

The Texas Commission on Environmental Quality (commission) adopts amendments to §309.3 and §309.4. Section 309.3 is adopted *with change* to the proposed text as published in the February 17, 2006, issue of the *Texas Register* (31 TexReg 1004). Section 309.4 is adopted *without change* and will not 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.

The commission adopts amendments to §309.3 and §309.4 to add effluent limitations for domestic wastewater treatment facilities that supply effluent for disposal through subsurface area drip dispersal systems. Effluent limits are necessary to ensure proper operation of the subsurface area drip dispersal system, prevent pollution, and protect human health. Two effluent limit sets are adopted in this rulemaking. One set is for effluent disposed of through subsurface area drip dispersal systems on land that has the potential for public contact with the soil. The other set is for effluent disposed of through subsurface area drip dispersal systems on land that has no potential for public contact with the soil.

Disinfection of the effluent is required only when there is significant public contact with the soil where the effluent is applied. Examples of those types of areas are school and park playgrounds and soccer and football fields. These are areas where the public is likely to have significant skin-to-soil contact. An example of areas that do not require disinfection of the effluent are greenbelts and golf courses.

These areas, although public, are less likely to have significant skin-to-soil contact. Due to emerging technologies, e.g., ultraviolet light, a performance-based standard, fecal coliform count, is required rather than a chlorine residual.

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 331, Underground Injection Control, in this issue of the *Texas Register* to implement HB 2651.

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 standards in the *Texas Legislative Council Drafting Manual*, November 2004.

Section 309.3, Application of Effluent Sets

The adopted amendment to §309.3(f) adds paragraphs (4) - (7) to specify the effluent limitations for domestic wastewater that is disposed of through subsurface area drip dispersal systems. Adopted §309.4(f)(4) - (7) specifies the pH range, disinfection requirements, primary treatment methods, and the requirement to comply with Chapter 309, Subchapters B and C, Location Standards and Land Disposal of Sewage Effluent, respectively.

The adopted amendment to §309.3(g)(4) specifies that disinfection of effluent disposed of through a subsurface area drip dispersal system must be evaluated by fecal coliform sampling. Effluent is considered disinfected if a grab sample of fecal coliform contains no more than 200 colony forming units (cfu) per 100 milliliters (ml) of water. 200 cfu/100 ml is the standard for contact recreation in surface water. The rationale is that if 200 cfu/100 ml is safe to contact in water, it is safe to contact in soil. There is a wide variation in the amount of ambient bacteria in soil. This limitation prevents the treated effluent from adding an appreciable amount of bacteria to the soil.

Section 309.4, Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants

Adopted §309.4 is amended to correct a numbering error in Table 1 and the references to those numbers throughout the table.

The adopted amendment adds requirements for subsurface area drip dispersal systems to Table 1. The limitations for five-day biochemical oxygen demand and total suspended solids in domestic effluent disposed of through a subsurface area drip dispersal system on land where there is no potential for public contact are the same as the prior limitations for irrigation on land where there is no potential for public exposure. The limitations for five-day biochemical oxygen demand and total suspended solids in domestic effluent disposed of through a subsurface area drip dispersal system on land where there is potential for public contact are the same as the prior limitations for irrigation on land where there is potential for public exposure, with the exception of the added fecal coliform limitation.

The amendment also adds a note following Table 1 to differentiate between “public exposure” and “public contact.” Public exposure is the term associated with irrigation systems. With spray irrigation, as well as other surface irrigation practices, the public has the potential to be exposed to treated effluent. With subsurface area drip dispersal systems, the public has the potential to come into contact with the soil that might be wet with treated effluent, so the term “public contact” is adopted.

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 implement HB 2651, relating to the regulation of subsurface area drip dispersal systems. The specific intent of this rulemaking is to amend Chapter 309 to add effluent limitations for treatment facilities that supply effluent for disposal through subsurface area drip dispersal systems. Although the intent of the adopted rulemaking is to protect the environment or reduce the risks to human health from environmental exposure, it is not a major environmental rule because it does not adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or public health and safety of the state or a

sector of the state. Therefore, the adopted rules do not meet the definition of a major environmental rule as defined by the Texas Government Code.

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 a requirement of state law, because they are consistent with the express requirements of TWC, Chapter 32, and are adopted to implement HB 2651. 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. These adopted rules do not meet the criteria for a major environmental rule as defined by Texas

Government Code, §2001.0225. 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 add effluent limitations for treatment facilities that supply effluent for disposal through subsurface area drip dispersal systems. 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 with CMP goals and determined that Chapter 309 does not impact any CMP goals or policies because there are no substantive changes to the protection of human health and the environment. Subsurface area drip dispersal systems are currently subject to the requirements of this chapter. The only change in the requirements is the method by which the commission measures disinfection. Because technology is offering options beyond traditional chlorination, the requirement to meet disinfection levels is stated as a performance measure rather than a performance method. The number of fecal coliform colony forming units per 100 milliliters of water is a standard method of determining the contamination level, and it was used as the measurement tool for this measure. This requirement will result in the same level of protection of human health and the environment as the previous requirement.

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: EFFLUENT LIMITATIONS

§309.3, §309.4

STATUTORY AUTHORITY

The amendments are adopted under TWC, §5.013, which establishes the general jurisdiction of the commission over other areas of responsibility as assigned to the commission under the TWC and other laws of the state; §5.102, which establishes the commission's general authority necessary to carry out its jurisdiction; §5.103 and §5.105, which authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties under TWC, §5.013; §26.011, which provides the commission with the authority to adopt any rules necessary to carry out its powers, duties, and policies and to protect water quality in the state; §26.013, which authorizes the executive director to conduct or have conducted any research and investigations it considers advisable and necessary for the discharge of the duties under this chapter; §27.019, which requires the commission to adopt rules reasonably required for the regulation of injection wells; §32.054, which authorizes the executive director to inspect the dispersion area; and §32.151, which authorizes the commission, authorized agent, or employee of local government the power to enter property. Rulemaking authority is expressly granted to the commission to adopt rules under TWC, Chapter 32, enacted by HB 2651, §2.

The adopted amendments implement HB 2651, which added Chapter 32 to the TWC. HB 2651, §2, expressly requires the commission to adopt rules to set standards and requirements for application

permits and actions by the commission to carry out the responsibilities for management of beneficial reuse of treated wastewater.

§309.3. Application of Effluent Sets.

(a) Discharges into effluent limited segments.

(1) All discharges into effluent limited segments shall, at a minimum, achieve secondary treatment. An effluent limited segment is any segment which is presently meeting or will meet applicable water quality criteria following incorporation of secondary treatment for domestic sewage treatment plants and/or best practicable treatment for industries.

(2) New or increased discharges into effluent limited segments shall achieve that level of treatment deemed necessary by the commission, based on the assimilative capacity and uses of the receiving stream.

(b) Discharges into water quality limited segments.

(1) All discharges into water quality limited segments for which evaluations have been developed shall, at a minimum, achieve the treatment level specified in the recommendations of the evaluation for that discharge. A water quality limited segment is a surface water segment classified by

the commission as water quality limited where conventional treatment of waste discharged to the segment is not stringent enough for the segment to meet applicable water quality standards; monitoring data have shown significant violations of water quality standards; advanced waste treatment for point sources is required to protect existing exceptional water quality; or the segment is a domestic water supply reservoir used to supply drinking water.

(2) Discharges into water quality limited segments for which wasteload evaluations or total maximum daily loads have not been developed shall, at a minimum, achieve secondary treatment as provided by §309.1 of this title (relating to Scope and Applicability).

(c) Discharges into certain reservoirs. Any discharge made within five miles upstream of a reservoir or lake which is subject to on-site/private sewage facility regulation adopted under Texas Water Code, Chapter 26 or Texas Civil Statutes, Article 4477-7e, or which may be used as a source for public drinking water supply shall achieve, at a minimum, Effluent Set 2 in §309.4 of this title (relating to Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants). Five miles shall be measured in stream miles from the normal conservation pool elevation. The commission may grant exceptions to this requirement where it can be demonstrated that the exception would not adversely impact water quality.

(d) Discharges from stabilization ponds. Effluent Set 3 shall apply to stabilization pond facilities in which stabilization ponds are the primary process used for secondary treatment and in

which the ponds have been designed and constructed in accordance with applicable design criteria.

Effluent Set 3 is considered equivalent to secondary treatment for stabilization pond systems.

(e) Discharge to an evaporation pond. Effluent discharged to evaporation ponds must receive, at a minimum, primary treatment, be within the pH limits of 6.0 - 9.0 standard units, and have a quality of 100 milligrams per liter five-day biochemical oxygen demand or less on a grab sample. For the purpose of this subsection, primary treatment means solids separation which is typically accomplished by primary clarifiers, Imhoff tanks, facultative lagoons, septic tanks, and other such units.

(f) Land disposal of treated effluent. The commission may authorize land disposal of treated effluent when the applicant demonstrates that the quality of ground or surface waters in the state will not be adversely affected. Each project must be consistent with laws relating to water rights. The primary purpose of such a project must be to dispose of treated effluent and/or to further enhance the quality of effluent prior to discharge.

(1) When irrigation systems ultimately dispose of effluent on land to which the public has access, Effluent Set 4, at a minimum, shall apply. The pH shall be within the limits of 6.0 - 9.0 standard units unless a specific variance is provided in the permit based upon site-specific conditions. When lands to which the public does not have access are to be used for ultimate disposal of effluent, the effluent must, at a minimum, receive primary treatment. Effluent Set 5 shall apply and the pH

shall be within the limits of 6.0 - 9.0 standard units unless a specific variance is provided in the permit based upon site-specific conditions. For irrigation systems, primary treatment is the same as described in subsection (e) of this section. Effluent may be used for irrigation only when consistent with Subchapters B and C of this chapter (relating to Location Standards and Land Disposal of Sewage Effluent).

(2) When overland flow systems are utilized for effluent treatment, the public shall not have access to the treatment area. Primary treated effluent meeting Effluent Set 6, within the pH limits of 6.0 - 9.0 standard units may be used consistent with environmental safeguards and protection of ground and surface waters. For overland flow systems, primary treatment is the same as described in subsection (e) of this section. At a minimum, Effluent Set 1 shall apply to discharges from overland flow facilities except where more stringent treatment levels are required to meet water quality standards.

(3) When evapotranspiration beds, low pressure dosing, or similar soil absorption systems are utilized for on-site land disposal, the effluent shall, at a minimum, receive primary treatment and meet Effluent Set 7. Use of these on-site systems shall be consistent with environmental safeguards and the protection of ground and surface waters. Primary treatment is the same as described in subsection (e) of this section.

(4) When subsurface area drip dispersal systems, or similar soil absorption systems ultimately dispose of effluent on land where there is the significant potential for public contact, as defined in §222.5 of this title (relating to Definitions), Effluent Set 4, at a minimum, shall apply. The pH shall be within the limits of 6.0 - 9.0 standard units unless a specific variance is provided in the permit based upon site-specific conditions.

(5) When subsurface area drip dispersal systems, or similar soil absorption systems ultimately dispose of effluent on land where there is the minimal potential for public contact, as defined in §222.5 of this title, Effluent Set 5, at a minimum, shall apply. The pH shall be within the limits of 6.0 - 9.0 standard units unless a specific variance is provided in the permit based upon site-specific conditions.

(6) Treated effluent may be land applied only when consistent with Subchapters B and C of this chapter. Use of subsurface area drip dispersal systems shall be consistent with environmental safeguards and the protection of ground and surface waters.

(7) For the purpose of this subsection, primary treatment means solids separation which is typically accomplished by primary clarifiers, Imhoff tanks, facultative lagoons, septic tanks, and other such units.

(g) Disinfection.

(1) Except as provided in this subsection, disinfection in a manner conducive to the protection of both public health and aquatic life shall be achieved on all domestic wastewater which discharges into waters in the state. Any appropriate process may be considered and approved on a case-by-case basis.

(2) Where chlorination is utilized, any combination of detention time and chlorine residual where the product of chlorine (Cl_2 mg/l) X Time (T minutes) equals or exceeds 20 is satisfactory provided that the minimum detention time is at least 20 minutes and the minimum residual is at least 0.5 mg/l. The maximum chlorine residual in any discharge shall in no event be greater than four mg/l per grab sample, or that necessary to protect aquatic life. Where an existing system, constructed prior to October 8, 1990, has a detention time of less than 20 minutes at peak flow, the waste discharge permit will be amended at renewal by the commission to require limits for both chlorine residual and fecal coliform.

(3) On a case-by-case basis, the commission will allow chlorination or disinfection alternatives to the specific criteria of time and detention described in paragraph (2) of this subsection that achieve equivalent water quality protection. These alternatives will be considered and their performance standards determined based upon supporting data submitted in an engineering report, prepared and sealed by a registered, professional engineer. The report should include supporting data, performance data, or field tracer studies, as appropriate. The commission will establish effluent

limitations as necessary to verify disinfection is adequate, including chlorine residual testing, other chemical testing, and/or fecal coliform testing.

(4) Except as provided herein, disinfection of domestic wastewater which is discharged by means of land disposal or evaporation pond shall be reviewed on a case-by-case basis to determine the need for disinfection. All effluent discharged to land to which the public has access must be disinfected and if the effluent is to be transferred to a holding pond or tank, the effluent shall be rechlorinated to a trace chlorine residual at the point of irrigation application. All effluent discharged to land via a subsurface area drip dispersal system to which there is a potential for public contact shall be disinfected and shall comply with a fecal coliform effluent limitation of 200 colony forming units per 100 milliliters water, per grab sample, with §309.3(g)(1) of this title (relating to Application of Effluent Sets).

(5) Unless otherwise specified in a permit, chemical disinfection is not required for stabilization ponds when the total retention time in the free-water-surface ponds (based on design flow) is at least 21 days.

(h) More stringent requirements. The commission may impose more stringent requirements in permits than those specified in subsections (a) - (g) of this section, on a case-by-case basis, where appropriate to maintain desired water quality levels.

§309.4. Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants.

This table contains the sets of effluent criteria for waste discharge permits.

Figure: 30 TAC §309.4

Table 1
Effluent Limitations for Domestic Treatment Plants

Set	Direct Discharge	30-Day		7-Day Average		Daily		Single Grab		DO MIN
		Average				Maximum				
		BOD ₅	TSS							
1	Secondary treatment	20	20	30	30	45	45	65	65	2.0
2	Enhanced secondary treatment	10	15	15	25	25	40	35	60	4.0
3	Stabilization ponds	30	90	45	--	70	--	100	--	4.0
Land Treatment/Disposal										
4	Irrigation (public exposure*) Subsurface area drip dispersal system (public contact**)	20	20	30	30	45	45	65	65	--
	Using stabilization ponds Subsurface area drip dispersal system using stabilization ponds (public contact**)	30	90	45	--	70	--	100	--	--

5	Irrigation (no public exposure) Subsurface area drip dispersal system (no public contact)	--	--	--	--	--	--	--	--	100	--	--		
6	Overland flow (applied effluent)	--	--	--	--	--	--	--	--	100	--	--		
7	Evapotranspiration beds and low pressure dosing	--	--	--	--	--	--	--	--	100	--	--		
		30-Day Average			7-Day Average			Daily Maximum			Single Grab			
		CBO D ₅	TSS	NH ₃ - N	CBO D ₅	TSS	NH ₃ -N	CBO D ₅	TSS	NH ₃ - N	CBO D ₅	TSS	NH ₃ - N	DO MI N
	Enhanced													
2N	Secondary with Nitrification	10	15	3	15	25	6	25	40	10	35	60	15	4.0
2N1	Secondary with Nitrification	10	15	2	15	25	5	25	40	10	35	60	15	4.0

Note: * - Public Exposure: The potential for the public to come into direct contact with treated effluent.
 ** - Public Contact: The potential for the public to come into contact with the soil over a dispersal zone, as defined in 30 TAC §222.5.