to be consistent with Texas

Register requirements and other agency rules and guidelines and to conform to the drafting standard in the *Texas Legislative Council Drafting Manual*, November 2004.

Section 331.2, Definitions

Adopted §331.2(90) is amended by adding a statement that includes subsurface area drip dispersal systems in the definition of subsurface fluid distribution systems. This adopted amendment explains that the definition of subsurface fluid distribution systems, a type of injection well, includes subsurface area drip dispersal systems.

Section 331.7, Permit Required

Adopted §331.7(c) is amended to provide that the owner or operator of subsurface area drip dispersal systems must obtain a permit under TWC, Chapters 26 and 32 and submit information to the Underground Injection Control program staff for inclusion in the Class V injection well inventory list.

Section 331.9, Injection Authorized by Rule

Adopted §331.9(b) is amended to clarify which injection wells require a permit and which injection wells are authorized by rule. The reference in this section to §331.7 reinforces the requirement that owners of subsurface area drip dispersal systems must obtain a wastewater discharge permit under TWC, Chapter 26 or Chapters 26 and 32 prior to discharging effluent into a subsurface fluid distribution system, which is a type of Class V injection well.

Section 331.132, Construction Standards

Adopted §331.132(a) is amended to correct an out-of-date statute citation. Previously, TWC, Chapter 32 was repealed and the water well driller provisions recodified into Texas Occupations Code, Chapter 1901, as amended by HB 2813, 77th Legislature, 2001. The adopted amendment to §331.132(a) reflects the recodification of the water well driller provisions in the Texas Occupations Code.

Adopted §331.132(b)(1) is amended to identify the information that is required to be submitted with the applicable permit application for injection wells that are both authorized by rule under this chapter and regulated by permit under other commission permitting programs.

FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the adopted rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the rules do 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 adopted rules are intended to implement HB 2651, relating to the regulation of subsurface area drip dispersal systems. The adopted rules clarify that a subsurface area drip dispersal system regulated under Chapter 222 is also considered as an injection well under the definition of subsurface fluid distribution system under Chapter 331. The adopted rules do not alter the underlying technical requirements for injection wells. 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 adopted rulemaking action 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 adopted rules do not meet any of these applicability requirements. First, the adopted rules are specifically required to implement state law in HB 2651. Second, the adopted rules do not exceed an express requirement of state law, instead these rules implement HB 2651 and the Injection Well Act in TWC, Chapter 27. Third, the adopted rules do 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 these rules solely under the general powers of the agency, but rather under the authority of HB 2651, which directs the commission to implement rules under TWC, Chapter 32 and under TWC, §27.019, which authorizes the commission to adopt rules reasonably required for the performance of its duties under

TWC, Chapter 27. Written comments on the draft regulatory impact analysis determination were solicited; no comments were received on the draft regulatory impact analysis determination.

TAKINGS IMPACT ASSESSMENT

The commission prepared a takings impact assessment for these adopted rules under Texas Government Code, Chapter 2007. The adopted rules establish requirements for subsurface area drip dispersal systems and clarify that subsurface area drip dispersal systems are a type of injection well. The promulgation and enforcement of the adopted rules will not affect private real property in a manner that requires compensation to private real property owners under the United States Constitution or the Texas Constitution. The adopted rules 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 rulemaking does not meet the definition of a takings under Texas Government Code, §2007.002(5). Therefore, the adopted rules will not constitute a taking under Texas Government Code, Chapter 2007. Written comments on the draft takings impact analysis determination were solicited; no comments were received on the draft takings impact analysis determination.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission reviewed the adopted rulemaking and found that it is subject to the Texas Coastal Management Program (CMP) and is identified in the Coastal Coordination Act Implementation Rules, 31 TAC §505.11(b)(4), relating to rules subject to the CMP, and will therefore, require that goals and policies of the CMP be considered during the rulemaking process.

The commission reviewed this action for consistency and determined that Chapter 331 does not impact any CMP goals or policies because it prescribes the level of licensure or training required for operators of subsurface area drip dispersal systems and the treatment facilities that supply treated effluent to subsurface area drip dispersal systems. Chapter 331 is administrative and does not regulate the environment.

PUBLIC COMMENT

The public comment period ended March 20, 2006. A public hearing was held March 14, 2006, at 2:00 p.m. at the Texas Commission on Environmental Quality, Building F, Conference Room 2210, 12100 Park Thirty-Five Circle, Austin, TX. Oral comments were received from JN Technologies (JNT). Written comments were received from Harris County Public Infrastructure Department (HCPID); United States Department of Energy, National Nuclear Security Administration, Pantex Site Office (DOE); Lower Colorado River Authority (LCRA); Drip-Tech Wastewater Systems (DTWS); Save Our Springs Alliance (SOSA); and Snowden Onsite Septic, Inc. (SOSI). Texas Council of Engineering Companies (TCEC) submitted a written comment after the close of the comment period, which was addressed. No comments were received in relation to this chapter.

SUBCHAPTER A: GENERAL PROVISIONS

§§331.2, 331.7, 331.9

STATUTORY AUTHORITY

The amendments are adopted under TWC, §5.103, which provides the commission the authority to adopt any rules necessary to carry out its powers and duties under this code and other laws of this state; §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; and §27.019, which requires the commission to adopt rules reasonably required for the regulation of injection wells. The amendments are also adopted under HB 2651, which requires the commission to adopt rules relating to subsurface drip dispersal systems.

The adopted amendments implement HB 2651 and TWC, Chapter 27, which requires the commission to regulate injection wells.

§331.2. Definitions.

General definitions can be found in Chapter 3 of this title (relating to Definitions). The following words and terms, when used in this chapter, have the following meanings.

(1) **Abandoned well**--A well which has been permanently discontinued from use or a well for which, after appropriate review and evaluation by the commission, there is no reasonable expectation of a return to service.

(2) **Activity**--The construction or operation of an injection well for disposal of waste, or of pre-injection units for processing or storage of waste.

(3) **Affected person**--Any person whose legal rights, duties, or privileges may be adversely affected by the proposed injection operation for which a permit is sought.

(4) **Annulus**--The space in the wellbore between the injection tubing and the long string casing and/or liner.

(5) **Annulus pressure differential**--The difference between the annulus pressure and the injection pressure in an injection well.

(6) **Aquifer**--A geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

(7) **Aquifer restoration**--The process used to achieve or exceed water quality levels established by the commission for a permit/production area.

(8) **Aquifer storage well**--A Class V injection well used for the injection of water into a geologic formation, group of formations, or part of a formation that is capable of underground storage of water for later retrieval and beneficial use.

(9) **Area of review**--The area surrounding an injection well described according to the criteria set forth in §331.42 of this title (relating to Area of Review) or in the case of an area permit, the project area plus a circumscribing area the width of which is either 1/4 mile or a number calculated according to the criteria set forth in §331.42 of this title.

(10) **Area permit**--An injection well permit which authorizes the construction and operation of two or more similar injection wells within a specified area.

(11) **Artificial liner**--The impermeable lining of a pit, lagoon, pond, reservoir, or other impoundment, that is made of a synthetic material such as butyl rubber, chlorosulfonated polyethylene, elasticized polyolefin, polyvinyl chloride (PVC), other manmade materials, or similar materials.

(12) **Baseline quality**--The parameters and their concentrations that describe the local groundwater quality of an aquifer prior to the beginning of injection activities.

(13) **Baseline well**--A well from which groundwater is analyzed to define baseline quality in the permit area (regional baseline well) or in the production area (production area baseline well).

(14) **Buffer area**--The area between any mine area boundary and the permit area boundary.

(15) **Caprock**--A geologic formation typically overlying the crest and sides of a salt stock. The caprock consists of a complex assemblage of minerals including calcite (CaCO_3), anhydrite (CaSO_4), and accessory minerals. Caprocks often contain lost circulation zones characterized by rock layers of high porosity and permeability.

(16) **Captured facility**--A manufacturing or production facility that generates an industrial solid waste or hazardous waste that is routinely stored, processed, or disposed of on a shared basis in an integrated waste management unit owned, operated by, and located within a contiguous manufacturing complex.

(17) **Casing**--Material lining used to seal off strata at and below the earth's surface.

(18) **Cement**--A substance generally introduced as a slurry into a wellbore which sets up and hardens between the casing and borehole and/or between casing strings to prevent movement of fluids within or adjacent to a borehole, or a similar substance used in plugging a well.

(19) **Cementing**--The operation whereby cement is introduced into a wellbore and/or forced behind the casing.

(20) **Cesspool**--A drywell that receives untreated sanitary waste containing human excreta, and which sometimes has an open bottom and/or perforated sides.

(21) **Commercial facility**--A Class I permitted facility, where one or more commercial wells are operated.

(22) **Commercial underground injection control (UIC) Class I well facility**--Any waste management facility that accepts, for a charge, hazardous or nonhazardous industrial solid waste for disposal in a UIC Class I injection well, except a captured facility or a facility that accepts waste only from other facilities owned or effectively controlled by the same person.

(23) **Commercial well**--An underground injection control Class I injection well which disposes of hazardous or nonhazardous industrial solid wastes, for a charge, except for a captured facility or a facility that accepts waste only from facilities owned or effectively controlled by the same person.

(24) **Conductor casing or conductor pipe**--A short string of large-diameter casing used to keep the top of the wellbore open during drilling operations.

(25) **Cone of influence**--The potentiometric surface area around the injection well within which increased injection zone pressures caused by injection of wastes would be sufficient to drive fluids into an underground source of drinking water or freshwater aquifer.

(26) **Confining zone**--A part of a formation, a formation, or group of formations between the injection zone and the lowermost underground source of drinking water or freshwater aquifer that acts as a barrier to the movement of fluids out of the injection zone.

(27) **Contaminant**--Any physical, biological, chemical, or radiological substance or matter in water.

(28) **Control parameter**--Any chemical constituent of groundwater monitored on a routine basis used to detect or confirm the presence of mining solutions in a designated monitor well.

(29) **Desalination brine**--The waste stream produced by a desalination operation containing concentrated salt water, other naturally occurring impurities, and additives used in the operation and maintenance of a desalination operation.

(30) **Desalination operation**--A process which produces water of usable quality by desalination.

(31) **Disposal well**--A well that is used for the disposal of waste into a subsurface stratum.

(32) **Disturbed salt zone**--Zone of salt enveloping a salt cavern, typified by increased values of permeability or other induced anomalous conditions relative to undisturbed salt which lies

more distant from the salt cavern, and is the result of mining activities during salt cavern development and which may vary in extent through all phases of a cavern including the post-closure phase.

(33) **Drilling mud**--A heavy suspension used in drilling an injection well, introduced down the drill pipe and through the drill bit.

(34) **Drywell**--A well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids.

(35) **Excursion**--The movement of mining solutions into a designated monitor well.

(36) **Existing injection well**--A Class I well which was authorized by an approved state or United States Environmental Protection Agency-administered program before August 25, 1988, or a well which has become a Class I well as a result of a change in the definition of the injected waste which would render the waste hazardous under §335.1 of this title (relating to Definitions).

(37) **Fluid**--Material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.

(38) **Formation**--A body of rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

(39) **Formation fluid**--Fluid present in a formation under natural conditions.

(40) **Fresh water**--Water having bacteriological, physical, and chemical properties which make it suitable and feasible for beneficial use for any lawful purpose.

(A) For the purposes of this subchapter, it will be presumed that water is suitable and feasible for beneficial use for any lawful purpose only if:

- (i) it is used as drinking water for human consumption; or
- (ii) the groundwater contains fewer than 10,000 milligrams per liter (mg/L) total dissolved solids; and
- (iii) it is not an exempted aquifer.

(B) This presumption may be rebutted upon a showing by the executive director or an affected person that water containing greater than or equal to 10,000 mg/L total dissolved solids can be put to a beneficial use.

(41) **Groundwater**--Water below the land surface in a zone of saturation.

(42) **Groundwater protection area**--A geographic area (delineated by the state under Safe Drinking Water Act, 42 United States Code, §300j-13) near and/or surrounding community and non-transient, non-community water systems that use groundwater as a source of drinking water.

(43) **Hazardous waste**--Hazardous waste as defined in §335.1 of this title (relating to Definitions).

(44) **Improved sinkhole**--A naturally occurring karst depression or other natural crevice found in carbonate rocks, volcanic terrain, and other geologic settings which has been modified by man for the purpose of directing and emplacing fluids into the subsurface.

(45) **Injection interval**--That part of the injection zone in which the well is authorized to be screened, perforated, or in which the waste is otherwise authorized to be directly emplaced.

(46) **Injection operations**--The subsurface emplacement of fluids occurring in connection with an injection well or wells, other than that occurring solely for construction or initial testing.

(47) **Injection well**--A well into which fluids are being injected. Components of an injection well annulus monitoring system are considered to be a part of the injection well.

(48) **Injection zone**--A formation, a group of formations, or part of a formation that receives fluid through a well.

(49) **In service**--The operational status when an authorized injection well is capable of injecting fluids, including times when the well is shut-in and on standby status.

(50) **Intermediate casing**--A string of casing with diameter intermediate between that of the surface casing and that of the smaller long-string or production casing, and which is set and cemented in a well after installation of the surface casing and prior to installation of the long-string or production casing.

(51) **Large capacity cesspool**--A cesspool that is designed for a flow of greater than 5,000 gallons per day.

(52) **Large capacity septic system**--A septic system that is designed for a flow of greater than 5,000 gallons per day.

(53) **Licensed professional geoscientist**--A geoscientist who maintains a current license through the Texas Board of Professional Geoscientists in accordance with its requirements for professional practice.

(54) **Liner**--An additional casing string typically set and cemented inside the long string casing and occasionally used to extend from base of the long string casing to or through the injection zone.

(55) **Long string casing or production casing**--A string of casing that is set inside the surface casing and that usually extends to or through the injection zone.

(56) **Lost circulation zone**--A term applicable to rotary drilling of wells to indicate a subsurface zone which is penetrated by a wellbore, and which is characterized by rock of high porosity and permeability, into which drilling fluids flow from the wellbore to the degree that the circulation of drilling fluids from the bit back to ground surface is disrupted or "lost."

(57) **Mine area**--The area defined by a line through the ring of designated monitor wells installed to monitor the production zone.

(58) **Mine plan**--A map of adopted mine areas and an estimated schedule indicating the sequence and timetable for mining and any required aquifer restoration.

(59) **Monitor well**--Any well used for the sampling or measurement of any chemical or physical property of subsurface strata or their contained fluids.

(A) Designated monitor wells are those listed in the production area authorization for which routine water quality sampling is required.

(B) Secondary monitor wells are those wells in addition to designated monitor wells, used to delineate the horizontal and vertical extent of mining solutions.

(C) Pond monitor wells are wells used in the subsurface surveillance system near ponds or other pre-injection units.

(60) **Motor vehicle waste disposal well**--A well used for the disposal of fluids from vehicular repair or maintenance activities including, but not limited to, repair and maintenance facilities for cars, trucks, motorcycles, boats, railroad locomotives, and airplanes.

(61) **New injection well**--Any well, or group of wells, not an existing injection well.

(62) **New waste stream**--A waste stream not permitted.

(63) **Non-commercial facility**--A Class I permitted facility which operates only non-commercial wells.

(64) **Non-commercial underground injection control (UIC) Class I well facility**--A UIC Class I permitted facility where only non-commercial wells are operated.

(65) **Non-commercial well**--An underground injection control Class I injection well which disposes of wastes that are generated on-site, at a captured facility or from other facilities owned or effectively controlled by the same person.

(66) **Off-site**--Property which cannot be characterized as on-site.

(67) **On-site**--The same or geographically contiguous property which may be divided by public or private rights-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing, as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which the owner controls and to which the public does not have access, is also considered on-site property.

(68) **Out of service**--The operational status when a well is not authorized to inject fluids, or the well itself is incapable of injecting fluids for mechanical reasons, maintenance operations, or well workovers or when injection is prohibited due to the well's inability to comply with the in-service operating standards of this chapter.

(69) **Permit area**--The area owned or under lease by the permittee which may include buffer areas, mine areas, and production areas.

(70) **Plugging**--The act or process of stopping the flow of water, oil, or gas into or out of a formation through a borehole or well penetrating that formation.

(71) **Point of injection**--For a Class V well, the last accessible sampling point prior to fluids being released into the subsurface environment.

(72) **Pollution**--The contamination of water or the alteration of the physical, chemical, or biological quality of water:

(A) that makes it harmful, detrimental, or injurious:

(i) to humans, animal life, vegetation, or property; or

(ii) to public health, safety, or welfare; or

(B) that impairs the usefulness or the public enjoyment of the water for any lawful and reasonable purpose.

(73) **Pre-injection units**--The on-site above-ground appurtenances, structures, equipment, and other fixtures including the injection pumps, filters, tanks, surface impoundments, and piping for wastewater transmission between any such facilities and the well that are or will be used for storage or processing of waste to be injected, or in conjunction with an injection operation.

(74) **Production area**--The area defined by a line generally through the outer perimeter of injection and recovery wells used for mining.

(75) **Production area authorization**--A document, issued under the terms of an injection well permit, approving the initiation of mining activities in a specified production area within a permit area.

(76) **Production zone**--The stratigraphic interval extending vertically from the shallowest to the deepest stratum into which mining solutions are authorized to be introduced.

(77) **Radioactive waste**--Any waste which contains radioactive material in concentrations which exceed those listed in 10 Code of Federal Regulations Part 20, Appendix B, Table II, Column 2, and as amended.

(78) **Restoration demonstration**--A test or tests conducted by a permittee to simulate production and restoration conditions and verify or modify the fluid handling values submitted in the permit application.

(79) **Restored aquifer**--An aquifer whose local groundwater quality has, by natural or artificial processes, returned to levels consistent with restoration table values or better as verified by an approved sampling program.

(80) **Salt cavern**--A hollowed-out void space that has been purposefully constructed within a salt stock, typically by means of solution mining by circulation of water from a well or wells connected to the surface.

(81) **Salt cavern confining zone**--A zone between the salt cavern injection zone and all underground sources of drinking water and freshwater aquifers, that acts as a barrier to movement of waste out of a salt cavern injection zone, and consists of the entirety of the salt stock excluding any portion of the salt stock designated as an underground injection control (UIC) Class I salt cavern injection zone or any portion of the salt stock occupied by a UIC Class II or Class III salt cavern or its disturbed salt zone.

(82) **Salt cavern injection interval**--That part of a salt cavern injection zone consisting of the void space of the salt cavern into which waste is stored or disposed of, or which is capable of receiving waste for storage or disposal.

(83) **Salt cavern injection zone**--The void space of a salt cavern that receives waste through a well, plus that portion of the salt stock enveloping the salt cavern, and extending from the boundaries of the cavern void outward a sufficient thickness to contain the disturbed salt zone, and an additional thickness of undisturbed salt sufficient to ensure that adequate separation exists between the outer limits of the injection zone and any other activities in the domal area.

(84) **Salt cavern solid waste disposal well or salt cavern disposal well**--For the purposes of this chapter, regulations of the commission, and not to underground injection control (UIC) Class II or UIC Class III wells in salt caverns regulated by the Texas Railroad Commission, a salt cavern disposal well is a type of UIC Class I injection well used:

(A) to solution mine a waste storage or disposal cavern in naturally occurring salt; and/or

(B) to inject hazardous, industrial, or municipal waste into a salt cavern for the purpose of storage or disposal of the waste.

(85) **Salt dome**--A geologic structure that includes the caprock, salt stock, and deformed strata surrounding the salt stock.

(86) **Salt stock**--A geologic formation consisting of a relatively homogeneous mixture of evaporite minerals dominated by halite (NaCl) that has migrated from originally tabular beds into a vertical orientation.

(87) **Sanitary waste**--Liquid or solid waste originating solely from humans and human activities, such as wastes collected from toilets, showers, wash basins, sinks used for cleaning domestic areas, sinks used for food preparation, clothes washing operations, and sinks or washing machines where food and beverage serving dishes, glasses, and utensils are cleaned.

(88) **Septic system**--A well that is used to emplace sanitary waste below the surface, and is typically composed of a septic tank and subsurface fluid distribution system or disposal system.

(89) **Stratum**--A sedimentary bed or layer, regardless of thickness, that consists of generally the same kind of rock or material.

(90) **Subsurface fluid distribution system**--An assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground. This definition includes subsurface area drip dispersal systems as defined in §222.5 of this title (relating to Definitions).

(91) **Surface casing**--The first string of casing (after the conductor casing, if any) that is set in a well.

(92) **Temporary injection point**--A method of Class V injection that uses push point technology (injection probes pushed into the ground) for the one-time injection of fluids into or above an underground source of drinking water.

(93) **Total dissolved solids**--The total dissolved (filterable) solids as determined by use of the method specified in 40 Code of Federal Regulations Part 136, as amended.

(94) **Transmissive fault or fracture**--A fault or fracture that has sufficient permeability and vertical extent to allow fluids to move between formations.

(95) **Underground injection**--The subsurface emplacement of fluids through a well.

(96) **Underground injection control**--The program under the federal Safe Drinking Water Act, Part C, including the approved Texas state program.

(97) **Underground source of drinking water**--An "aquifer" or its portions:

(A) which supplies drinking water for human consumption; or

(B) in which the groundwater contains fewer than 10,000 milligrams per liter total dissolved solids; and

(C) which is not an exempted aquifer.

(98) **Upper limit**--A parameter value established by the commission in a permit/production area authorization which when exceeded indicates mining solutions may be present in designated monitor wells.

(99) **Verifying analysis**--A second sampling and analysis of control parameters for the purpose of confirming a routine sample analysis which indicated an increase in any control parameter to a level exceeding the upper limit. Mining solutions are assumed to be present in a designated monitor well if a verifying analysis confirms that any control parameter in a designated monitor well is present in concentration equal to or greater than the upper limit value.

(100) **Well**--A bored, drilled, or driven shaft whose depth is greater than the largest surface dimension, a dug hole whose depth is greater than the largest surface dimension, an improved sinkhole, or a subsurface fluid distribution system but does not include any surface pit, surface excavation, or natural depression.

(101) **Well injection**--The subsurface emplacement of fluids through a well.

(102) **Well monitoring**--The measurement by on-site instruments or laboratory methods of any chemical, physical, radiological, or biological property of the subsurface strata or their contained fluids penetrated by the wellbore.

(103) **Well stimulation**--Several processes used to clean the well bore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation including, but not limited to, surging, jetting, blasting, acidizing, and hydraulic fracturing.

(104) **Workover**--An operation in which a down-hole component of a well is repaired, the engineering design of the well is changed, or the mechanical integrity of the well is compromised. Workovers include operations such as sidetracking, the addition of perforations within the permitted injection interval, and the addition of liners or patches. For the purposes of this chapter, workovers do not include well stimulation operations.

§331.7. Permit Required.

(a) Except as provided in §331.9 of this title (relating to Injection Authorized by Rule) and by subsection (d) of this section, all injection wells and activities must be authorized by permit.

(b) For Class III in situ uranium solution mining wells, Frasch sulfur wells, and other Class III operations under commission jurisdiction, an area permit authorizing more than one well may be issued for a defined permit area in which wells of similar design and operation are proposed. The wells must be operated by a single owner or operator. Before commencing operation of those wells, the permittee may be required to obtain a production area authorization for separate production or mining areas within the permit area.

(c) The owner or operator of a large capacity septic system, a septic system which accepts industrial waste, or a subsurface area drip dispersal system, as defined in §222.5 of this title (relating to Definitions) must obtain a wastewater discharge permit in accordance with Texas Water Code, Chapter 26 or Chapters 26 and 32, and Chapter 305 of this title (relating to Consolidated Permits), and must submit the inventory information required under §331.10 of this title (relating to Inventory of Wells Authorized by Rule).

(d) Pre-injection units for Class I nonhazardous, noncommercial injection wells and Class V injection wells permitted for the disposal of nonhazardous waste must be either authorized by a permit issued by the commission or registered in accordance with §331.17 of this title (relating to Pre-

Injection Units Registration). The option of registration provided by this subsection shall not apply to pre-injection units for Class I injection wells used for the disposal of byproduct material, as that term is defined in Chapter 336 of this title (relating to Radioactive Substance Rules).

§331.9. Injection Authorized by Rule.

(a) Plugging and abandonment of a well authorized by rule at any time after January 1, 1982, shall be accomplished in accordance with the standards of §331.46 of this title (relating to Closure Standards). Class V wells shall be closed according to standards under §331.133 of this title (relating to Closure Standards for Injection Wells). Motor vehicle waste disposal wells, large capacity septic systems, large capacity cesspools, subsurface fluid distribution systems, and drywells shall be closed according to standards under §331.136 of this title (relating to Closure Standards for Motor Vehicle Waste Disposal Wells, Large Capacity Septic Systems, Large Capacity Cesspools, Subsurface Fluid Distribution Systems, and Drywells).

(b) Injection into Class V wells, unless otherwise provided in subsection (c) of this section, §331.7 of this title (relating to Permit Required), or §331.137 of this title (relating to Permit for Motor Vehicle Waste Disposal Wells), is authorized under this rule.

(1) Well authorization under this section expires upon the effective date of a permit issued under §331.7 of this title.

(2) An owner or operator of a Class V well is prohibited from injecting into the well:

(A) upon the effective date of permit denial;

(B) upon failure to submit a permit application in a timely manner under subsection (c) of this section;

(C) upon failure to submit inventory information in a timely manner under §331.10 of this title (relating to Inventory of Wells Authorized by Rule);

(D) upon failure to comply with a request for information from the executive director in a timely manner; or

(E) upon failure to comply with provisions contained in Subchapter H of this chapter (relating to Standards for Class V Wells) and, if applicable, Subchapter K of this chapter (relating to Additional Requirements for Class V Aquifer Storage Wells).

(c) The executive director may require the owner or operator of an injection well authorized by rule to apply for and obtain an injection well permit. The owner or operator shall submit a complete application within 90 days after the receipt of a letter from the executive director requesting that the owner or operator of an injection well submit an application for permit. Cases for which a

permit may be required include, but are not limited to, wells not in compliance with the standards required by this section.

(d) Class IV wells injecting hazardous waste-contaminated groundwater that is of acceptable quality to aid remediation and that is being reinjected into the same formation from which it was drawn, as authorized by §331.6 of this title (relating to Prohibition of Class IV Well Injection), shall be authorized by rule.

SUBCHAPTER H: STANDARDS FOR CLASS V WELLS

§331.132

STATUTORY AUTHORITY

The amendment is adopted under TWC, §5.103, which provides the commission the authority to adopt any rules necessary to carry out its powers and duties under this code and other laws of this state; §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; and §27.019, which requires the commission to adopt rules reasonably required for the regulation of injection wells. The amendment is also adopted under HB 2651, which requires the commission to adopt rules relating to subsurface drip dispersal systems.

The adopted amendment implements HB 2651 and TWC, Chapter 27, which requires the commission to regulate injection wells.

§331.132. Construction Standards.

(a) **Applicability.** All Class V wells shall be completed in accordance with the specifications contained in this section, unless otherwise authorized by the executive director. Injection wells listed in Texas Occupations Code, §1901.001(8) shall be installed by a water well driller licensed by the Texas Department of Licensing and Regulation.

(b) **Reporting.**

(1) Prior to construction. Except for closed loop injection and air conditioning return flow wells, information required under §331.10(a) of this title (relating to Inventory or Wells Authorized by Rule) shall be submitted to the executive director for review and approval prior to construction. For large capacity septic systems, septic systems that accept industrial waste, and subsurface fluid distribution systems including subsurface area drip dispersal systems as defined in §222.5 of this title (relating to Definitions), the information required under §331.10(a) of this title shall be submitted as part of the wastewater discharge permit application filed under Chapter 305 of this title (relating to Consolidated Permits).

(2) After completion of construction. Except for large capacity septic systems, subsurface fluid distribution systems, temporary injection points, closed loop injection wells, improved sinkholes, and air conditioning return flow wells, the Texas Department of Licensing and Regulation state well report form shall be submitted to the executive director within 30 days from the date the well construction is completed.

(3) Closed loop and air conditioning return flow wells. No reporting prior to construction is necessary for these two types of wells. The Texas Department of Licensing and Regulation state well report form shall be completed and submitted to the executive director within 30 days from the date the well construction is completed. Any additives, constituents, or fluids (other than potable water) that are used in the closed loop injection well system shall be reported in the Water Quality Section on the state well report form.

(4) Temporary injection points. Temporary injection points shall be completed in such a manner as to prevent movement of surface water or undesirable groundwater into underground sources of drinking water.

(5) Large capacity septic systems, subsurface fluid distribution systems, and improved sinkholes. The owner or operator of large capacity septic systems, subsurface fluid distribution systems, and improved sinkholes must submit the well report form provided by the executive director within 30 days from the date well construction is completed.

(c) Sealing of casing.

(1) General. Except for closed loop injection wells, the annular space between the borehole and the casing shall be filled with cement slurry from ground level to a depth of not less than ten feet below the land surface or well head. In areas of shallow, unconfined groundwater aquifers, the cement need not be placed below the static water level. In areas of shallow, confined groundwater aquifers having artesian head, the cement need not be placed below the top of the water-bearing strata.

(2) Closed loop injection well. The annular space of a closed loop injection well shall be backfilled to the total depth with impervious bentonite or a similar material. Where no groundwater or only one zone of groundwater is encountered, sand, gravel, or drill cuttings may be used to backfill up to 30 feet from the surface. The top 30 feet shall be filled with impervious bentonite. Alternative impervious materials may be authorized by the executive director upon request.

(d) Surface completion.

(1) With the exception of temporary injection points, subsurface fluid distribution systems, improved sinkholes, and large capacity septic systems, all wells must have a concrete slab or sealing block placed above the cement slurry around the well at the ground surface.

(A) The slab or block shall extend at least two feet from the well in all directions and have a minimum thickness of four inches and shall be separated from the well casing by a plastic or mastic coating or sleeve to prevent bonding of the slab to the casing.

(B) The surface of the slab shall be sloped so that liquid will drain away from the well.

(2) For wells that use casing, the top of the casing shall extend a minimum of 12 inches above the original ground surface. The well casing shall be capped or completed in a manner that will prevent pollutants from entering the well.

(3) Closed loop injection wells which are completed below grade are exempt from the surface completion standards in this subsection. Pitless adapters may be used in close loop wells provided that:

(A) the adapter is welded to the casing or fitted with another suitably effective seal; and

(B) the annular space between the borehole and the casing is filled with cement to a depth not less than 15 feet below the adapter connection.

(4) Temporary injection points shall be completed in such a manner as to prevent the movement of surface water or undesirable groundwater into underground sources of drinking water.

(e) Optional use of a steel or polyvinyl chloride (PVC) sleeve. If the use of a steel or PVC sleeve is necessary to prevent possible damage to the casing, the steel sleeve shall be a minimum of 3/16 inches in thickness or the PVC sleeve shall be a minimum of Schedule 80 sun-resistant and 24 inches in length, and shall extend 12 inches into the cement slurry.

(f) Well placement in a flood-prone area. All wells shall be located in areas not generally subject to flooding. If a well must be placed in a flood-prone area, it shall be completed with a watertight sanitary well seal to maintain a junction between the casing and injection tubing, and a steel sleeve extending a minimum of 36 inches above ground level and 24 inches below the ground surface shall be used. For the purpose of this subsection, a flood-prone area is defined as that area within the 100-year flood plain as determined on the Federal Emergency Management Agency (FEMA) Flood Hazard Maps for the National Flood Insurance Program. If FEMA has conducted a flood insurance study of the area, and has mapped the 50-year flood plain, then the smaller geographic areas within the

50-year boundary are considered to be flood-prone. Closed loop injection wells, improved sinkholes, and air conditioning return flow wells are exempt from the completion standards in this subsection.

(g) Other protection measures.

(1) Commingling prohibited. All wells, especially those that are gravel packed, shall be completed so that aquifers or zones containing waters that are known to differ significantly in chemical quality are not allowed to commingle through the borehole-casing annulus or the gravel pack and cause quality degradation of any aquifer containing fresh water.

(2) Undesirable groundwater. When undesirable groundwater, which is water that is injurious to human health and the environment or water that can cause pollution to land or other waters, is encountered in a Class V well, the well shall be constructed so that the undesirable groundwater is isolated from any underground source of drinking water and is confined to the zone(s) of origin.

(h) Sampling. For a Class V injection well, any required sampling shall be done at the point of injection, or as specified in a permit issued by the executive director.