

The Texas Commission on Environmental Quality (commission or TCEQ) adopts the amendment of §319.9 and the repeal of §319.10.

Section 319.9 is adopted *with changes* to the proposed text and will be republished. Section 319.10 is adopted *without changes* to the proposed text as published in the June 5, 2009, issue of the *Texas Register* (34 TexReg 3495) and will not be republished.

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

The TCEQ typically includes chlorine exposure time and residual concentration requirements as the bacteria control mechanism for disinfection by chlorination in Texas Pollutant Discharge Elimination System (TPDES) domestic discharge permits. Starting in February 2007, the United States Environmental Protection Agency (EPA) took a new position that bacteria limits are required. This resulted in the EPA objecting to a subset of the commission's draft permits. As a result, the commission could not issue approximately 100 permits during this time. The executive director and EPA reached an agreement in July 2008 regarding bacteria effluent limitations and monitoring requirements in TPDES domestic wastewater permits. The agreement included an interim approach to require bacteria limitations and/or monitoring for selected facilities that met certain criteria for discharges to bacteria impaired water bodies. The agreement also included a long term approach in which the commission would propose rulemaking to establish requirements for bacteria limitations in all TPDES domestic wastewater permits. Conditions in the agreement stated that an adopted rule must be effective by December 31, 2009, and all TPDES domestic wastewater draft permits for which Notice of Application and Preliminary Decision is published on or after January 1, 2010 will have the new requirements as part of the permit language or EPA objections would begin again. The purpose of this rulemaking is to satisfy the agreement with the EPA.

The frequency of effluent parameter measurements is addressed in Chapter 319. Different frequencies of measuring bacteria are required based on both the amount of wastewater permitted for discharge and the disinfection method. Larger flows are given more frequent measurement requirements than small flows because of the amount of potential harm to human health and the environment are proportionate to the pollutant loadings from the amount of wastewater discharged from a treatment facility.

Frequencies also vary with the disinfection method. Because facilities with chlorine disinfection systems have chlorine contact time and concentrations as another method to evaluate disinfection, those facilities are assigned a proportionately less frequent measurement schedule than facilities that use ultraviolet light, natural attenuation, or a chemical system other than chlorine. The natural attenuation, or pond, systems were given a more frequent measurement schedule than chlorine systems, but less frequent than other chemical systems or ultraviolet light systems. Although there is no other method to measure disinfection with these systems, their treatment levels change slowly. Ultraviolet light and other chemical systems are given the highest frequency of measurement because they are subject to equipment failure, and therefore, a lack of disinfection in a short time span.

#### SECTION BY SECTION DISCUSSION

Adopted §319.9 includes Table 2, located in §319.9(b), and renumbers the current Table 2, located in existing §319.9(b) and Table 3, located in existing §319.9(c), as Table 3, located in §319.9(c) and Table 4, located in §319.9(d). Table 1, located in §319.9(a), is the *Frequency of Measurement* for domestic discharges. It includes measurement frequencies for flow, biochemical oxygen demand, total suspended solids, chlorine residual, and pH. The second row in the first column of Table 1, Design Capacity MGD,

was changed to read 0.10 to less than 0.50 rather than 0.50 to less than 0.10 to which was a typographical error. Table 2, located in §319.9(b), is the *Frequency of Measurement of Bacteria* for domestic discharges, the amended Table 3, located in §319.9(c), is the *Frequency of Measurement* for nondomestic discharges, and the amended Table 4, located in §319.9(d), is the *Required Quality Control Analyses*. For better organization and easier reading, Table 2 was inserted after Table 1 rather than added after Table 4 to keep the domestic discharge tables together. Table 2, was revised to include greater than symbols in the second, third, and fourth rows in the first column, to clarify the sampling frequencies. The last column, first row of Table 3, was revised to read 10.00 or greater rather than 10.00 to greater to correct a typographical error.

The adopted rulemaking repeals §319.10. Bacteria limits will replace and supersede this requirement. It is being removed to simplify the rule.

#### FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed this rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking is not subject to §2001.0225, because it does not meet the criteria for a "major environmental rule" as identified in that statute. A major environmental rule is defined as 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. This rule adoption does not adversely affect, in a material way, the economy, a section of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The specific intent of this portion of the

rulemaking is to establish frequency requirements for bacteria monitoring in all TPDES domestic wastewater permits. The rulemaking modifies the state rules and/or procedural documents to include bacteria effluent limitations and monitoring frequencies in all TPDES domestic wastewater permits.

Furthermore, the rulemaking is not subject to Texas Government Code, §2001.0225 because it does not meet any of the four applicable requirements specified in §2001.0225(a). Texas Government Code, §2001.0225(a) applies only to a state agency's adoption of a major environmental rule that: 1) exceeds a standard set by federal law, unless state law specifically requires the rule; 2) exceeds an express requirement of state law, unless federal law specifically requires the rule; 3) exceeds 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) is adopted solely under the general powers of the agency instead of under a specific state law.

The commission invited public comment regarding the draft regulatory impact analysis determination during the public comment period. No comments were received on this draft regulatory impact analysis determination.

#### TAKINGS IMPACT ASSESSMENT

The commission evaluated the rulemaking and performed an analysis of whether it constitutes a taking under Texas Government Code, Chapter 2007. The specific purpose of the rulemaking is to modify the Texas Administrative Code to reflect bacteria effluent limitations and monitoring in all TPDES domestic wastewater permits, as mandated by the EPA. This rulemaking substantially advances that stated purpose by modifying 30 TAC §§210.33, 309.3, and 319.9, and repealing §319.10.

Promulgation and enforcement of the adopted rules will not be a statutory or constitutional taking of private real property. Specifically, the rulemaking does not apply to or affect any landowner's rights in private real property because it does not burden (constitutionally), restrict, or limit any landowner's right to real property or reduce any property value by 25% or more beyond that which would otherwise exist in the absence of the regulations. These actions will not affect private real property.

#### CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission reviewed the rulemaking and found that the adoption is subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act, Texas Natural Resources Code, §§33.201 *et seq.*, and therefore is required to be consistent with all applicable CMP goals and policies. The commission conducted a consistency determination for the adopted rules in accordance with the Coastal Coordination Act Implementation Rules, 31 TAC §505.22 and found the rulemaking is consistent with the applicable CMP goals and policies.

CMP goals applicable to the adopted rules include the protection, preservation, restoration, and enhancement of the diversity, quality, quantity, functions, and values of coastal natural resource areas and ensure sound management of all coastal resources by allowing for compatible economic development and multiple human uses of the coastal zone.

CMP policies applicable to the adopted rules include 31 TAC §501.21(b)(1) and (2), which state that discharges shall comply with water quality-based effluent limits and that discharges that increase pollutant loadings to coastal waters shall not impair designated uses of coastal waters and shall not

significantly degrade coastal water quality unless necessary for important economic or social development.

These rules would adopt bacteria limits for all domestic wastewater facilities that discharge into waters in the state. By adopting bacteria limits, there will be a more direct and possibly more accurate measure of the level of disinfection achieved in domestic effluent discharged to both fresh and salt water in the areas of concern to the CMP.

Promulgation and enforcement of these rules will not violate or exceed any standards identified in the applicable CMP goals and policies because the adopted rules are consistent with those CMP goals and policies and because these rules do not create or have a direct or significant adverse effect on any coastal natural resource areas.

The commission invited public comment regarding the consistency with the coastal management program during the public comment period. No comments were received on the consistency with the coastal management program.

#### PUBLIC COMMENT

The commission held a public hearing for this rulemaking in Austin, Texas at TCEQ Building E, at 10:00 a.m. on June 30, 2009. No oral comments were received at the public hearing. The comment period closed on July 6, 2009. The commission received written comments from AECOM USA Group, Inc. (AECOM); EPA; Harris County Attorney's Office on behalf of Harris County Public Infrastructure Department, Harris County Flood Control District, and Harris County Public Health & Environmental

Services Department Environmental Public Health Division (Harris County); and Water Environment Association of Texas (WEAT). All entities supported the rulemaking, either partially or with changes.

## RESPONSE TO COMMENTS

### *AECOM:*

The time line for monitoring and compliance as proposed in the rules is out of proportion with what is normally granted to wastewater facilities. Typically, a facility owner is assigned a monitoring only period prior to limitations going into effect. The draft rules appear to establish bacteria limits without an interim monitoring only period. If facilities are not able to meet bacteria effluent limitations and structural modifications to the plant will have to be made, a one-year monitoring period in the first permit issued under the proposed bacteria requirements is requested.

**The rule is silent on compliance periods. All currently permitted wastewater treatment facilities are required to and should be designed and operated to disinfect effluent. A facility's disinfection method, whether 20-minute chlorine contact time with a minimum of one milligram per liter (mg/l) residual, properly operated ultraviolet light (UV) system, or a lagoon system with a minimum 21-day retention time should disinfect effluent and thereby comply with bacteria limitations.**

**Measuring bacteria levels is a more direct way of measuring disinfection than chlorine contact time and residual or detention time in a lagoon system.**

**The executive director's agreement with the EPA requires that bacteria limitation be effective upon permit issuance. Section 307.3, Definitions and Abbreviations, allows a compliance period of up to a maximum of three years for newly imposed water quality based effluent limitations. The executive**

**director will evaluate requests for a compliance period on a case-by-case basis. However, EPA has preliminarily indicated that it may consider approving a compliance period for certain facilities only if new construction is required for the facility to meet bacteria limitations.**

**Bacteria limits will not go into effect until a facility's next permit action. The vast majority of facilities in the state will have time to evaluate existing facilities and make needed renovations.**

**The commission has made no changes in response to this comment.**

*EPA*

EPA requested that the commission consider requiring minor wastewater treatment facilities (those discharging less than one million gallons per day (mgd) to dechlorinate their effluent.

**Requiring dechlorination of effluent from minor facilities is beyond the scope of this rulemaking, and Chapter 309 does not set dechlorination standards for any facilities. Dechlorination requirements are located in *Procedures to Implement the Texas Surface Water Quality Standards*, RG-194. EPA will have an opportunity to comment on this document in the near future.**

**The commission has made no changes in response to this comment.**

*HARRIS COUNTY*

Harris County appreciates TCEQ efforts and diligence in developing bacteria effluent limits and monitoring requirements for all domestic wastewater treatment plants.

**The commission acknowledges Harris County's appreciation.**

There are 666 wastewater treatment plants in the Harris County region where there are bacteria impaired segments subject to total maximum daily loads (TMDLs). Sewage from wastewater treatment plants is the single most treatable source of bacteria entering waterways. Studies by Harris County and others indicate rampant re-growth of bacteria following discharge from wastewater treatment plants. A well designed and operated wastewater treatment plant is capable of and should be required to meet monthly average effluent limitations for *E. coli* of 10 colony forming units (cfu) per 100 milliliters (ml) of water and a single sample maximum limit of 50 cfu/100 ml. A similar approach should be developed for *Enterococci* limitations.

**Regrowth of indicator bacteria and possibly pathogenic organisms is a potential concern in some situations. At this stage of research efforts on regrowth characteristics the appropriate step in response to federal requirements is to establish across-the-board effluent limits that are equal to the instream recreational criteria in the *Texas Surface Water Quality Standards*. This is a relatively stringent regulatory approach, since the proposed effluent limits will impose water quality standards at the end of pipe, without allowing for instream dilution. More stringent effluent limits can still be required for specific permits or watersheds, as demonstrated by the TMDL evaluation for the Buffalo and White Oak Bayou watersheds, where an average concentration of *E. coli* 63 cfu/100 ml is required as the effluent limit for domestic wastewater discharges. Also, by equating the effluent limit to the instream water quality criteria, rather than to specified numerical concentrations, the proposed rule maintains the flexibility to accommodate any future changes in**

**the water quality standards for contact recreation. Section 309.2(b) gives the executive director the authority on a case-by-case basis to set more stringent limits when needed to protect water quality.**

**The commission has made no changes in response to this comment.**

*WEAT*

Laboratory availability will be a challenge, particularly for small systems. Many commercial laboratories do not accept samples on weekends without charging higher rates. Sampling frequencies need to be addressed to acknowledge laboratory working hours, similar to what is being done with drinking water samples. Holding times for drinking water microbiological testing were extended to 30 hours and frequencies were adjusted to Monday through Thursday to handle sample shipping issues and laboratory testing schedules. The draft rules should include these considerations.

**Sampling frequencies in the rule range from once per calendar quarter to daily. The executive director recognized this issue during the development of the rule and fiscal note. Only facilities that treat more than one mgd using lagoons or five mgd using chlorine have monitoring frequencies (three or more times per week) that would require testing on days other than Monday through Thursday. Facilities that use chlorine to disinfect and treat less than five mgd have a sampling frequency of once per week or less. The monitoring schedule for facilities that use UV disinfection has not been changed from historical practices. UV facilities that treat less than 0.1 mgd are required to test five days per week. Larger UV facilities must test daily.**

**Currently, the only EPA approved method for the enumeration of *E coli* in wastewater is located in 40 Code of Federal Regulations (CFR) §136.3, which has a maximum six-hour hold time and a two-hour lab setup time. The 30-hour hold time for bacteria in the drinking water program is primarily used for a presence-absence evaluation rather than enumeration against a numerical limitation. The 30-hour hold time methods in the drinking water program have been EPA approved and can be found in 40 CFR §141.21 and §141.704.**

**There is a procedure available to request from the EPA a variance from methods approved in *Standard Methods for the Examination of Water and Wastewater* and 40 CFR. The request procedure requires that the requesting party apply to the EPA through the state authority.**

**The commission has made no changes in response to this comment.**

WEAT commented that the rule's fiscal note does not correctly characterize laboratory costs. WEAT members have been quoted costs between \$30 and \$50 per sample, depending upon location of the utility with respect to contract laboratory. The initial cost to set up in-house sampling for the Colilert procedure has been quoted at \$6,300. None of these costs include training or hourly wages paid to utility staff to comply with the new regulations.

**Research into the cost of bacteria testing by contract laboratories was done in February 2009. The source of contract lab costs is given in the following table.**

**Figure: 30 TAC Chapter 319—Preamble**

<b>Facility</b>	<b>Location</b>	<b>Cost for <i>E. coli</i></b>
TestAmerica	Corpus Christi	\$60.00
Environmental Chemistry	Houston	\$55.00
LCRA	Austin	\$39.50
<b><i>Averages</i></b>		<b><i>\$51.50</i></b>

**Different sources or the difference in the dates the research was done may account for the lower costs quoted by WEAT.**

**The source of set-up and per test costs for in-house labs was Hach Company for the m-ColiBlue24 testing method. Information was collected in March 2009. The m-ColiBlue24 method was the most economical and simplest method found in regards to equipment costs, training, and operational costs. More expensive options, such as the Colilert method, were not included, although they are available and are approved methods.**

**The commission has made no changes in response to this comment.**

Many facilities have not been designed to accommodate *E. coli* sampling after the final treatment unit. In order to collect uncontaminated samples, variances or other amendments to TPDES permits may need to be considered to ensure more functional sampling points.

**Sampling for bacteria is required to be conducted following the final treatment unit; similar to sampling for other parameters in a TPDES permit (for example, biochemical oxygen demand and**

**total suspended solids). If there are case-specific issues, an applicant may apply for a change in sample location when a permit application is filed.**

**The commission has made no changes in response to this comment.**

WEAT has a number of smaller utility members that may struggle with the proposed rule. In particular, small systems with ponds may not have adequate contact time to meet the proposed *E. coli* limits. TCEQ needs to consider way of implementing the proposed effluent limits in a manner that will allow permittees time to secure funds and construct any needed improvements before imposing mandatory effluent limits. It would serve no justice to begin an enforcement campaign against systems when they fail to meet a new permit condition imposed through a renewal process. Any associated fines would be better utilized constructing improvements to maintain permit compliance.

**All currently permitted wastewater treatment facilities are required to and should be designed and operated to disinfect effluent. A facility's disinfection method, whether 20-minute chlorine contact time with a minimum of one mg/l residual, properly operated ultraviolet light system, or a lagoon system with a minimum 21-day retention time should disinfect effluent and thereby comply with bacteria limitations. Measuring bacteria levels is a more direct way of measuring disinfection than chlorine contact time and residual or detention time in a lagoon system.**

**The executive director's agreement with the EPA requires that bacteria limitation be effective upon permit issuance. Section 307.3, allows a compliance period of up to a maximum of three years. The executive director will evaluate requests for a compliance period on a case-by-case basis. However,**

**EPA has preliminarily indicated that it may consider approving a compliance period for certain facilities only if new construction is required for the facility to meet bacteria limitations.**

**Bacteria limits will not go into effect until a facility's next permit action. The vast majority of facilities in the state will have time to evaluate existing facilities and make needed renovations.**

**The executive director may consider allowing municipally owned utilities, water supply or sewer service corporations or districts to defer the payment of all or part of an administrative penalty for a violation on the condition that the entity complies with all provisions for corrective action in a commission order to address the violations, as stated in Texas Water Code (TWC), §7.034.**

**The commission has made no changes in response to this comment.**

WEAT's members are concerned about wet weather events and potential non-compliance during the same. Bacteria from runoff may impact permit compliance given the stringency of the proposed limits.

WEAT requests consideration for alternative wet weather effluent limits, or in the alternative, enforcement discretion regarding same.

**The TCEQ recognizes that domestic wastewater treatment systems can be stressed during wet-weather periods. However, disinfection systems are required to be designed to treat the two-hour peak flow. Wet weather, including inflow and infiltration, should be part of the calculation of the two-hour peak flow. The average effluent limit is based on the instream criterion for primary**

**contact recreation and is applied as a geometric mean over a monthly period, and a geometric mean calculation helps to reduce the impact of a few elevated samples during a month.**

**In developing enforcement actions, case specific factors will be considered. In addition, the executive director may consider allowing municipally owned utilities, water supply or sewer service corporations or districts to defer the payment of all or part of an administrative penalty for a violation on the condition that the entity complies with all provisions for corrective action in a commission order to address the violations, as stated in TWC, §7.034.**

**The commission has made no changes in response to this comment.**

WEAT reiterates its concerns regarding the correlation of fecal coliform performance with *E. coli* performance at certain wastewater treatment plants. WEAT submitted a comment letter during the informal rule development stage that included a copy of a study that was performed to assess plant performance with respect to effluent concentrations of both fecal coliform and *E. coli*. The study demonstrates that there is not always a good correlation in plant performance. Given that very few of the wastewater treatment facilities in the Texas were designed to explicitly comply with an *E. coli* limit of 126 cfu/100 ml, WEAT is concerned that individual plant performance will vary across the state and suggests that there should be a means to improve plant compliance if/when a problem is identified.

WEAT requests the commission utilize enforcement discretion with utilities as the industry only now will begin to produce performance data indicative of compliance with this new limit.

The executive director reviewed the 2004 study, *Escherichia coli and Fecal Coliform Populations in Disinfected Municipal Wastewater Treatment Plant Effluent and Recommendations to DNR for a Monthly Geometric Mean Escherichia coli Limitation*, during the development of the draft rules. The argument in the study is that the IDEXX<sup>(R)</sup> test inflates the number of viable *E. coli* in relation to the number of viable fecal coliform, and this causes a poor correlation between the two results (*E. coli* versus fecal coliform).

Enhanced recovery techniques for stressed organisms are discussed at length in *Standard Methods for the Examination of Water and Wastewater*. These techniques can be applied to analysis of fecal coliform and may, with further study, confirm that the recovery of *E. coli* using IDEXX<sup>(R)</sup> may not be poorly correlated to the actual concentrations of fecal coliform in a given sample. Additionally, IDEXX<sup>(R)</sup> manufactures an enzyme substrate test specifically for fecal coliforms, similar to the test for *E. coli*. Both the *E. coli* and the fecal coliform IDEXX<sup>(R)</sup> tests are specifically intended to aid in the recovery of stressed organisms. Neither of these methods to recover stressed organisms were used to confirm the results of the 2004 study.

Concern over whether the IDEXX<sup>(R)</sup> method enhances the survivability of a stressed organism is not applicable to the monitoring TCEQ proposes, because one cannot assume that a stressed organism will not survive when released into environmental waters. Moreover, the assertion that the IDEXX<sup>(R)</sup> method yields inflated *E. coli* concentrations relative to the other methods cited in the study can be countered with the assertion that the other methods cited are likely to under-report the concentrations of fecal coliform present.

**There are seven approved methods for the analysis of *E. coli* in wastewater listed in 40 CFR Part 136, Table 1A. A permittee could use any of these seven methods. If the method selected is one for which TCEQ offers a National Environmental Laboratory Accreditation Conference (NELAC) accreditation, a contract laboratory would need to be NELAC-accredited for that method.**

**The bacteria limit is set at the primary contact recreation standard in Chapter 307. Chapter 307 has required *E. coli* to be used as the indicator organism in fresh water for water quality standards since August 17, 2000. In 2000, TCEQ revised the water quality standards for recreation and changed the indicator bacteria from fecal coliform to *E. coli* for freshwater and *Enterococci* for saltwater. The new indicators and their associated numerical criteria (such as the 126 cfu/100 ml for *E. coli*) are in accordance with EPA's 1986 national guidance criteria for recreation. EPA's 1986 criteria are based on epidemiological studies that showed these new indicators correlated better with risk of disease (gastroenteritis) than other indicators such as fecal coliform. The National Beach Act of 2000 required coastal states to adopt *Enterococci* and the associated EPA numerical criteria for saltwater.**

**In developing enforcement actions, case specific factors will be considered. In addition, the executive director may consider allowing municipally owned utilities, and water supply or sewer service corporations or districts to defer the payment of all or part of an administrative penalty for a violation on the condition that the entity complies with all provisions for corrective action in a commission order to address the violations, as stated in TWC, §7.034.**

**The commission has made no changes in response to this comment.**



## **SUBCHAPTER A: MONITORING AND REPORTING SYSTEM**

### **§319.9**

#### STATUTORY AUTHORITY

The amendment is adopted under the Texas Water Code (TWC), §5.013, which establishes the general jurisdiction of the commission. TWC, §5.102, which provides the commission with the authority to carry out its duties and general powers under its jurisdictional authority provided by the TWC. TWC, §5.103, which requires the commission to adopt any rule necessary to carry out its powers and duties under the code and other laws of the state. TWC, §5.104, which states that the commission, by rule, will develop memoranda of understanding necessary to clarify and provide for its respective duties, responsibilities, or functions on any matter under the jurisdiction of the commission that is not expressly assigned to the commission. TWC, §5.105, which authorizes the commission to adopt rules and policies necessary to carry out its responsibilities as provided by the TWC. TWC, §5.120, which requires the commission to "administer the law so as to promote the judicious use and maximum conservation and protection" of the environment and natural resources of the state. TWC, §26.011, which provides the commission with the authority to establish the level of quality to be maintained in, and to control the quality of, the water in the state. TWC, §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 Chapter 26 of the TWC. TWC, §26.027, which authorizes the TCEQ to issue permits for the discharge of waste or pollutants into or adjacent to water in the state.

The amendment is also adopted under the Texas Water Quality Control Act which gives the TCEQ the authority to adopt rules for the approval of disposal system plans under TWC, §26.034, as well as the

authority to set standards to prevent the discharge of waste that is injurious to the public health under TWC, §26.041.

This adopted amendment implements TWC, §§5.013, 5.102, 5.103, 5.104, 5.105, 5.120, 26.011, 26.013, 26.027, 26.034, and 26.041.

**§319.9. Self-Monitoring and Quality Assurance Schedules.**

(a) The following table sets forth the self-monitoring schedules applicable to treated domestic sewage effluent.

Figure: 30 TAC §319.9(a)

Table 1 FREQUENCY OF MEASUREMENT						
Design Capacity MGD	Flow	BOD5	Total Suspended Solids	Chlorine Residual	pH	Collecting of Samples and Taking Measurements
0 to less than 0.10	One instantaneous measurement each working day but not less than five measurements per week (b) (c)	One each week	One each week	One each working day but not less than five measurements per week (c)	One each month	The laboratory tests shall be made on a grab sample collected at peak loading periods, and flow measurements shall be taken concurrently with such grab samples. (d)
0.10 to less than 0.50	One instantaneous measurement each working day	One each week	One each week	One each working day but not less than five	One each month	The laboratory tests shall be made on a grab sample collected at peak loading

	but not less than five measurements per week (b) (c)			measurements per week (c)		periods, and flow measurements shall be taken concurrently with such grab samples. (d)
0.50 to less than 1.00	The daily flow measured by a totalizing meter	One each week	One each week	One each day of the week	Two each month	The laboratory test excepting the pH and chlorine residual test which are performed on grab samples or insitu shall be made on a composite sample proportioned according to flow, made up of three portions collected no closer together than 2 hours and with the first sample collected no earlier than 10:00 a.m.
1.00 to less than 5.00	The daily flow measured by a totalizing meter	Two each week	Two each week	One each day of the week	One each week	The laboratory test excepting the pH and chlorine residual test which are performed on grab sample or insitu shall be made on a composite sample proportioned according to flow, made up of six portions collected no closer together than 2 hours and with the first sample collected no earlier than 10:00 a.m.
5.00 to less than 10.00	The daily flow measured by a totalizing meter	One each weekday (a)	One each weekday (a)	One each day of the week	One each week-day	The laboratory test excepting the pH and chlorine residual test which are performed on grab samples or insitu shall be made on (a) 24-hour composite samples

						proportioned according to flow collected no closer together than 2 hours in 12 individual portions.
10.00 or greater	The daily flow measured by a totalizing meter	One each day of the week	The laboratory test excepting the pH and the chlorine residual test which are performed on grab samples or insitu shall be made on 24-hour composite samples proportioned according to flow collected no closer together than 2 hours in 12 individual portions.			

(b) The following table sets forth the bacteria self-monitoring schedules applicable to treated domestic sewage effluent that is discharged to water in the state.

Figure: 30 TAC §319.9(b)

Table 2  
 FREQUENCY OF BACTERIA MEASUREMENT

Minimum Required Frequency <sup>1, 2, 3, 4</sup>			
Flow (mgd)	Chlorine Systems	Ultraviolet Systems	Natural Systems
>10	5/week	Daily	Daily
>5-10	3/week	Daily	5/week
>1—5	1/week	Daily	3/week
>0.5—1.0	2/month	Daily	1/week
0.1—0.5	1/month	5/week	2/month
<0.1	1/quarter	5/week	1/month

(1) Sampling must be spaced across the time period at approximately equal intervals, with the exceptions

of the five times per week sampling schedule. Five samples per week must be taken one on each of five days during a seven day period.

- (2) A permittee that has at least twelve months of uninterrupted compliance with its bacteria limit may notify the commission of its compliance and request a less frequent measurement schedule.
  - (a) If the commission finds that a less frequent measurement schedule is protective of human health and the environment, the permittee will be given a less frequent measurement schedule. Daily will drop to 5/week, 5/week to 3/week, 3/week to 1/week, 1/week to 2/month, 2/month to 1/month, 1/month to 1/quarter, 1/quarter to 1/6 months.
  - (b) A violation of the bacteria limit by a facility that has been granted a less frequent measurement schedule will require the permittee to return to the standard frequency schedule.
  - (c) A permittee that has had a violation while on a less frequent measurement schedule may not apply for another reduction in measurement frequency for at least 24 months from the last violation.
- (3) A chemical system other than chlorine will be required to comply with the ultraviolet frequency schedule.
- (4) The executive director may establish a more frequent measurement schedule if necessary to protect human health or the environment.

(c) The following table sets forth the self-monitoring schedules applicable to nondomestic wastewater effluent.

Figure: 30 TAC §319.9(c)

Table 3  
 Frequency of Measurement  
 Volume of MGD

Parameter	0 to less than 0.05	0.05 to less than 0.50	0.50 to less than 2.00	2.00 to less than 10.00	10.00 or greater

Flow	One instantaneous measurement per operating day except on sample days when 3 instantaneous measurements made concurrently with the collection of sample portions are required.	One instantaneous measurement per operating shift - on sample days concurrent with the collection of a sample portion.	One instantaneous measurement per operating shift - on sample days concurrent with the collection of a sample portion or the reading from a totalizing flow meter.	Six instantaneous measurements per day spaced at equal intervals during the operating period or the reading from a totalizing flow meter.	Instantaneous measurements made each operating hour or the reading from a totalizing flow meter.
pH (a)	1 per day	1 per day	1 per day	1 per day	1 per day
Temperature (b)	1 per day	3 per day	3 per day	6 per day	12 per day
BOD	1 per week	2 per week	2 per week	3 per week	1 per day
COD	1 per week	2 per week	2 per week	3 per week	1 per day
TOC	1 per week	2 per week	2 per week	3 per week	1 per day
Oil & Grease (c)	1 per week	2 per week	2 per week	3 per week	1 per day
Ammonia Nitrogen	1 per week	2 per week	2 per week	3 per week	1 per day
Arsenic	1 per week	2 per week	2 per week	3 per week	1 per day
Barium	1 per week	2 per week	2 per week	3 per week	1 per day
Boron	1 per week	2 per week	2 per week	3 per week	1 per day
Cadmium	1 per week	2 per week	2 per week	3 per week	1 per day
Chromium	1 per week	2 per week	2 per week	3 per week	1 per day
Copper	1 per week	2 per week	2 per week	3 per week	1 per day
Lead	1 per week	2 per week	2 per week	3 per week	1 per day
Manganese	1 per week	2 per week	2 per week	3 per week	1 per day

Mercury	1 per week	2 per week	2 per week	3 per week	1 per day
Nickel	1 per week	2 per week	2 per week	3 per week	1 per day
Selenium	1 per week	2 per week	2 per week	3 per week	1 per day
Silver	1 per week	2 per week	2 per week	3 per week	1 per day
Zinc	1 per week	2 per week	2 per week	3 per week	1 per day
TSS	1 per week	2 per week	2 per week	3 per week	1 per day
TDS	1 per week	2 per week	2 per week	3 per week	1 per day
Chloride	1 per week	2 per week	2 per week	3 per week	1 per day
Sulphate	1 per week	2 per week	2 per week	3 per week	1 per day
Nitrate Nitrogen	1 per week	2 per week	2 per week	3 per week	1 per day
Sulfide (c)	1 per week	2 per week	2 per week	3 per week	1 per day
Phenol (c)	1 per week	2 per week	2 per week	3 per week	1 per day
Collection of Samples	Samples shall be composite samples made up of three portions, sized proportional to flow, collected to no closer together than one hour and over a span of time not exceeding 24 hours.	Samples shall be composite samples made up of three portions, sized proportional to flow, one portion being collected during each operating shift or otherwise suitably distributed throughout the operating day.	Samples shall be composite samples made up of three portions, sized proportional to flow, one portion being collected during each operating shift or otherwise suitably distributed throughout the operating day.	Samples shall be composite samples made up of six portions, sized proportional to flow, collected concurrently with the instantaneous flow measurements made during a 24 hour time span.	Samples shall be 24 hour composite samples collected in 12 or more individual portions, sized proportional to flow, equally spaced throughout the operating day.

(d)The following table sets forth the quality assurance requirements for wastewater analyses.

Figure: 30 TAC §319.9(d)

Table 4

REQUIRED QUALITY CONTROL ANALYSES

<u>Parameter</u>	<u>Blank</u>	<u>Standard</u>	<u>Duplicate</u>	<u>Spike</u>
Bacterial	A		B	
Alkalinity		A	B	
Ammonia Nitrogen	A	A	B	B
BOD	A	A	B	
BOD-carbonaceous	A	A	B	
COD	A	A	B	B
Chloride	A	A	B	B
Chlorine-Total or Free		D		
Cyanide-Total or Amenable to Chlorination	A	A	B	B
Fluoride	A	A	B	B
pH		C		
Kjeldahl Nitrogen	A	A	B	B
Metals (all)	A	A	B	B
Nitrate Nitrogen	A	A	B	B
Nitrite Nitrogen	A	A	B	B
Oil & Grease	A	D		
Orthophosphate	A	A	B	B
Oxygen (dissolved)		A	B	

Phenols	A	A	B	
Phosphorus-Total	A	A	B	B
Specific Conductance	A	A		
Sulfate	A	A	B	B
Sulfide	A	A	B	
Sulfite	A	A	B	
TOC	A	A	B	B
TSS	A		B	
TDS	A	A	B	
Organics by GC or GC/MS or other approved methods	A	A	E	E

Where:

A - Wherever specified, at least one blank and one standard shall be performed each day that samples are analyzed.

B - Wherever specified, duplicate and spike analyses shall be performed on a 10% basis each day that samples are analyzed. If one to 10 samples are analyzed on a particular day, then one duplicate and one spike analyses shall be performed.

C - For pH analysis, the meter shall be calibrated each day that samples are analyzed using a minimum of two standards which bracket the pH value(s) of the sample(s).

D - For the oil and grease analysis and chlorine-total or free analysis, standards shall be analyzed on a 10% basis. If one to 10 samples are analyzed on a particular day, then one standard shall be analyzed. Duplicates may be analyzed in lieu of standards for the oil and grease analysis and chlorine-total or free analysis.

E - For GC and GC/MS analyses, duplicate and spike analyses shall be performed on a 5% basis. If one to 20 samples are analyzed in a month, then one duplicate and one spike analyses per month shall be performed.



## **SUBCHAPTER A: MONITORING AND REPORTING SYSTEM**

### **§319.10**

#### STATUTORY AUTHORITY

The repeal is adopted under the Texas Water Code (TWC), §5.013, which establishes the general jurisdiction of the commission. TWC, §5.102, which provides the commission with the authority to carry out its duties and general powers under its jurisdictional authority provided by the TWC. TWC, §5.103, which requires the commission to adopt any rule necessary to carry out its powers and duties under the code and other laws of the state. TWC, §5.104, which states that the commission, by rule, will develop memoranda of understanding necessary to clarify and provide for its respective duties, responsibilities, or functions on any matter under the jurisdiction of the commission that is not expressly assigned to the commission. TWC, §5.105, which authorizes the commission to adopt rules and policies necessary to carry out its responsibilities as provided by the TWC. TWC, §5.120, which requires the commission to "administer the law so as to promote the judicious use and maximum conservation and protection" of the environment and natural resources of the state. TWC, §26.011, which provides the commission with the authority to establish the level of quality to be maintained in, and to control the quality of, the water in the state. TWC, §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 Chapter 26 of the TWC. TWC, §26.027, which authorizes the TCEQ to issue permits for the discharge of waste or pollutants into or adjacent to water in the state.

The repeal is also adopted under the Texas Water Quality Control Act which gives the TCEQ the authority to adopt rules for the approval of disposal system plans under TWC, §26.034, as well as the

authority to set standards to prevent the discharge of waste that is injurious to the public health under TWC, §26.041.

The adopted repeal implements TWC, §§5.013, 5.102, 5.103, 5.104, 5.105, 5.120, 26.011, 26.013, 26.027, 26.034, and 26.041.

**§319.10. Fecal Coliform Requirements.**