

Chapter 307 Draft Rule Language
Water Quality Standards Workgroup –May 5, 2008
TCEQ Staff DRAFT

Text deleted from the rule is enclosed in brackets []. Text that has been added is underlined.

§307.6. Toxic Materials

TCEQ Staff Draft 10/25/07

(a) Application. Standards and procedures set forth in this section shall be applied in accordance with §307.8 of this title (relating to Application of Standards) and §307.9 of this title (relating to Determination of Standards Attainment).

(b) General provisions.

(1) Water in the state shall not be acutely toxic to aquatic life in accordance with §307.8 of this title.

(2) Water in the state with designated or existing aquatic life uses shall not be chronically toxic to aquatic life, in accordance with §307.8 of this title.

(3) Water in the state shall be maintained to preclude adverse toxic effects on human health resulting from contact recreation, consumption of aquatic organisms, consumption of drinking water or any combination of the three. Water in the state with sustainable fisheries and/or public drinking water supply uses will not exceed applicable human health toxic criteria, in accordance with subsection (d) of this section and §307.8 of this title.

(4) Water in the state shall be maintained to preclude adverse toxic effects on aquatic life, terrestrial wildlife, livestock, or domestic animals, resulting from contact, consumption of aquatic organisms, consumption of water, or any combination of the three.

(c) Specific numerical aquatic life criteria.

(1) Numerical criteria are established in Table 1 for those specific toxic substances for which adequate toxicity information is available, and which have the potential for exerting adverse impacts on water in the state.

(2) Numerical criteria are based on ambient water quality criteria documents published by EPA. EPA guidance criteria have been appropriately recalculated to eliminate the effects of toxicity data for aquatic organisms which are not native to Texas, in accordance with procedures in the EPA guidance document entitled *Guidelines for Deriving Numerical Site-specific Water Quality Criteria* (EPA 600/3-84-099) and Appendix B of the EPA draft guidance document entitled *Interim Guidance on the Determination and Use of Water-Effect Ratios for Metals* (EPA-823-B-94-001).

(3) Specific numerical acute aquatic life criteria are applied as 24-hour averages, and specific numerical chronic aquatic life criteria are applied as seven-day averages.

(4) Ammonia and chlorine toxicity will be addressed by total toxicity (biomonitoring) [biomonitoring] requirements in subsection (e) of this section.

(5) Specific numerical aquatic life criteria for metals and metalloids in Table 1 apply to dissolved concentrations where noted. Dissolved concentrations can be estimated by filtration of samples prior to analysis, or by converting from total recoverable measurements in accordance with procedures approved by the commission in the latest revision of the standards implementation procedures. Specific numerical aquatic life criteria for non-metallic substances in Table 1 apply to total recoverable concentrations unless otherwise noted.

(6) Specific numerical acute criteria for toxic substances are applicable to all water in the state except for small zones of initial dilution (ZIDs) at discharge points. Acute criteria may be exceeded within a ZID and below extremely low streamflow conditions (one-fourth of critical low-flow conditions) in accordance with §307.8 of this title (relating to Application of Standards). There shall be no lethality to aquatic organisms which move through a ZID, and the sizes of ZIDs are limited in accordance with §307.8 of this title. Specific numerical chronic criteria are applicable to all water in the state with designated or existing aquatic life uses, except inside mixing zones and below critical low-flow conditions, in accordance with §307.8 of this title.

(7) For toxic materials for which specific numerical criteria are not listed in Table 1, the appropriate criteria for aquatic life protection may be derived in accordance with current EPA guidelines for deriving site-specific water quality criteria. When insufficient data are available to use EPA guidelines, the following provisions shall be applied in accordance with this section and §307.8 of this title:

(A) acute criteria will be calculated as 0.3 of the LC50 of the most sensitive aquatic species; $LC\ 50 \times (0.3) = \text{acute criteria}$;

(B) concentrations of non-persistent toxic materials shall not exceed concentrations which are chronically toxic (as determined from appropriate chronic toxicity data or calculated as 0.1 of acute LC 50 values) to the most sensitive aquatic species; $LC\ 50 \times (0.1) = \text{chronic criteria}$;

(C) concentrations of persistent toxic materials that do not bioaccumulate shall not exceed concentrations which are chronically toxic (as determined from appropriate chronic toxicity data or calculated as 0.05 of LC50 values) to the most sensitive aquatic species; and

(D) concentrations of toxic materials that bioaccumulate shall not exceed concentrations that are chronically toxic (as determined from appropriate chronic toxicity data or calculated as 0.01 of LC50 values) to the most sensitive aquatic species.

(8) For toxic substances where the relationship of toxicity is defined as a function of pH or hardness, numerical criteria are presented as an equation based on this relationship. [Appropriate pH or hardness values for such criteria are listed for each basin in Table 2. Site-specific values for pH and hardness are used where available.] Site-specific values for each segment are given in the standards implementation procedures (RG-194).

Attached Graphic

(9) Criteria for most metals are multiplied by a water-effect[water-effects] ratio in order to incorporate the effects of local water chemistry on toxicity. The water-effect[water-effects] ratio is assumed to be equal to one except where sufficient site-specific data are available to determine the water-effect[water-effects] ratio for a particular water body or portion of a water body. A water-effect[water-effects] ratio is only applicable to those portions of a water body which are adequately addressed by site-specific data. Water-effect[Water-effects] ratios [and resulting site-specific criteria] which have been determined for particular water bodies are listed in Appendix E when standards are revised. A site-specific water-effect[water-effects] ratio which affects an effluent limitation in a wastewater discharge permit, and which has not been incorporated into Appendix E of §307.10 of this title (relating to Appendices A - E), will be noted in a public notice during the permit application process. An opportunity for public comment will be provided, and the water-effect[water-effects] ratio may be considered in any public hearing on the permit application.

(10) Freshwater copper aquatic life criteria include a multiplier (m) in order to incorporate effects of local water chemistry on toxicity. This multiplier may be based on either a water-effect ratio or a biotic ligand model. The multiplier is assumed to be equal to one except where sufficient site-specific data are available to determine the multiplier for a particular water body or portion of a water body. The multiplier is only applicable to those portions of a water body which are adequately addressed by site-specific data. As multipliers are determined for particular water bodies they will be listed in Appendix E when standards are revised. A site-specific multiplier which affects an effluent limitation in a wastewater discharge permit, and which has not been incorporated into Appendix E of §307.10 of this title (relating to Appendices A - E), will be noted in a public notice during the permit application process. An opportunity for public comment will be provided, and the multiplier may be considered in any public hearing on the permit application.

(11)[(10)] Additional site-specific factors may indicate that the numerical criteria listed in Table 1 are inappropriate for a particular water body. These factors are applied as a site-specific standards modification in accordance with §307.2(d) of this title (relating to Modification of Standards). The application of a site-specific standard must not impair an existing, attainable, or designated use. Factors which may justify a temporary variance or site-specific standards amendment include the following:

- (A) background concentrations of specific toxics of concern in receiving waters, sediment, and/or indigenous biota;
- (B) persistence and degradation rate of specific toxic materials;
- (C) synergistic, additive, or antagonistic interactions of toxic substances with other toxic or nontoxic materials;
- (D) measurements of total effluent toxicity;
- (E) indigenous aquatic organisms, which may have different responses to particular toxic materials;

(F) technological or economic limits of treatability for specific toxic materials;

(G) bioavailability of specific toxic substances of concern, as determined by water-effect ratio tests or other analyses approved by the agency; and

(H) new information concerning the toxicity of a particular substance.

(d) Specific numerical human health criteria.

(1) Numerical human health criteria are established in Table 2[3].

Attached Graphic

(2) Categories of human health criteria:

(A) concentration criteria [in freshwaters] to prevent contamination of drinking water, fish and other aquatic life to ensure that they are safe for human consumption. These criteria apply to [fresh]waters which are designated or used for public drinking water supplies. (Column A in Table 2[3]);

(B) concentration criteria [in freshwaters] to prevent contamination of fish and other aquatic life to ensure that they are safe for human consumption. These criteria apply to [fresh]waters which have sustainable fisheries, and which are not designated or used for public water supply (Column B in 2[3]);

[(C) concentration criteria in saltwaters to prevent contamination of fish and other aquatic life to ensure that they are safe for human consumption. These criteria apply to saltwaters which have a sustainable fishery (Column C in Table 2).]

(3) Specific assumptions and procedures (except where noted in Table 2[3]).

(A) Sources for the toxicity factors to calculate[derive] criteria were derived from EPA's Integrated Risk Information System (IRIS); EPA's National Recommended Water Quality Criteria: 2002, Human Health Criteria Matrix (EPA-822-R-02-012); EPA Health Effects Assessment Summary Tables (HEAST); Assessment Tools for the Evaluation of Risk (ASTER); and the computer program, CLOGP3. [Bioconcentration factors were converted to an average lipid concentration in fish tissue of 3%, except where noted.]

(B) For known or suspected carcinogens (as identified in EPA's IRIS database[Types A, B, B2, or C in IRIS]), an incremental cancer risk level of 10^{-5} (1 in 100,000) was used to derive criteria. A RfD (reference dose) was determined for noncarcinogens and for carcinogens for which EPA has not derived cancer slope factors.

(C) Consumption rates of fish and shellfish were estimated as 17.5[10] grams per person per day [for people living inland, and 15 grams per person per day for people living near the coast].

(D) Drinking water consumption rates were estimated as 2.0 liters per person per day.

(E) For carcinogens, a body-weight scaling factor of 3/4 power was[is] used to convert data on laboratory test animals to human scale. Reported weights of laboratory test animals are used, and an average weight of 70 kg is assumed for humans.

(F) Childhood exposure was considered for all noncarcinogens. Consumption rates for fish and shellfish were estimated as 5.6 grams per child per day, and drinking water consumption rates were estimated as 0.64 liters per child per day. A child body weight was estimated at 15 kg. Both the water consumption rate and body weight are age-adjusted for a six year old child. The consumption rate for fish and shellfish for children is from Table 10-61 of EPA's 1997 Exposure Factors Handbook (EPA/600/P-95/002Fa-c).

(G)[(F)] Numerical human health criteria were derived in accordance with the general procedures and calculations in the EPA guidance documents entitled *Technical Support Document for Water Quality-based Toxics Control* (EPA/505/2-90-001); [and] *Guidance Manual for Assessing Human Health Risks from Chemically Contaminated Fish and Shellfish* (EPA/503/8-89-002); and *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000)* (EPA-822-B-00-004).

(H)[(G)] If a calculated criterion to prevent contamination of drinking water and fish to ensure they are safe for human consumption (Column A in Table 2[3]) was greater than the applicable maximum contaminant level (MCL) in Chapter 290 of this title (relating to Public Drinking Water), then the MCL was used as the criterion.

(I)[(H)] If the concentration of a substance in fish tissue used for these calculations was greater than the applicable United States Food and Drug Administration Action Level for edible fish and shellfish tissue, then the acceptable concentration in fish tissue was lowered to the Action Level for calculation of criteria.

(4) Human health criteria for additional toxic materials will be adopted by the commission as appropriate.

(5) Specific human health concentration criteria for water are applicable to water in the state which has sustainable fisheries, and/or designation or use as a public drinking water supply, except within mixing zones and below harmonic mean stream flows, in accordance with §307.8 of this title. The following waters are considered to have sustainable fisheries:

(A) all designated segments listed in Appendix A of §307.10 of this title, unless specifically exempted;

(B) perennial streams and rivers with a stream order of three or greater, as defined in §307.3 of this title (relating to Definitions and Abbreviations);

(C) lakes and reservoirs greater than or equal to 150 acre feet and/or 50 surface acres;

(D) all bays, estuaries, and tidal rivers; and

(E) any other waters which potentially have sufficient fish production or fishing activity to create significant long-term human consumption of fish.

(6) Waters which are not considered to have a sustainable fishery[, but which have an aquatic life use,] will be considered to have an incidental fishery. Consumption rates assumed for incidental fishery waters are 1.75 grams [1.0 gram] per person per day [for inland waters, and 1.5 grams per person per day for saltwaters]. Numerical criteria applicable to incidental fishery waters are therefore ten times the criteria listed in Column[s] B [and C] of Table 2[3].

(7) Specific human health criteria are applied as long term average exposure criteria designed to protect populations over a life time [(70 years)]. Attainment measures for human health are addressed in §307.9 of this title.

(8) For toxic materials of concern for which specific human health criteria are not listed in Table 2[3], the following provisions shall apply.

(A) For known or suspected carcinogens (as identified in EPA's IRIS database[Types A, B, B2, or C in IRIS]), a cancer risk of 10^{-5} (1 in 100,000) shall be applied to the most recent numerical criteria adopted by EPA and published in the Federal Register. If an MCL or equivalent agency guideline for protection of drinking water sources is less than the resulting criterion, then the MCL shall apply to public drinking water supplies in accordance with paragraph (3)(G) of this subsection.

(B) For toxic materials not defined as carcinogens, the most recent numerical criteria adopted by EPA and published in the Federal Register shall be applicable. If an MCL or equivalent agency guideline for protection of drinking water sources is less than the resulting criterion, then the MCL shall apply to public drinking water supplies in accordance with paragraph (3)(G) of this subsection.

(C) In the absence of available criteria, numerical criteria may be derived from technically valid information and calculated in accordance with the provisions of paragraph (3) of this subsection.

(9) Numerical criteria for bioconcentratable pollutants will be derived in accordance with the general procedures in the EPA guidance document entitled, Assessment and Control of Bioconcentratable Contaminants in Surface Waters (March 1991). The commission may develop discharge permit limits in accordance with the provisions of this section.

(10) Numerical human health criteria are expressed as total recoverable concentrations for nonmetals[, mercury,] and selenium and as dissolved concentrations for other metals and metalloids.

(11) Additional site-specific factors may indicate that the numerical human health criteria listed in Table 2[3] are inappropriate for a particular water body. These factors are applied as a site-specific standards modification in accordance with §307.2(d) of this title (relating to Modification of Standards). The application of site-specific criteria shall not impair an existing, attainable, or designated use or affect human health. Factors which may justify a temporary variance or site-specific standards amendment include the following:

(A) background concentrations of specific toxics of concern in receiving waters, sediment, and/or indigenous biota;

(B) persistence and degradation rate of specific toxic materials;

(C) synergistic or antagonistic interactions of toxic substances with other toxic or nontoxic materials;

(D) technological or economic limits of treatability for specific toxic materials;

(E) bioavailability of specific toxic substances of concern;

(F) local water chemistry and other site-specific conditions which may alter the bioconcentration, bioaccumulation, or toxicity of specific toxic substances;

(G) site-specific differences in the bioaccumulation responses of indigenous, edible aquatic organisms to specific toxic materials;

(H) local differences in consumption patterns of fish and shellfish or drinking water, but only if any changes in assumed consumption rates will be protective of the local population that frequently consumes fish, shellfish, or drinking water from a particular water body; and

(I) new information concerning the toxicity of a particular substance.

(e) Total toxicity.

(1) Total (whole-effluent) toxicity of permitted discharges, as determined from biomonitoring of effluent samples at appropriate dilutions, will be sufficiently controlled to preclude acute total toxicity in all water in the state with the exception of small zones of initial dilution (ZIDs) at discharge points and at extremely low streamflow conditions (one-fourth of critical low-flow conditions) in accordance with §307.8 of this title. Acute total toxicity levels may be exceeded in a ZID, but there shall be no lethality to aquatic organisms which move through a ZID, and the sizes of ZIDs are limited in accordance with §307.8 of this title. Chronic total toxicity, as determined from biomonitoring of effluent samples, will be precluded in all water in the state with existing or designated aquatic life uses except in mixing zones and at flows less than critical low-flows, in accordance with §307.8 of this title.

(2) General provisions for controlling total toxicity.

(A) Dischargers whose effluent has a significant potential for exerting toxicity in receiving waters will be required to conduct whole effluent toxicity biomonitoring at appropriate dilutions.

(B) In addition to the other requirements of this section, the effluent of discharges to water in the state shall not be acutely toxic to sensitive species of aquatic life, as demonstrated by effluent toxicity tests. Toxicity testing for this purpose shall be conducted on samples of 100% effluent, and the criterion for acute toxicity shall be mortality of 50% or more of the test organisms after 24 hours of exposure. This provision does not apply to mortality that is a result of an excess, deficiency, or imbalance of dissolved inorganic salts (such as sodium, calcium, potassium, chloride, or carbonate) which are in the effluent and are not listed in Table 1 in subsection (c) of this section or which are in source waters.

(C) The latest revisions of the following EPA publications provide methods for appropriate biomonitoring procedures: Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms , Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms , Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms , and the Technical Support Document for Water Quality-based Toxics Control . The use of other procedures approved by the agency and EPA is also acceptable. Toxicity tests must be conducted using representative, sensitive aquatic organisms as approved by the agency, and any such testing must adequately determine if toxicity standards are being attained.

(D) If toxicity biomonitoring results indicate that a discharge is exceeding the restrictions on total toxicity in this section, then the permittee shall conduct a toxicity identification evaluation and toxicity reduction evaluation in accordance with permitting procedures of the commission. As a result of a toxicity reduction evaluation, additional conditions may be established in the permit. Such conditions may include total toxicity limits, chemical specific limits, and/or best management practices designed to reduce or eliminate toxicity. Where sufficient to attain and maintain applicable numeric and narrative state water quality standards, a chemical specific limit rather than a total toxicity limit may be established in the permit. Where conditions may be necessary to prevent or reduce effluent toxicity, permits shall include a reasonable schedule for achieving compliance with such additional conditions.

[E] If a permittee demonstrates, using the toxicity identification evaluation and toxicity reduction evaluation procedures, that diazinon is the primary cause of total toxicity, and that diazinon is ubiquitous within the wastewater system, the toxicity will be addressed in clauses (i) and (ii) of this subparagraph. If diazinon is not the primary cause of total toxicity, or if the permittee does not proceed with due diligence in controlling and investigating toxicity, or if diazinon is not ubiquitous within the wastewater system, the toxicity may be addressed in accordance with subparagraph (D) of this paragraph.]

[(i) the permittee will be required to implement a public education and awareness campaign designed to control the introduction of diazinon into the wastewater system, and the permittee will be required to conduct an investigation into the sources of diazinon; and]

[(ii) the permittee will be required to monitor for diazinon.]

~~(E)~~[(F)] Discharge permit limits based on total toxicity may be established in consideration of site-specific factors, but the application of such factors shall not result in impairment of an existing, attainable, or designated use. These factors are applied as a site-specific standards modification in accordance with §307.2(d) of this title. A demonstration that uses are protected may consist of additional effluent toxicity testing, instream monitoring requirements, and/or other necessary information as determined by the agency. Factors which may justify a temporary variance or site-specific standards amendment include the following:

(i) background toxicity of receiving waters;

(ii) persistence and degradation rate of principal toxic materials which are contributing to the total toxicity of the discharge;

(iii) site-specific variables which may alter the impact of toxicity in the discharge;

(iv) indigenous aquatic organisms, which may have different levels of sensitivity than the species used for total toxicity testing; and

(v) technological, economic, or legal limits of treatability or control for specific toxic material.

§307.7. Site-specific Uses and Criteria

TCEQ Staff DRAFT 10/26/07 edited 02/06/08

(a) Uses and numerical criteria are established on a site-specific basis in Appendices A, D, and E of §307.10 of this title (relating to Appendices A - E). Site-specific uses and numerical criteria may also be applied to unclassified waters in accordance with §307.4(h) of this title (relating to General Criteria) and §307.5(c) of this title (relating to Antidegradation). Site-specific criteria apply specifically to substances attributed to waste discharges or the activities of man. Site-specific criteria do not apply to those instances in which surface waters exceed criteria due to natural phenomena. The application of site-specific uses and criteria is described in §307.8 of this title (relating to the Application of Standards) and §307.9 of this title (relating to the Determination of Standards Attainment).

(b) Appropriate uses and criteria for site-specific standards are defined as follows.

(1) Recreation. Recreational use consists of four [two] categories - primary contact recreation 1, primary contact recreation 2, secondary contact recreation [waters] and noncontact recreation waters. Classified segments are designated for primary contact recreation 1 unless elevated concentrations of indicator bacteria frequently occur due to sources of pollution that [which] cannot be reasonably controlled by existing regulations or primary or secondary contact recreation is considered unsafe for other reasons such as ship or barge traffic. In a classified segment where contact recreation is considered unsafe for reasons unrelated to water quality, a designated use of noncontact recreation may be assigned criteria normally associated with primary contact recreation. A designation of primary or secondary contact recreation is not a guarantee that the water so designated is completely free of disease-causing organisms. Indicator bacteria, although not generally pathogenic, are indicative of potential contamination by feces of warm blooded animals. The criteria for primary and secondary contact recreation are based on these indicator bacteria, rather than direct measurements of pathogens. Criteria are expressed as the number of "colony forming units" of bacteria per 100 milliliters (ml) of water. Even where the concentration of indicator bacteria is less than the criteria for primary or secondary contact recreation, there is still some risk of contracting waterborne diseases. Additional guidelines on minimum data requirements and procedures for evaluating standards attainment are specified in the latest approved version of the TCEQ [TNRCC] Guidance for Screening and Assessing Texas Surface and Finished Drinking Water Quality Data.

*Excerpt from §307.3. Definitions and Abbreviations
TCEQ Staff Draft 10/29/07*

[(12) Contact recreation--Recreational activities involving a significant risk of ingestion of water, including wading by children, swimming, water skiing, diving, and surfing.]

(XX) Primary contact recreation--Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, and surfing, involving a significant risk of ingestion of water.

(35) Noncontact recreation--Water related activities [Aquatic recreational pursuits] not involving a significant risk of water ingestion and where primary and secondary

contact recreational activities are considered unsafe due to physical characteristics.[]; including fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity.]

(XX) Secondary contact recreation—Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion.

End of excerpt from 307.3

(A) Freshwater

(i) Primary contact [Contact] recreation 1. The geometric mean of *E. coli* is [should not exceed] 126 per 100 ml. In addition, the [single samples of] *E. coli* single sample number is [should not exceed] 399 [394] per 100 ml. Primary contact [Contact] recreation 1 applies to all classified segments in Appendix A, lakes, reservoirs, and unclassified freshwater streams and rivers that have perennial flow or perennial pools that are located in or adjacent to national or state parks. Different recreational uses and/or criteria may be designated as site-specific standards in §307.10 of this title. [bodies of freshwater except where specifically designated otherwise in §307.10 of this title (relating to Appendices A-E).]

(ii) Primary contact recreation 2. The geometric mean of *E. coli* is 206 per 100 ml. In addition, the *E. coli* single sample number is 652 per 100 ml. Primary contact recreation 2 applies to unclassified freshwater streams and rivers that have perennial flow or perennial pools. Different recreational uses and/or criteria may be designated as site-specific standards in §307.10 of this title.

(iii) Secondary contact recreation. The geometric mean of *E. coli* is 630 per 100 ml. Secondary contact recreation applies to intermittent streams without perennial pools and nontidal wetlands. Different recreational uses and/or criteria may be designated as site-specific standards in §307.10 of this title.

(iv [(ii)]) Noncontact recreation. The geometric mean of *E. coli* is [should not exceed] 1260 [605] per 100 ml.

(v) For high saline inland water bodies with conductivity values greater than or equal to 9,000 micromhos, Enterococci is the applicable recreational indicator. For high saline inland waters with primary contact recreation 1, the geometric mean criterion for Enterococci is 33 per 100 ml, and the single sample criterion is 79 per 100 ml. For high saline inland waters with primary contact recreation 2, the geometric mean criterion for Enterococci is 54 per 100 ml, and the single sample criterion is 128 per 100 ml. For high saline inland waters with secondary contact recreation, the geometric mean criterion for Enterococci is 165 per 100 ml. For high saline inland water bodies with noncontact recreation, the geometric mean criterion for Enterococci is 330 per 100 ml. Fecal coliform can be used as an alternative instream indicator of recreational suitability until sufficient data are available for Enterococci.

(B) Saltwater.

(i) Primary contact [Contact] recreation 1. The geometric mean of Enterococci is [should not exceed] 35 per 100 ml. In addition, the [single samples of]

Enterococci single sample number is [should not exceed] 104 [89] per 100 ml. Primary contact [Contact] recreation 1 applies to all classified segments in Appendix A, unclassified tidal streams, and all other tidal waters. [bodies of saltwater, except where specifically designated otherwise in §307.10 of this title.] Different recreational uses and/or criteria may be designated as site-specific standards in §307.10 of this title.

(ii) Noncontact recreation. The geometric mean of Enterococci is [should not exceed] 350 [168] per 100 ml.

(C) Fecal coliform bacteria. [Fecal coliform bacteria can be used as an alternative instream indicator of recreational suitability until sufficient data are available for E coli or Enterococci. For segments designated as oyster waters in §307.10 of this title, fecal coliform can continue to be used as an indicator of recreational suitability because fecal coliform is used as the indicator for suitability of oyster water use as described in paragraph (3)(B) of this subsection.] Fecal coliform can [also] continue to be used as a surrogate indicator in effluent limits for wastewater discharges for one year after the adoption of this title. Fecal coliform criteria are the same for both freshwater and saltwater, as follows.

(i) Primary contact [Contact] recreation 1 and 2. The geometric mean of fecal coliform is [should not exceed] 200 per 100 ml. In addition, the [single samples of] fecal coliform single sample number is [should not exceed] 400 per 100 ml.

(ii) Secondary contact recreation. The geometric mean of fecal coliform is 1,000 per 100 ml.

(iii) [(ii)] Noncontact recreation. The geometric mean of fecal coliform is [Fecal coliform shall not exceed] 2,000 per 100 ml [as a geometric mean. In addition, single samples of fecal coliform should not exceed 4,000 per 100 ml.]

(D) Swimming advisory programs. For areas where local jurisdictions or private property owners voluntarily provide public notice or closure based on water quality, the use of any single-sample or short-term indicators of recreational suitability are selected at the discretion of the local managers of aquatic recreation. Guidance for single-sample bacterial indicators is available in the EPA document entitled Ambient Water Quality Criteria for Bacteria--1986. Other short-term indicators to assess water quality suitability for recreation--such as measures of streamflow, turbidity, or rainfall--may also be appropriate.

*Excerpt from §307.4. General Criteria
TCEQ Staff Draft 10/24/07*

(j) Aquatic recreation. Existing, designated, and attainable uses of aquatic recreation will be maintained, as determined by criteria that indicate the potential presence of pathogens. Categories of recreation and applicable criteria are established in §307.7(b)(1) of this title. Primary contact recreation 1 applies to all classified segments in Appendix A of §307.10 of this title, lakes, reservoirs, unclassified tidal streams, and all other tidal waters. Primary contact recreation 1 also applies to unclassified freshwater streams and rivers that are located in national and state parks. Less stringent recreational uses may be designated as site-specific standards in this title. Primary contact recreation 2 applies to unclassified freshwater streams and rivers that have perennial flow or perennial pools, excluding those water bodies that are located in national and state parks. Secondary contact recreation is presumed as a use for intermittent streams without perennial

pools and nontidal wetlands. [Contact recreation is presumed as a use for all water bodies except where listed otherwise for specific water bodies in Appendix A of §307.10 of this title.]

End of excerpt from 307.4

(2) Domestic water supply.

(A) Use categories. Domestic water supply consists of [two] three use subcategories--public water supply, sole-source drinking water supply, and aquifer protection.

(i) Public water supply. Segments designated for public water supply are those known to be used or exhibit characteristics that would allow them to be used as the supply source for public water systems, as defined by Chapter 290 of this title (relating to Water Hygiene).

(ii) Sole-source surface drinking water supply and their protection zones. Water bodies designated for sole-source surface drinking water supply are those that are identified as a public water supply in 307.10 of this title (relating to Appendices A-E) and is the sole source of supply of a public water supply system, exclusive of emergency water connections, as defined by Subchapter B: Concentrated Animal Feeding Operations (321.31-321.47). Protection zone of a sole-source surface drinking water supply are the areas in the watershed of a sole-source surface drinking water supply that is: 1) within two miles of the normal pool elevation, as shown on a United States Geological Survey (USGS) 7 ½ -minute quadrangle topographic map, of a surface water body that is a sole-source surface drinking water supply; 2) within two miles of that part of a perennial stream that is: a) a tributary of a sole-source surface drinking water supply; and b) within three linear miles upstream of the normal pool elevation, as shown on a USGS 7 ½ -minute quadrangle topographic map, of a sole-source surface drinking water supply; or 3) within two miles of that part of a stream that is a sole-source surface drinking water supply, extending three linear miles upstream from the water supply intake.

(iii) [(ii)] Aquifer protection. Segments designated for aquifer protection are capable of recharging the Edwards Aquifer. The principal purpose of this use designation is to protect the quality of water infiltrating into and recharging the aquifer. The designation for aquifer protection applies only to those portions of the segments so designated that are on the recharge zone, transition zone, or contributing zone as defined in Chapter 213 of this title (relating to the Edwards Aquifer). Chapter 213 of this title establishes provisions for activities in the watersheds of segments which are designated for aquifer protection.

(B) Use criteria. The following use criteria apply to both domestic water supply use subcategories.

(i) Radioactivity associated with dissolved minerals in the freshwater portions of river basin and coastal basin waters should not exceed levels established by drinking water standards as specified in Chapter 290 of this title unless the conditions are of natural origin.

(ii) Surface waters utilized for domestic water supply shall not exceed toxic material concentrations that prevent them from being treated by conventional surface water treatment to meet drinking water standards as specified in Chapter 290 of this title.

(iii) Chemical and microbiological quality of surface waters used for domestic water supply should conform to drinking water standards as specified in Chapter 290 of this title.

(3) Aquatic life. The establishment of numerical criteria for aquatic life is highly dependent on desired use, sensitivities of usual aquatic communities, and local physical and chemical characteristics. [Five] Seven subcategories of aquatic life use are established. They include minimal, limited, intermediate, high, and exceptional A and B aquatic life and oyster waters. Aquatic life use subcategories designated for segments listed in Appendix A of §307.10 of this title recognize the natural variability of aquatic community requirements and local environmental conditions.

(A) Dissolved oxygen.

(i) The characteristics and associated dissolved oxygen criteria for minimal, limited, intermediate, high, and exceptional A and B aquatic life use subcategories are indicated in Table 3 [4].

(ii) The dissolved oxygen criteria and associated critical low-flow values in Table 5 apply to streams which have significant aquatic life uses, and to streams which are specifically listed in Appendix A or D of §307.10 of this title. The criteria in Table 5 apply to streams in Texas which are east of a line defined by Interstate Highway 35 and 35W from the Red River to the community of Moore in Frio County, and by U.S. Highway 57 from the community of Moore to the Rio Grande. The critical low-flow values in Table 5 (at the appropriate stream bedslope) will be utilized as headwater flows when the flows are larger than applicable 7Q2 flows, in order to determine discharge effluent limits necessary to achieve dissolved oxygen criteria. For streams which have bedslopes less than the minimum bedslopes in Table 5, the flows listed for the minimum bedslope of 0.1 m/km will be applicable. For streams which have bedslopes greater than the maximum bedslope in Table 5, the flows listed for the maximum bedslope of 2.4 m/km will be applicable. The required effluent limits will be those necessary to achieve each level of dissolved oxygen (as defined in clause (i) of this subparagraph, Table 4) at or below an assigned, designated, or presumed aquatic life use. Presumed aquatic life uses will be in accordance with those required by §307.4(h) of this title. The dissolved oxygen criteria in Table 5 do not apply to tidal streams.

Table 3 [4]

TABLE 4[5]

Critical low-flow values for dissolved oxygen for the eastern and southern Texas ecoregions as described in §307.7(b)(3)(A)(ii).

Bedslope	6.0 DO	5.0 DO	4.0 DO	3.0 DO
(m/km)	(cfs)	(cfs)	(cfs)	(cfs)
0.1	*	18.3	3.0	0.5
0.2	*	7.7	1.3	0.2
0.3	28.6	4.7	0.8	0.1
0.4	20.0	3.3	0.5	0.1
0.5	15.2	2.5	0.4	0.1
0.6	12.1	2.0	0.3	0.1
0.7	10.0	1.6	0.3	0.0
0.8	8.4	1.4	0.2	0.0
0.9	7.3	1.2	0.2	0.0
1.0	6.4	1.0	0.2	0.0
1.1	5.7	0.9	0.2	0.0
1.2	5.1	0.8	0.1	0.0
1.3	4.6	0.8	0.1	0.0
1.4	4.2	0.7	0.1	0.0
1.5	3.9	0.6	0.1	0.0
1.6	3.6	0.6	0.1	0.0
1.7	3.3	0.5	0.1	0.0
1.8	3.1	0.5	0.1	0.0
2.1	2.5	0.4	0.1	0.0
2.4	2.2	0.4	0.1	0.0

* Flows are beyond the observed data used in the regression equation.

Dissolved oxygen criteria in this table are in mg/L and apply as 24-hour averages.

Dissolved oxygen criteria in this table apply at all stream flows at or above the indicated stream flow for each category.

(iii) The dissolved oxygen criteria in Table 5 are based upon data from the agency's least impacted stream study (Texas Aquatic Ecoregion Project). Results of this study indicate a strong dependent relationship for average summertime background dissolved oxygen concentrations and several hydrologic and physical stream characteristics--particularly bedslope (stream gradient) and stream flow. The dissolved oxygen criteria in Table 5 are derived from a multiple regression equation for the eastern portion of Texas as defined in clause (ii) of this subparagraph. Further explanation of the development of the regression equation and its application will be contained in the standards implementation procedures.

(iv) The critical low-flow values in Table 5 may be adjusted based on site-specific data relating dissolved oxygen concentrations to factors such as flow, temperature, or hydraulic conditions in accordance with the standards implementation procedures. Site-specific, critical low-flow values require approval by the agency. EPA will review any site-specific, critical low-flow values that could affect permits or other regulatory actions that are subject to approval by EPA. Critical low-flow values which have been determined for particular streams are listed in §307.10 of this title when standards are revised.

(B) Oyster waters.

(i) A 1,000 foot buffer zone, measured from the shoreline at ordinary high tide, is established for all bay and gulf waters, except those contained in river or coastal basins as defined in §307.2 of this title (relating to Description of Standards). Recreational criteria for indicator bacteria, as specified in §307.7[10](b)(1) of this title, are applicable within buffer zones.

(ii) Median fecal coliform concentration in bay and gulf waters, exclusive of buffer zones, shall not exceed 14 colonies per 100 ml, with not more than 10% of all samples exceeding 43 colonies per 100 ml.

(iii) Oyster waters should be maintained so that concentrations of toxic materials do not cause edible species of clams, oysters, and mussels to exceed accepted guidelines for the protection of public health. Guidelines are provided by U. S. Food and Drug Administration (USDA) Action Levels for molluscan shellfish, but additional information related to human health protection may also be considered in determining acceptable toxic concentrations.

(4) Additional criteria.

(A) Chemical parameters. Site-specific criteria for chloride, sulfate, and total dissolved solids are established as averages over an annual period for either a single sampling point or multiple sampling points.

(B) pH. Site-specific numerical criteria for pH are established as absolute minima and maxima.

(C) Temperature. Site-specific temperature criteria are established as absolute maxima.

(D) Toxic materials. Criteria for toxic materials are established in §307.6 of this title (relating to Toxic Materials).

(E) Nutrient criteria. Criteria to preclude excessive growth of aquatic plants are intended to protect multiple uses, such as primary, secondary and noncontact recreation, aquatic life, and public water supplies. Nutrient criteria for specific reservoirs, expressed as concentrations of chlorophyll *a* in water, are listed in Appendix F of this title.

(5) Additional uses. Other basic uses, such as navigation, agricultural water supply, industrial water supply, seagrass propagation, and wetland water quality functions will be maintained and protected for all water in the state in which these uses can be achieved.

§307.8. Application of Standards.

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(a) Low-flow conditions.

(1) The following standards do not apply below seven-day, two-year low-flows or other specified low-flow values:

(A) site-specific criteria for aquatic recreation (single sample), dissolved oxygen, pH, temperature, and numerical chronic criteria for toxic materials as [defined in §307.7 of this title (relating to Site-specific Criteria and Uses) and] listed in Appendices A, D, and E of §307.10 of this title (relating to Appendices A - E);

(B) numerical chronic criteria for toxic materials as established in §307.6 of this title (relating to Toxic Materials);

(C) total chronic toxicity restrictions as established in §307.6 of this title;

(D) maximum temperature differentials as established in §307.4(f) of this title (relating to General Criteria);

(E) dissolved oxygen criteria for unclassified waters, as established in §307.4(h)(1) of this title and in §307.7(b)(3) of this title; and

(F) aquatic recreation single sample criteria for unclassified waters, as established in §307.4(j) of this title and in §307.7(b)(1) of this title.

(2) Criteria for aquatic recreation (geometric mean), total dissolved solids, chloride, sulfate, and human health do not apply in the following stream types and flow conditions:

(A) perennial streams when flows are below 0.1 cubic feet per second;

(B) intermittent streams when less than 20 percent of the stream bed of a given sampling reach is covered by pools;

(3) [(2)] Numerical acute criteria for toxic materials and preclusion of total acute toxicity as established in §307.6 of this title are applicable at stream flows which are equal to or greater than one-fourth of seven-day, two-year low-flows (7Q2).

[(3) Low-flow criteria in Appendix B of §307.10 of this title are solely for the purpose of defining the flow conditions under which water quality standards apply to a given water body. Low-flow criteria listed in Appendix B of §307.10 of this title are not for the purpose of regulating flows in water bodies in any manner or requiring that minimum flows be maintained in classified segments.]

(4) Low-flow values are [criteria defined in this section and] listed in the latest approved version of the *Procedures to Implement the Texas Surface Water Quality Standards* [Appendix B of §307.10 of this title] and apply only to river basin and nontidal coastal basin waters. They do not apply to tidal rivers, bay or gulf waters, or reservoirs or estuaries.

(5) Seven-day, two-year low-flows (7Q2) and harmonic mean flows in Appendix B of §307.10 of this title were calculated from historical U.S. Geological Survey (USGS) daily streamflow records. The low-flow criterion was set at 0.1 of one cubic foot per second (ft³ /s) when the calculated 7Q2 was equal to or less than 0.1 of one ft³ /s.

(5) [(6)] Flow values will be periodically recomputed to reflect alterations in the hydrologic characteristics of a segment, including reservoir construction, climatological trends, and other phenomena.]

(6) [(7)] The general criteria are applicable at all flow conditions except as specified in this section or in §307.4 of this title.

(8) Specific human health criteria for concentrations in water to prevent contamination of fish and shellfish so as to ensure safety for human consumption, as established in §307.6 of this title do not apply at stream flows below the harmonic mean flow.]

(b) Mixing zones. A reasonable mixing zone will be allowed at the discharge point of permitted discharges into surface water in the state, in accordance with the following provisions.

(1) The following portions of the standards do not apply within mixing zones:

(A) site-specific criteria, as defined in §307.7 of this title and listed in Appendices A, D, [and] E, and F of §307.10 of this title;

(B) numerical chronic aquatic life criteria for toxic materials as established in §307.6 of this title;

(C) total chronic toxicity restrictions as established in §307.6 of this title;

(D) maximum temperature differentials as established in §307.4(f) of this title;

(E) dissolved oxygen criteria for unclassified waters, as established in §307.4(h)(1) of this title;

(F) dissolved oxygen criteria for intermittent streams, as established in §307.4(h)(4)[(2)] of this title;

(G) aquatic recreation criteria for unclassified waters, as established in §307.4(j) of this title and in §307.7(b)(1) of this title;

(H) specific human health criteria for concentrations in water to prevent contamination of drinking water, fish and shellfish so as to ensure safety for human consumption, as established in §307.6 of this title.

(2) Numerical acute aquatic life criteria for toxic materials and preclusion of total acute toxicity as established in §307.6 of this title are applicable in mixing zones. Acute criteria and acute total toxicity levels may be exceeded in small zones of initial dilution (ZIDs) at discharge points, but there shall be no lethality to aquatic organisms which move through a ZID. ZIDs shall not exceed the following sizes:

(A) 60 feet downstream and 20 feet upstream from a discharge point in a stream and river, and in addition, ZIDs in streams and rivers shall not encompass more than 25% of the volume of stream flow at or above seven-day, two-year low-flow conditions;

(B) a 25-foot radius in all directions (or equivalent volume or area for diffuser systems) from a discharge point in a lake or reservoir; and

(C) a 50-foot radius in all directions (or equivalent volume or area for diffuser systems) from a discharge point in a bay, tidal river, or estuary.

(3) Provisions of the general criteria in §307.4 of this title remain in effect in mixing zones unless specifically exempted in this section.

(4) Water quality standards do not apply to treated effluents at the immediate point of discharge--prior to any contact with either ambient waters or a dry streambed. However, effluent total toxicity requirements may be specified to preclude acute lethality near discharge points, or to preclude acute and chronic instream toxicity.

(5) Where a mixing zone is defined in a valid permit of the Texas Commission on Environmental Quality [Texas Natural Resource Conservation Commission], the Railroad Commission of Texas, or the EPA, the mixing zone defined in the permit will apply.

(6) Mixing zones shall not preclude passage of free-swimming or drifting aquatic organisms to the extent that aquatic life use is significantly affected, in accordance with guidelines specified in the standards implementation procedures.

(7) Mixing zones will not overlap unless it can be demonstrated that no applicable standards will be violated in the area of overlap. Existing and designated uses will not be impaired by the combined impact of a series of contiguous mixing zones.

(8) Mixing zones will not encompass an intake for a domestic drinking water supply. Thermal mixing zones are excepted from this provision unless elevated temperatures adversely affect drinking water treatment.

(9) Mixing zones will be individually specified for all permitted domestic discharges with a permitted monthly average flow equal to or exceeding one million gallons per day and for all permitted industrial discharges to water in the state (excepting discharges which consist entirely of storm water runoff). For domestic discharges with permitted monthly average flows less than one million gallons per day, a small mixing zone will be assumed in accordance with guidelines for mixing zone sizes specified in the standards implementation procedures; and the executive director or commission may require specified mixing zones as appropriate.

(10) The size of mixing zones for human health criteria may vary from the size of mixing zones for aquatic life criteria.

(c) Minimum analytical levels. The specified definition of permit compliance for a specific toxic material will not be lower than established minimum analytical levels, unless that toxic material is of particular concern in the receiving waters, or unless an effluent specific method detection limit has been developed in accordance with 40 CFR 136. Minimum analytical levels are listed in the standards implementation procedures.

(d) Once-through cooling water discharges. When a discharge of once-through cooling water does not measurably alter intake concentrations of a pollutant, then water-quality based effluent limits for that pollutant are not required. For facilities which intake and discharge cooling-water into different water bodies, this provision only applies if water quality and applicable water quality standards in the receiving water are maintained and protected.

(e) Storm water discharges. Pollution in storm water shall not impair existing or designated uses. Controls on the quality of storm water discharges shall be based on best management practices, technology-based limits, or both in combination with instream monitoring to assess standards attainment and to determine if additional controls on storm water quality are needed. The implementation procedures describe how water quality standards will be applied to TPDES storm water discharges. The evaluation of instream monitoring data for standards attainment shall include the effects of storm water, as described in §307.9 of this title (relating to the Determination of Standards Attainment).

§307.9. Determination of Standards Attainment.

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(a) General standards attainment sampling and assessment procedures. Unless otherwise stated in this chapter, additional details concerning sampling procedures for the measurement, collection, preservation and laboratory analysis of water quality samples are provided in the latest version of the *TCEQ [TNRCC] Surface Water Quality Monitoring Procedures Manual, Volume 1*, the most recently published edition of the book entitled *Standard Methods for the Examination of Water and Wastewater*, 40 CFR 136, or other reliable sources acceptable to the executive director. Unless otherwise stated in this chapter, additional details concerning how sampling data are evaluated to assess standards compliance are provided in the latest approved version of the *TCEQ [TNRCC] Guidance for [Screening and] Assessing and Reporting [Texas] Surface [and Finished Drinking] Water Quality [Data] in Texas*

(b) Representative samples to determine standards attainment will be collected at locations approved by the agency. Samples collected at non-approved locations may be accepted at the discretion of the agency. Further guidance on representative sampling, both spatially and temporally, can be found in the latest versions of the *TCEQ Surface Water Quality Monitoring Procedures Manual, Volumes 1 and 2* and the *TCEQ Guidance for Assessing and Reporting Surface Water Quality in Texas*.

(c) Collection and preservation of water samples.

(1) To ensure that representative samples are collected and to minimize alterations prior to analysis, collection and preservation of attainment determination samples will be in accordance with procedures set forth in the most recently published edition of the book entitled *Standard Methods for the Examination of Water and Wastewater*, the latest version of the *TCEQ [TNRCC] Surface Water Quality Monitoring Procedures Manual, Volume 1*, 40 CFR 36, or other reliable procedures acceptable to the agency.

(2) Bacterial and temperature determinations will be conducted on samples or measurements taken approximately one foot below the surface. Depth collection procedures for chloride, sulfate, total dissolved solids, dissolved oxygen, chlorophyll-*a*, and pH to determine standards attainment may vary depending on the water body being sampled. Where standards apply to the mixed surface layer, the depth of this layer is determined in accordance with procedures in the latest approved version of the *TCEQ Surface Water Quality Monitoring Procedures Manual, Volume 1* and the *TCEQ [TNRCC] Guidance for [Screening and] Assessing and Reporting [Texas] Surface [and Finished Drinking] Water Quality [Data] in Texas*. Standards for chloride, sulfate, total dissolved solids, dissolved oxygen, chlorophyll-*a*, and pH are applicable to the mixed surface layer, but a single sample taken near the surface normally provides an adequate representation of these parameters.

[(3) For dissolved oxygen, the following procedures are generally applicable:

(A) Non-tidal flowing streams. The dissolved oxygen criteria is applicable to the mixed surface layer, but a single sample taken near the surface normally provides an adequate representation of this parameter.

(B) Impoundments. Representative samples shall be collected from the entire water column in the absence of thermal stratification. Collection of representative samples shall be confined to the epilimnion when an impoundment is thermally stratified.

(C) Tidal waters. Representative samples shall be collected from the entire water column in the absence of density stratification. Under conditions of density stratification, a composite sample collected from the mixed surface layer shall be used to determine standards attainment.]

(4) For toxic materials, numerical aquatic life criteria are applicable to water samples collected at any depth. Numerical human health criteria are applicable to the average (arithmetic) concentration from the surface to the bottom. For the purposes of standards attainment for aquatic life protection and human health protection, samples which are collected at approximately one foot below the water surface will also be acceptable for comparison to numerical criteria.

(d) Sample analysis.

(1) Numerical criteria. Procedures for laboratory analysis will be in accordance with the most recently published edition of the book entitled *Standard Methods for the Examination of Water and Wastewater*, the latest version of the TCEQ Texas Surface Water Quality Monitoring Procedures Manual, Volume 1, 40 CFR 136, or other reliable procedures acceptable to the agency.

(2) Radioactivity. Measurements will be made on filtered samples to determine radioactivity associated with dissolved minerals in accordance with current analytical methodology approved by the EPA.

(3) Toxicity. Bioassay techniques will be selected as testing situations dictate but will generally be conducted using representative sensitive organisms in accordance with §307.6 of this title (relating to Toxic Materials).

(e) Sampling periodicity and evaluation.

(1) Chloride, sulfate, total dissolved solids [(TDS)]. Standards attainment determinations shall be based on the median [average] of measurements taken over a period of at least one year. Results from all monitoring stations within the segment will be used [averaged] to allow for reasonable parametric gradients. Total dissolved solids [TDS] determinations may be based on measurements of specific conductance.

(2) Radioactivity. The impact of radioactive discharges on the surface waters in Texas will be evaluated utilizing information developed by the Sanitary Engineering Research Laboratory at the University of Texas and presented in the June 30, 1960, report entitled, *Report on Radioactivity--Levels in Surface Waters--1958-1960*.

(3) Bacteria. Standards attainment will be based on a geometric mean of applicable samples [and based on a single sample maximum,] and data will be evaluated in accordance with the provisions of §307.7(b)(1) of this title (relating to Site-specific Uses and Criteria). Samples can be evaluated with the single sample maximum criterion for purposes of swimmer safety notification programs and wastewater permit compliance.

(4) Toxic materials. Specific numerical acute toxic criteria are applied as 24-hour averages, and specific numerical chronic toxic criteria are applied as seven-day averages. Human health criteria are applied as long-term average exposure criteria designed to protect populations over a life time of 70 years. Refer to the latest approved version of the *TCEQ [TNRCC] Guidance for [Screening and] Assessing and Reporting [Texas] Surface [and Finished Drinking] Water Quality [Data] in Texas* for sampling periodicity and evaluation applicable to standards. Standards attainment for human health criteria will be based on the median [average] of a minimum of four samples collected over at least a one year period.

(5) Temperature and pH. Standards attainment based on single measurements will be evaluated according to the latest approved version of the *TCEQ [TNRCC] Guidance for [Screening and] Assessing and Reporting [Texas] Surface [and Finished Drinking] Water Quality [Data] in Texas*.

(6) Dissolved oxygen.

(A) Criteria for daily (24-hour) average concentrations will be compared to a time-weighted average of measurements taken over a 24-hour period.

(B) Criteria for minimum concentrations will be compared to individual measurements. When data are collected over a 24-hour period, any single measurement may be compared to the applicable minimum criterion.

(f) Biological integrity. Biological integrity, which is an essential component of the aquatic life categories defined in §307.7(b)(3) of this title, is assessed by sampling the aquatic community. Attainment of aquatic life use may be assessed by indices of biotic integrity which are described in [publicly available documents such as in] the latest version of the *TCEQ Surface Water Quality Monitoring Procedures Manual, Volume 2* [TNRCC Receiving Water Assessment Procedures Manual].

(g) Additional parameters. Assessment of narrative criteria parameters shall be performed in accordance with the latest approved version of the *TCEQ [TNRCC] Guidance for [Screening and] Assessing and Reporting [Texas] Surface [and Finished Drinking] Water Quality [Data] in Texas*.