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March 24, 2009

CHIEF CLERKS OFFICE

2009 MAR 24 PM 5:00

TEXAS  
COMMISSION  
ON ENVIRONMENTAL  
QUALITY

Ms. LaDonna Castañuela  
Chief Clerk  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711

Via facsimile and first-class mail

Re: In the matter of the Application of Lerin Hills, Ltd., for TPDES Permit No.  
WQ0014712001, TCEQ Docket NO. 2007-1178-MWD.

Dear Ms. Castañuela,

Enclosed for filing please find an original and seven copies of Rick Wood's  
Exceptions and Responses to the PFD in the above-referenced matter.

If you have any questions please call.

Sincerely,

David Frederick  
LOWERRE, FREDERICK, PERALES,  
ALLMON & ROCKWELL

Enclosures

cc: Service List

TEXAS  
COMMISSION  
ON ENVIRONMENTAL  
QUALITY

SOAH DOCKET NO. 582-08-0690  
TCEQ DOCKET NO. 2007-1178-MWD

2009 MAR 24 PM 5:00  
CHIEF CLERKS OFFICE

APPLICATION OF  
LERIN HILLS, LTD.  
FOR TPDES PERMIT NO.  
WQ0014712001

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BEFORE THE STATE OFFICE OF  
  
ADMINISTRATIVE HEARINGS

**RICK WOOD'S EXCEPTIONS TO THE PFD**

**TO THE HONORABLE COMMISSIONERS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND THE HONORABLE JUDGE KILGORE:**

Now comes Rick Wood ("Protestant") and files these Responses and Exceptions to the Administrative Law Judge's Proposal for Decision ("PFD")

**I. INTRODUCTION**

Protestant agrees with the Judges PFD recommending that the Commission deny TPDES Permit No. WQ0014712001. However, Protestant submits his exceptions regarding groundwater protection and antidegradation.

**II. PROTECTION OF GROUNDWATER**

**A. Lerin Hills has not demonstrated maintenance of Aquifer protection use of Upper Cibolo Creek**

The Tier 1 anti-degradation review requires that Lerin Hills demonstrate that the draft permit will not impair the designated aquifer protection use of Upper Cibolo Creek. The record simply does not support the ALJ's finding that this demonstration has been made.

"Aquifer protection" is a designated use of Cibolo Creek due to both the special value and sensitivity of the Edwards Aquifer underlying significant portions of Cibolo Creek. The Edwards Aquifer provides water supplies to several million people, and in its natural state

contains high quality groundwater.<sup>1</sup> Yet, this aquifer provides no significant filtering of contaminants.<sup>2</sup> Given this lack of filtering ability, it is vitally important to protect against contamination entering the aquifer, because the aquifer will do very little to mitigate the presence of those same contaminants in water withdrawn or discharging from the aquifer.

As acknowledged by the ALJ, the draft permit would authorize the discharge of over 700 pounds of phosphorus per year upstream of Upper Cibolo Creek, in addition to large quantities of Nitrogen and dissolved oxygen demanding materials. While the ALJ's groundwater analysis relies on the distance from the discharge point to Upper Cibolo Creek as a basis to find that the discharge will not impact the water protection use, the fact is that the evidence fails to establish that a significant proportion of these contaminants would not reach Upper Cibolo Creek, and the ALJ herself elsewhere in the PFD recognizes that even Lerin Hills' own experts have observed elevated phosphorus concentrations 20 miles downstream of a discharge.<sup>3</sup>

The ALJ's analysis fails to demonstrate *how*, if at all, the distance from the discharge point to the recharge zone of the Edwards Aquifer will protect the aquifer. This is because the record does not justify such a finding. The contaminants will not magically disappear, and there is no evidence that they will leave the water column in significant quantities to go anywhere but towards the Edwards Aquifer by surface water flow or groundwater flow. No claims were made that the contaminants would be removed from the water by evaporation; contaminants such as nitrogen and phosphorus will remain behind when water in the stream evaporates.<sup>4</sup> If the contaminants enter the groundwater upstream of Cibolo Creek, then those contaminants will simply move through the groundwater either back into the stream, or directly into the Edwards

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<sup>1</sup> Ex. P-3, p. 5, l. 11 – 18. (Testimony of Raymond Slade).

<sup>2</sup> Ex. P-3, p. 6, l. 3 – 9.

<sup>3</sup> Proposal for Decision at p. 37, citing testimony of Mr. Price.

<sup>4</sup> Tr. V. 2, p. 381, l. 24 – p. 382, l. 2.

Aquifer. As elsewhere noted by the ALJ, Lerin Hills failed to perform modeling of nutrient loading downstream of the discharge over time.<sup>5</sup> So, we have no accurate picture of what concentration of contaminants will ultimately be entering Cibolo Creek in the area of the Recharge Zone.

The ALJ improperly relies on assertions that the contaminants will be diluted by the receiving waters to find that the aquifer protection use will be protected. Any reliance on dilution to find that a TPDES permit is in compliance with the Tier I review would be in contravention of the Tier I anti-degradation analysis required by the Clean Water Act. As has been noted by the Fifth Circuit Court of Appeals with regard to the Clean Water Act, "Congress explicitly recognized that reduction of the amount of effluents-not merely their dilution or dispersion-is the goal of the CWA."<sup>6</sup> Dilution is simply not a valid basis for finding a permit in compliance with applicable water quality standards.<sup>7</sup> This is why TCEQ rules prohibit additional discharges over the recharge zone if they will increase the *loading* of the aquifer.<sup>8</sup> Thus, findings of fact Numbers 53 and 54 are not simply irrelevant, but it would be a violation of federal law for TCEQ to rely on such findings as the basis for the issuance of a TPDES permit.

The ALJ's reliance on standards found in Chapter 213 is also unjustified. Without a full evaluation of the impacts of the effluent limitations being applied, blind reliance on any standards found in Chapter 213 cannot substitute for the specific analysis and demonstration required for a Tier I review under the water quality standards.

**B. The greater than *de minimis* impact on aquifer protection is relevant.**

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<sup>5</sup> Proposal for Decision at p. 33.

<sup>6</sup> *Texas Municipal Power Agency v. Administrator of U.S. Environmental Protection Agency*, 836 F.2d 1482, 1488 (5<sup>th</sup> Cir. 1988).

<sup>7</sup> *Id.*

<sup>8</sup> 30 TAC § 213.6(a)(1).

The ALJ has improperly exempted Lerin Hills from a Tier 2 anti-degradation review. Texas law explicitly protects groundwater against such degradation.

The TCEQ rules subject groundwater resources to both a Tier 1 review and a Tier 2 review. The anti-degradation requirements are set forth in Chapter 307 of the TCEQ rules, which are intended to protect "water in the state."<sup>9</sup> This phrase explicitly includes groundwater.<sup>10</sup> Nothing in Chapter 307 indicates that the groundwater parameter for a fishable/swimmable stream is somehow exempt from a Tier 2 evaluation, unlike any other parameter.

The Water Code requires that groundwater will be protected from degradation. Groundwater in the State must be kept free of contaminants that interfere with both present and potential uses of the groundwater,<sup>11</sup> and the Water Code goes on to set forth that "it is the goal of groundwater policy in this state that the existing quality of groundwater not be degraded."<sup>12</sup> TCEQ has previously addressed this statutory context in relationship to the Edwards Aquifer. When revising the Edwards Aquifer rules in 1996, TCEQ's predecessor agency the Texas Natural Resource Conservation Commission (TNRCC) addressed the relationship of the state and federal anti-degradation policies to the agency's protection of groundwater. In doing so, TNRCC asserted that groundwater uses were protected due to the applicability of both Tier I and Tier II anti-degradation reviews.<sup>13</sup>

Applicant has made no demonstration that contamination of Upper Cibolo Creek will not cause a greater than *de minimis* impact on the water quality of the underlying aquifer. Without

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<sup>9</sup> 30 TAC Section 307.1.

<sup>10</sup> Tex. Water Code Section 26.001(5).

<sup>11</sup> Tex. Water Code Section 26.401(a)(1).

<sup>12</sup> Tex. Water Code Section 26.401(b).

<sup>13</sup> 21 Tex. Reg. 12135 (December 17, 1996).

such a showing, Applicant has not met the requirements of the Tier 2 Anti-Degradation review, and the permit should be denied.

**C. Failure to demonstrate that contamination of groundwater will be minimized in compliance with 30 TAC § 309.12**

1. Relevance of Design and Operational Features.

TCEQ rules require that a proposed site, **in light of the proposed construction, design or operational features, *minimizes*** the contamination of groundwater. The Commission explicitly referred consideration of this rule.<sup>14</sup> Contrary to the clear and explicit wording of this rule, the ALJ dismissed design issues as not within the scope of the issues referred by the Commission.<sup>15</sup> Significant portions of the application deal with design features of the plant. The development of effluent limitations for a permit fundamentally require the consideration of the technology being used at a facility.<sup>16</sup> The position adopted by the ALJ that the public is somehow barred from examining the sufficiency of the design proposed, and must instead trust that the Executive Director will address any concerns after the permit is issued, is simply contrary to the public participation requirements of the Texas Pollution Discharge Elimination System (TPDES) program that governs the issuance of this permit.

Will the plant site minimize the potential contamination of surface water and groundwater in consideration of the design features of the proposed plant? TCEQ doesn't know several key design features of the plant, so it is impossible to find that applicant has met its burden of proof.

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<sup>14</sup> October 26, 2007 Interim Order, at Ordering Provision (5)(D)

<sup>15</sup> PFD at p. 54.

<sup>16</sup> 30 TAC Section 308.1.

(1) Design and Operational Features

The site selected for the wastewater treatment plant, and discharge point, raise several specific design and operational considerations that Lerin Hills has failed to address as required by 30 TAC Section 309.12. The discharge point is approximately 100 feet higher than the treatment plant, which will require an unusual degree of pressurization for a discharge pipe. Yet, the design of the conveyance, and the route it will follow, both remain unknown:

Q (Allmon): So what is the difference in elevation between the discharge point and the plant?

A (Harris): Roughly 100 feet.

\* \* \*

Q: How is effluent going to be moved from the plant site to the point of discharge?

A: The [effluent] would be pumped to the discharge point.

Q: Is it going to be necessary to pressurize the effluent in order to get it from the plant site to the point of discharge?

A: Yes.

Q: And is there a ridge kind of there between the plant and the discharge point?

A: There is a ridge.

Q: Is the pipe going to go straight from the plant site to the discharge point or is it going to wind its way around that ridge?

A: You know, we haven't designed that yet.

Q: Okay.

A: So I don't have an answer to that.<sup>17</sup>

Of course pressurization of the pipe only increases the potential for a leak or spill:

Q (Allmon): If the effluent is under pressure, how would this impact the likelihood of a spill of effluent as it is transported from the treatment plant to the discharge point?

A (Knowles): The pressure in the effluent increases the potential for a rupture to occur at a connection in the pipeline from the treatment plant to the discharge point. This raises the susceptibility of the pipe to a rupture caused by shifting of the soils or geology in the area.<sup>18</sup>

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<sup>17</sup> Tr. p. 30, l. 25 – p. 32, l. 5.

<sup>18</sup> Ex. P-4, p. 10, l. 15 – 20.

This design vulnerability of the plant resulting from the chosen site must be addressed before the Commission may conclude that the proposed plant minimizes the potential for contamination of surface water or groundwater.

TCEQ rules provide that treatment unit, pipe, weir, flume, disinfection unit, or any other treatment unit that is flow limited must be sized to transport or treat the estimated peak flow at the facility.<sup>19</sup> The peak flow of the facility is 720,000 gallons/day.<sup>20</sup> Yet, for example, no evidence has been presented regarding the design of the pipe that will carry the effluent from the treatment plant to the discharge point.<sup>21</sup> Similarly, Applicant has not evaluated the capacity of the plant to handle peak flows under circumstances where units are out of service:

- Q (Allmon): [I]f you had to operate with the effluent stream meeting the requirements of the permit, you haven't quantified what the capacity of the plant would be with an aeration basin out of service?
- A: I have not.
- Q: Okay. So you haven't compared that to the peak two-hour flow to see what the difference is between those numbers?
- A: I have not.
- Q: Okay. What is the maximum capacity of the lift station pump in Phase I?
- A: We haven't designed this facility.<sup>22</sup>

This repeated refrain of "we don't know yet" with regard to design features cannot possibly provide an adequate basis for TCEQ to make any conclusion that a rule such as 30 TAC Section 309.12 requiring the consideration of design features at a plant has been met.

Lerin Hills has also not properly addressed the biological oxygen demanding strength of the anticipated influent. TCEQ rules provide that if available, actual organic loading data must

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<sup>19</sup> 30 TAC § 217.32(a)(2)(C).

<sup>20</sup> Tr. p. 43, l. 3-5.

<sup>21</sup> Tr. p. 31, l. 25 - p. 32, l. 3.

<sup>22</sup> Tr. p. 42, l. 5 - 16.

be used as the basis for design of the facility.<sup>23</sup> Without making any effort to meet the requirements of this rule, Lerin Hills simply assumed a value for this number:

- Q (Allmon): What BOD strength was used in the design of this facility, BOD strength for the incoming wastewater?  
A (Harris): The facility has not yet been designed. The calculations that are presented in the application, I believe we used 200 parts per million BOD, which has been a very typical number that we've used for domestic systems.  
Q: What information did you use as a basis for that 200?  
A: It's been a number that I've used for years in the initial conceptual design.  
Q: Did you do any work to examine what the BOD strength of effluent produced in other subdivisions in the area is?  
A: I did not.  
Q: So are there any other subdivisions in the area.  
A: There are.

Applicant should have at least performed some work to determine if actual data from nearby developments could be used to determine the anticipated organic loading that would be entering the proposed facility.

Not only did applicant fail to fully investigate the organic strength of the incoming waste, but the assumptions used by Applicant in determining the organic strength set forth in the Application are incorrect. Contrary to the application, Applicant now concedes that the commercial development in the subdivision may include restaurants. This is no small deviation from the information contained in the application; even TCEQ's default values assume an organic strength for restaurants of 1000 mg/kg,<sup>24</sup> in comparison to the 200 mg/kg used for residential sources and assumed for all sources by Applicant.<sup>25</sup> Likewise, the application assumes an organic strength of 200 mg/l for all commercial or retail development in the subdivision, despite the admission of Applicant's own expert that the BOD strength from such

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<sup>23</sup> 30 TAC § 217.32(a)(3).

<sup>24</sup> 30 TAC § 217.32(a)(3).

<sup>25</sup> Ex. A- \*\* (Permit Application), Technical Report, page 6 of 30.

sources can be stronger than that from residential sources,<sup>26</sup> and the default values set forth in TCEQ rules do not contain a value of less than 300 mg/kg for any type of commercial development.<sup>27</sup>

### 2. Effluent Limitation.

One of the fundamental operational features of the proposed plant is the effluent limitation it is proposed to operate under. The evidence does not support a finding that the effluent limitation contained in the permit will minimize the potential for contamination of surface water or groundwater. The effluent limitation for phosphorus contained in the permit is 0.5 mg/L, but the Executive Director has elsewhere applied a more stringent phosphorus limitation of 0.15 mg/L, and the evidence shows that even lower limitations are attainable. No demonstration has been made that the proposed permit minimizes contamination when the uncontroverted evidence shows that lower effluent limitations are achievable.

### 3. Proximity to Affected Groundwater Resources.

In addition to the design and operational features of a facility, 30 TAC Section 309 requires consideration of factors such as "groundwater conditions such as groundwater flow rate, groundwater quality, length of flow path to points of discharge and aquifer recharge or discharge conditions" in making a determination of whether the facility will minimize the contamination of groundwater.<sup>28</sup>

Lerin Hills made no calculations of how much of the discharge would reach Cibolo Creek.<sup>29</sup> Moreover, the evidence in the record shows that phosphorus doesn't evaporate<sup>30</sup> and

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<sup>26</sup> Tr. p. 36, l. 20 - 24.

<sup>27</sup> 30 TAC § 217.32(a)(3).

<sup>28</sup> 30 TAC Section 309.12(2).

<sup>29</sup> Tr. V. 2, p.377, l. 1-5

<sup>30</sup> Tr. V. 2, p.409, l. 1-5

three to five storms per year can produce 80 to 90 percent of your runoff volume.<sup>31</sup> Additionally, Applicant's expert, Bob Kier, failed to evaluate the interconnectivity along faults.<sup>32</sup>

### III. SURFACE WATER ANTIDegradation

Protestant Rick Wood urges you to incorporate more of the antidegradation legal analysis of the PFD into the conclusions of law in the proposed order. Inasmuch as the narrative PFD (i.e., the opinion-like portion of the PFD) is not customarily adopted by the Commissioners, sound analysis set forth, there, has no precedential effect. Both permit applicants and, as the narrative PFD tactfully suggests, TCEQ technical and legal staff appear to have misapprehensions of the standards the law actually lays down for the antidegradation analysis, and a few Commission-adopted statements of the true legal standards would probably help to rectify that situation. Thus, Mr. Wood suggests, here, a few more conclusions of law. (The 1988 *Texas Register* material cited, below, is Exh. A to these exceptions.)

7. The State's Tier 2 antidegradation regulation, 30 TAC § 307.5(b)(2), was adopted with its present substantive content in 1988. See, 13 *Tex. Reg.* 1776, 1784 (April 15, 1988). It is closely modeled on the federal antidegradation regulation, 40 CFR 131.12(a)(2), which was adopted in its present substantive form in 1983. See, 48 *Fed. Reg.* 51400 (Nov. 8, 1983). The only noteworthy difference between the two is that State's regulation includes the "*de minimis*" exception to the absolute prohibition on degradation of fishable/swimmable waters that is found in the federal regulation.
8. "*De minimis*" is undefined in state or federal regulation. It is Latin for "trifling." When TCEQ's predecessor adopted the exclusion in 1988, it characterized the *de minimis* exclusion as having been made "to avoid the administrative burden of determining

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<sup>31</sup> Tr.V.2, p. 410, l. 18 - 20

<sup>32</sup> Tr.V.1, p. 169 - 170

economic and social justification for very small or nonexistent degrees of degradation.”

13 Tex. Reg. 1779-1780 (April 15, 1988).

9. State regulation provides that “[t]he highest water quality sustained since November 28, 1975 (in accordance with EPA Standards Regulation 40 CFR [Part]131) defines baseline conditions for determinations of degradation.” 30 TAC § 307.5(c)(2)(B).
10. Neither State regulation nor the TCEQ’s surface water quality *Implementation Procedures* indicate that impact on existing uses is relevant to the Tier 2 antidegradation analysis. (Tier 1 antidegradation analysis seeks to ensure that existing uses are protected. 30 TAC § 307.5(b)(1).)
11. The *Implementation Procedures*, themselves, page 32, recognize the relevance to Tier 2 antidegradation analysis of receiving water assimilative capacity, even in the case of pollutants for which there are no numerical water quality standards.

### CONCLUSION & PRAYER

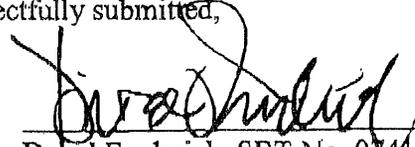
The Applicant failed to demonstrate that the proposed permit will not protect the designated aquifer protection use of Upper Cibolo Creek. Moreover, the reliance by the TCEQ on Findings of Fact Numbers 53 and 54 as the basis for the issuance of a TPDES permit would violate federal law.

The PFD and Proposed Order also improperly exempt the Applicant from a Tier 2 antidegradation Review, and Lerin Hills failed to satisfy its burden of proof and demonstrate that contamination of Upper Cibolo Creek will not result in greater than *de minimis* water quality impact on the underlying aquifer. Applicant also failed to demonstrate that contamination of groundwater will be minimized, as required by 30 TAC §309.12.

Therefore Protestant respectfully requests that, in addition to the reasons already set forth in the PFD, the ALJ recommends denial of the permit for the reasons set forth in these exceptions. In any event, Protestant prays you further elaborate in the recommended conclusions of law on the State's antidegradation law.

Respectfully submitted,

By:

  
David Frederick, SBT No. 01412300

LOWERRE, FREDERICK, PERALES,  
ALLMON & FREDERICK

707 Rio Grande, Suite 200  
Austin, Texas 78701  
(512) 469-6000  
482-9346 (facsimile)

CERTIFICATE OF SERVICE

By my signature, above, I, David Frederick, certify that on March 24, 2009 an original and seven copies of the forgoing documents was served upon the Chief Clerk of the TCEQ and true and correct copies were served by US mail, postage prepaid, on the following party representatives.

Mr. Danny Worrell  
Brown McCarroll, LLP  
111 Congress Ave., Ste. 1400  
Austin, Texas 78701

Mr. Garrett Arthur  
Office of Public Interest Counsel, MC-103  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-2087

Ms. Kathy Humphreys  
Mr. Timothy Reidy  
Environmental Law Division, MC-173  
Texas Commission on Environmental Quality

CHIEF CLERKS OFFICE  
2009 MAR 24 PM 5:00  
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Received:

MAR-24-2009 TUE 05:05 PM LOWERRE FREDERICK PERALE

Mar 24 2009 05:01pm  
FAX NO. 5124829346

P. 15/26

P.O. Box 13097  
Austin, Texas 78711-3087

# EXHIBIT A

limits measured in mg/l are converted to pounds per day (lb/day) using the following conversion: mg/l by flow volume in MGD by 8.34 equals lb/day.

(5) SIC-Standard industrial classification assigned to a waste discharger.

(6) TOC-Total organic carbon.

(7) TSS-Total suspended solids. §305.503. Fee Assessment.

(a) An annual waste treatment inspection fee is hereby assessed each permit for deposit in the fund. The amount assessed is determined by the parameters for which the facility is authorized as of each October 1. Where the permitted facility has not been constructed, or is inactive, the set point value of three points is assessed. Those permits authorizing only stormwater or report discharges as of each October 1 are assessed a set point value of 12 points for such discharges. The set point value for a no-discharge permit is four points. The maximum fee which may be assessed each permit is \$11,000. In assessing a fee, the commission considers the following parameters:

- (1) pollutant potential/SIC group;
- (2) flow volume;
- (3) traditional pollutants;
- (4) heat load; and
- (5) major/minor designation.

(b) The commission assigns a point value to each of the parameters in subsection (a)(1)-(5) of this section. The assigned value is weighted according to the permitted limits. The rating points are summed and multiplied by a rate factor of \$50.

(c) For the purpose of fee calculation, COD and TOC are converted to BOD values and the higher value is assessed points. The conversion for TOC is: three pounds of TOC is equal to one pound of BOD (3:1). The conversion for COD is eight pounds of COD is equal to one pound of BOD (8:1).

(d) For the purpose of fee calculation, a permit which authorizes a secondary treatment system consisting of ponds or lagoons at limits of 30 mg/l BOD and 90 mg/l TSS shall be assumed to be equivalent to 20 mg/l BOD and 20 mg/l TSS. This equivalency is based on treatment provided by different types of secondary treatment systems. The following schedule describes the method of calculating the fee:

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on April 8, 1988.

TRD-8803511 William G. Nowchurch  
Director, Legal Division  
Texas Water Commission

Effective date: April 27, 1988

Proposal publication date: February 9, 1988

For further information, please call: (512) 463-8087.

### Chapter 307. Supplemental Surface Water Quality Standards

The Texas Water Commission (TWC or commission) adopts the repeal of existing §§307.1-307.3 and new §§307.1-307.10. Section 307.1 and §307.2 are adopted without changes and will not be republished. Sections 307.3-307.10 are adopted with changes to the proposed text published in the October 9, 1987, issue of the *Texas Register* (12 TexReg 3642). The previous surface water quality standards were set forth in §§333.11-333.21 and §§307.1-307.3. The standards that appear in §§333.11-333.21 no longer exist under the terms of Senate Bill 249, 69th Legislature (1985) subsequent to the adoption of new §§307.1-307.10, which replace those previous Texas Water Development Board rules.

The Texas Water Commission has the sole and exclusive authority to establish and revise water quality standards for the State of Texas. These standards are established and reviewed on a periodic basis pursuant to the Texas Water Code, §26.023, as amended, and the federal Water Pollution Control Act, §303(c), as amended. Previous state-wide surface water quality standards were adopted by the Texas Water Development Board for the Texas Department of Water Resources, predecessor agency to the Texas Water Commission, on December 20, 1984, and subsequently approved by the United States Environmental Protection Agency (EPA) on February 28, 1985. The Texas Water Commission adopted amendments to the water quality standards on December 17, 1986, (§§307.1-307.3) which were approved by EPA on April 11, 1987.

In the application of surface water quality standards, the hydrologic and geologic diversity of the State of Texas is given consideration by dividing major river basins, bays and estuaries into defined segments (referred to as classified or designated segments). The standards contain both general standards which apply to all surface water in the state, and segment-specific standards which identify appropriate uses (aquatic life, contact or noncontact recreation, drinking water, etc.) and list upper and lower limits for common indicators (criteria) of water quality—such as dissolved oxygen, temperature, pH, dissolved minerals, and fecal coliform bacteria.

The revisions to the previous standards include editorial revisions, substantive changes, and changes deemed warranted in response to directives from the EPA. The new sections also comply with the provisions of the federal Water Pollution Control Act, as amended through 1987 (33 United States Code 1251 et seq.)

Editorial changes include grammatical corrections, reformatting intended to promote consistency, and deletions of nonoperational and duplicative language. The major editorial changes are a reordering of sections, provision of a table of contents for the standards in the general description, the movement of the maximum temperature differentials from the numerical criteria section to the general criteria section, the division of the antidegradation section into subsections on policy and implementation, the combination of the water uses and numerical criteria sections into one section entitled site-specific uses and criteria, and the removal of application provisions in the application of standards section and placement of those provisions within the respective sections to which they pertain. The new application of standards section now addresses only two exceptions to the standards (critical low-flows and mixing zones). Segment descriptions have also been virtually all reworded to include counties and many descriptions have also been changed to provide more definitive boundary landmarks.

Several substantive changes to the previous standards have been incorporated, based on recommendations and analysis of additional data, to conform with previous Texas Water Commission actions and to address EPA directives and the requirements of the federal Water Pollution Control Act of 1987. These new provisions include the incorporation of implementation procedures for the antidegradation policy, intermittent stream policy, and portions of the toxic materials policy to reflect previous commission action with regard to the commission's continuing planning process document, in accordance with the federal Water Pollution Control Act and 40 Code of Federal Regulations Part 131. Numerous added definitions, e.g. toxicity, acute toxicity, chronic toxicity, intermittent streams, total toxicity, have been included so that commission policy with regard to the terms is expressly stated. The applicability of mixing zones is explained and a commitment is made to specify mixing zones in all discharge permits except for domestic discharges. The general criteria section (§307.4) has been revised to more adequately protect currently unclassified water bodies. General criteria changes include provisions for reviewing use determinations for all permit actions, and the establishment of a fecal coliform criterion of 200 colonies per 100 milliliters (ml) for unclassified water bodies (in lieu of the previous criterion of 2,000 colonies per 100 ml). The new section on toxic materials (§307.6) includes the implementation of specific numerical chronic and acute criteria for 30 toxic materials in fresh and marine waters, and the initiation of biomonitoring of permitted discharges as an additional toxicity control measure. A new policy is established for designating virtually all classified waters for contact recreation with a warning that the designation does not preclude all human health risk. Aquatic life use subcategories are now defined in biological terms, and the associated dissolved oxygen criteria are established as 24-hour means and also absolute minima.

Segment revisions include 17 additional segments which have been designated or subdivided resulting from reservoir construction, subdivision of existing segments, and new segment selection. The majority of these new

1. POLLUTANT POTENTIAL  
Primary SIC Code

Group	_____	I	( 0 points)
	_____	II	( 10 points)
	_____	III	( 15 points)
	_____	IV	( 20 points)
	_____	V	( 30 points)
	_____	VI	( 40 points)

Points Assigned = \_\_\_\_\_

2. FLOW VOLUME

<u>Wastewater Type</u>	<u>Flow</u>	<u>Points</u>
Type I - Contaminated Flow = _____	≤ .05 mgd	3 points
	>.05 but ≤.25	5 points
	>.25 but ≤2.0	10 points
	>2.0 but ≤4.0	20 points
	>4.0 but ≤6.0	30 points
	>6.0 but ≤8.0	40 points
	>8.0 but ≤10.0	50 points
> 10.0 mgd	60 points	
Type II - Uncontaminated Flow = _____	≤1.0 mgd	3 points
	>1.0 but ≤5.	10 points
	>5.0 but ≤10.	20 points
	>10. but ≤50.	30 points
	>50. but ≤500.	40 points
	> 500. mgd	50 points

Points Assigned = \_\_\_\_\_ (Maximum 60 points)

3. TRADITIONAL POLLUTANTS

(a) OXYGEN DEMAND (\*)

Daily Average Load = _____	≤ 50 lb/day	1 point
(BOD, COD, or TOC Value)	>50 but ≤100	5 points
	>100 but ≤250	10 points
	>250 but ≤500	20 points
	>500 but ≤750	30 points
	>750 but ≤1000	40 points
	>1000 but ≤3000	60 points
	>3000 lb/day	80 points

Points Assigned = \_\_\_\_\_

(\* COD and TOC limits are converted to BOD values and the higher value is used.)

administrative burden of determining economic and social justification for very small or nonexistent degrees of degradation. Additional definitions have been explored, but the difficulty of applying any such definitions statewide indicates that the determination of significant degradation must be developed through site-specific procedural application of the antidegradation policy. This approach will also be used with respect to the determination of waters which exceed fishable/swimmable quality. In response to a commenter's request, the word "Indigenous" is inserted in front of the word "fish" in §307.5(b)(2). EPA and others expressed additional concern over the use of the term "significant degradation" with respect to outstanding national resource waters. In response, the phrase "and the commission will allow no significant degradation of these waters" is omitted from §307.5(b)(3), so that the provision simply states that "the quality of outstanding national resource waters will be maintained and protected".

In §307.5(c), concerning the antidegradation implementation procedures, one commenter stated that existing uses should include drinking water supply for all waters upstream of public water supplies. The commission responds that domestic water supply is considered a major use in the application of antidegradation provisions. EPA and several others recommended that a specific date, such as November 28, 1975, as indicated in 40 Code of Federal Regulations Part 131, be established for the implementation of baseline conditions. In response, the last sentence in §307.5(c)(3) is reworded to specify this date. One commenter noted that critical conditions for determining significant degradation may not always be at 7Q2 flows. In response, the parenthetical reference to 7Q2 flows and maximum summer temperatures in §307.5(c)(3) is deleted. A number of commenters suggested that the initial determination of baseline conditions should be considered preliminary. In response, "baseline conditions" are added to those issues subject to comment by interested parties in §307.5(c)(5). Two commenters suggested that criteria for defining "important economic or social development" should be specified. The commission responds that the allowance of significant degradation due to important economic or social development is at present a qualitative decision, and additional guidelines for making this decision remain under investigation by EPA and the state. Regarding §307.5(c)(6), two commenters stated that permits which are consistent with an approved waste load evaluation should still be separately subjected to antidegradation provisions. The commission responds that §307.5(c)(6) does provide for additional imposition of antidegradation provisions to such permits if the permitted discharge may cause impacts which were not addressed by the waste load evaluation.

In §307.6, relating to toxic materials, general comments included a concern that modifications to toxic criteria will negate the effects of effective permit control. The commission responds that such modifications may be necessary when establishing new state-wide numerical criteria and biomonitoring requirements to accommodate site-specific permit conditions. Two commenters stated that unless nonpoint sources of toxic pollutants are

controlled and treated, large additional investments for point source toxic control will be wasted. The commission agrees that nonpoint sources of toxics are a potential problem in some areas of the state, but the new procedures in the revised standards are needed to control instream concentrations of toxic materials during dry periods when nonpoint sources have less direct impact. One commenter suggested that effluent toxicity could be effectively regulated by either specific numerical limits or total toxicity limits rather than simultaneous implementation of both requirements. The commission responds that a dual approach is the best method to provide both immediate control of specific toxicants and to provide an overall indication of the cumulative toxic impacts of discharges with numerous pollutants.

In §307.6(b), concerning general provisions, one commenter noted that the general prohibition of acute toxicity in §307.6(b)(1) is in contradiction with later sections which allow acute toxicity in a small zone of initial dilution. The commission resolves this contradiction by explicitly allowing acute toxicity in small zones of initial dilution in §307.6(b)(1). Another commenter recommended that the occurrence of acute toxicity due to natural phenomena should be exempted from the requirements of §307.6(b)(1). The commission responds that the exception in §307.4(a) of natural phenomena from the general criteria, including general narrative toxic criteria in §307.4(d), constitutes adequate exemption due to natural conditions.

EPA commented that the generic prohibitions against acute toxicity in §307.6(b)(1) and against chronic toxicity in §307.6(b)(2) are in contradiction with both §307.6(c)(3)(i) and §307.6(d)(2)(E)(v), which allow consideration of aquatic life uses in establishing permit requirements. In response, prohibition of chronic toxicity in §307.6(b)(2), and also in §307.6(c)(3)(i) (as renumbered) and §307.6(d)(1)(B), is limited to waters with existing or designated aquatic life uses. As an additional clarification, a phrase is added to both §307.5(c)(3)(i) and §307.6(d)(2)(E)(v) to limit the consideration of aquatic life uses in establishing permit requirements to the application of chronic toxicity (or chronic numerical criteria) only, not acute toxicity (or acute numerical criteria).

Two commenters stated that the allowance in §307.6(b)(2) of chronic toxicity within the mixing zone and below critical low-flow conditions should be deleted. The commission responds that the EPA 1983 *Water Quality Standards Handbook* and the "1985 EPA Technical Support Document for Water Quality-based Toxics Control" (TSD) indicate that chronic toxic criteria can be exceeded in mixing zones and below critical low-flow conditions. Additional discussion on the application of mixing zones, critical low-flows, and zones of initial dilution is included in the comments and responses on §307.8.

In §307.6(b)(3), concerning protection of human health, one commenter suggested that instream criteria for toxics should meet EPA maximum contaminant levels (MCLs) in the federal Safe Drinking Water Act, so that removal of such toxics is performed at the discharge point rather than at water supply treatment plants. The commission responds that the assumption of reasonable treatment

by water supply treatment plants in §307.6(b)(3) is an appropriate modification of the suggested approach. The same commenter also stated that numerical criteria for known or possible carcinogens should be set at zero. The commission responds that protection of drinking water MCLs is the best strategy at the present time.

One commenter noted that the general provisions of §307.6(b)(3) should not in any way limit any other provisions of §307.6. In response, the phrase "in addition to other provisions of this section" is added to the second sentence in §307.6(b)(3). EPA commented that the reference in §307.6(b)(3) to maximum concentration limits should be corrected to maximum contaminant levels, and in response this correction is made as requested. In §307.6(b)(4), EPA and others objected to the general consideration of exceptions to the permitting procedures for toxic materials when permit limits would be technologically or economically infeasible, although other commenters supported this provision. In response, §307.6(b)(4) is deleted from the adopted section.

In the specific numerical criteria for toxics in §307.6(c), several commenters requested that the commission adopt specific criteria for additional toxic materials-up to all of the EPA priority pollutants. The commission responds that the 30 numerical toxic criteria which were adopted were those supported by updated and improved EPA guidance criteria for the protection of aquatic life. The commission will rely on total toxicity testing procedures to control sources of other toxic materials, and additional specific numerical criteria will be considered as updated EPA guidance criteria become available.

Several commenters suggested that numerical criteria be adopted for chlorine, ammonia, and oil and grease. The commission responds that ammonia toxicity will be addressed by total toxicity (whole effluent) testing, and chlorine toxicity will be controlled by the development of generic permit limits as indicated in §307.8(c)(4). The variability of chemical composition of the general oil and grease category precludes accurate numerical criteria, and toxicity due to various chemical compounds in this category is best controlled by total toxicity testing procedures. Two commenters stated that numerical criteria should be adopted now for those pollutants for which EPA has developed health-based criteria. The commission responds that the provisions in §307.6(b)(3) are appropriate to protect human health at the present time, particularly in light of the ongoing re-evaluation of human health criteria by EPA.

Several commenters suggested that numerical criteria should be considered as indicators rather than proof of potential toxicity in the receiving waters and toxicity reduction evaluations (TRE) should not be required until toxicity is demonstrated. The commission responds that discharge permit limits based on numerical criteria will be established with consideration of site-specific factors, including other measures of toxicity, as indicated in §307.6(c)(3). Various commenters acknowledged the need as well as the federal mandate for developing specific numerical toxic criteria, but these commenters suggested a more careful and gradual schedule for implementation. The commission responds that

rapid implementation is mandated by the requirements of the 1987 amendments to the federal Water Pollution Control Act and state-wide concerns about potential toxic impacts. The numerical criteria adopted are based on adequate data sets, and the consideration of additional factors in the application of criteria, as listed in §307.6(c)(3), provides site-specific flexibility. Several commenters stated that the numerical freshwater chronic criteria for silver were not supported by the available data set. In response, the commission has utilized new additional data on silver toxicity from EPA and recalculated the freshwater chronic criterion for silver. Based on this re-analysis, the freshwater chronic criteria for silver in Table 1 of §307.6(c)(1) is changed from 0.12 to 0.49 micrograms per liter.

One commenter asked how specific numerical criteria will be applied to a small discharge into a normally dry tributary. The commission responds that specific permitting procedures based on numerical toxic criteria are being developed in accordance with §307.6(c)(3). Another commenter requested information on the availability of instream monitoring data for toxic metals. The commission responds that the Statewide Monitoring Network of the commission, in conjunction with data from other agencies, provides an adequate long-term data base to assess standards attainment for numerical toxic criteria in most classified waters. Several commenters disagreed with the recalculation of EPA guidance criteria. The commission responds that the numerical criteria presented in Table 1 were recalculated in accordance with EPA procedures to eliminate data from cold-water species which do not occur naturally in Texas. The criteria resulting from these recalculations are not substantially different from the original EPA guidance criteria.

A variety of comments addressed §307.6(c)(3), concerning the implementation of permit limits based upon the numerical criteria for toxics. Two commenters stated that the specific numerical criteria can affect pretreatment programs, and the provisions for establishing permit limits in §307.6(c)(3) should also apply to pretreatment limits. In response, the applicability of §307.6(c)(3) is changed to include "pretreatment requirements". One commenter suggested that references to modifications of criteria in §307.6(c)(3) and also in §307.6(d)(2)(E) on total toxicity requirements should be referred to as establishment of discharge permit limits, and in response these changes are incorporated as suggested.

Several commenters stated that consideration of site-specific modifications of the numerical toxic criteria, as described in §307.6(c)(3), is not provided for in the federal Water Pollution Control Act or in EPA regulations, and any modifications of criteria must be made through the amendment process to allow review by the public and by EPA. Another stated that modifications should only be allowed when it means equivalent or stricter regulations. The commission responds that consideration of site-specific factors will be implemented through the permitting process, which provides public notice and opportunity for hearing. Permit limits may also be stricter than numerical criteria if potential synergistic or additive effects are noted, or if a toxic material is of particular concern.

One commenter listed the following additional concerns about §307.6(c)(3): ambient concentrations may not always be controlled, and the commission should not allow any further toxicity if ambient levels are high; little is known about bioavailability, persistence, degradation rate, or synergistic interactions; standards need to have an adequate margin of safety; and a schedule is needed to list sensitive indigenous aquatic life, including all life stages. The commission responds that the consideration of ambient concentrations of toxics in receiving waters has the following two purposes: if other sources of pollution have already resulted in elevated concentrations of a specific toxic material in the receiving waters, then further discharges of that toxic material might be unacceptable; and if the natural background concentrations of a toxic material exceed specific numerical criteria, then the validity of those criteria for that specific site should be reconsidered. The commission agrees that much is not known about bioavailability, persistence, degradation rate, or synergistic interactions, but the information on these processes is increasing and this data can be considered when available for a particular toxic material. With respect to allowance of a margin of safety, the commission notes that the EPA guidance criteria upon which the numerical criteria in Table 1 are based do have a safety margin incorporated, and the application of the criteria to all flows above critical low-flow conditions provides additional protection. With respect to determination of sensitive organisms, the commission has already identified those indigenous organisms which were included in the EPA data base for developing guideline criteria. The relative sensitivity of these organisms to specific toxic materials is included in this data base.

Several commenters requested further definition of practical quantitation levels (PQLs) in §307.6(c)(3)(A) and recommended that effluent limits be set no lower than PQLs. In response, procedures for the application of PQLs are added as new §307.6(c)(6), and the remainder of §307.6(c) is renumbered accordingly. These procedures indicate that effluent limits will normally be set no lower than PQLs, except for toxic materials of particular concern in receiving waters. Three commenters also recommended that specific numerical criteria be set no lower than PQLs. Conversely, others commented that numerical criteria below PQLs can be implemented to regulate individual discharges by calculating, rather than measuring, the expected instream concentration resulting from the discharge. The commission responds that specific numerical criteria will not be raised to PQL levels. One commenter asked how assimilative capacity in §307.6(c)(3)(G) would be determined. The commission responds that a review of the applicability of assimilative capacity indicated that other factors listed under §307.8(c)(3) provided more defined measures of environmental sensitivity, and the reference to assimilative capacity is deleted. In §307.6(c)(3)(J), several commenters stated that the federal Water Pollution Control Act and EPA policy do not allow for consideration of the economic limits of treatability in establishing water-quality based permit limits for toxic materials. The commission responds that the February 1988 draft *EPA Guidance for State Implementation of Water Quality Standards* indicates that states may need to

adopt procedures to consider "substantial and widespread economic and social impact" when establishing water-quality based permit limits for specific toxic materials.

A number of commenters questioned the applicability of the acid-soluble analysis for metals in §307.6(c)(7) (as renumbered). In response, the reference to the acid-soluble analysis is deleted, and new procedures for using dissolved concentrations for comparison to numerical criteria are added to §307.6(c)(7). Comments and responses on the application of mixing zones and zones of initial dilution in §307.6(c)(8) (as renumbered) are deferred to later discussion on §307.8 concerning the application of standards. In §307.8(c)(9) (as renumbered), concerning sampling periodicity, one commenter stated that criteria should be applied as maximum, instantaneous measurements rather than 24 hour averages for acute criteria and four day averages for chronic criteria. The commission responds that these time periods approximate the duration of exposure in the toxicity tests used by EPA to determine numerical criteria. Effluent sampling of toxic materials is also based on composite sampling over a specified time period. A variety of commenters suggested that the four day average specified for chronic criteria in §307.6(c)(9) should be a seven day average, in order to correspond with the seven day period used for critical low-flows. The commission responds by changing the reference in §307.6(c)(9) from four-day averages to seven-day averages. This change is also consistent with the application of chronic total toxicity tests, which are normally conducted over a seven day period.

In §307.6(c)(10) (as renumbered), concerning provisions for toxic materials which are not listed in Table 1, one commenter objected to the inclusion of mixing zone and critical low-flow exceptions. Another commented that the provisions of §307.6(c)(10) are unnecessary, and another commenter requested clarification on the procedures to be used in applying criteria developed in accordance with these provisions. The commission responds that the provisions of §307.6(c)(10) are a potentially useful addition to this section. Any criteria developed through these provisions is subject to all the procedures for the application of numerical criteria in §307.6, and this is clarified by omitting the reference to mixing zones and critical low-flow in §307.6(c)(10), and by inserting a more general statement to indicate that the provisions of §307.8(c)(10) shall be in accordance with the application procedures of specific numerical criteria, as established in §307.6 and §307.8.

In §307.6(c)(11) (as renumbered), several comments were received on the average values presented in Table 2 for pH and hardness, which are needed to calculate some of the specific numerical criteria in Table 1. Some commenters noted that hardness and pH at a particular location could differ substantially from the basin-wide averages listed in Table 2. Other commenters expressed agreement with the provision which allows site-specific data to be used to determine pH and hardness. In response, the commission acknowledges the potential shortcomings of basin-wide averages, and site-specific data to determine pH and hardness will be utilized whenever possible.

In §307.6(d)(1), concerning general regula-

tions on total ("whole-effluent") toxicity, several commenters reiterated objections to the allowance of acute toxicity in small zones of initial dilution; one commenter expressed general opposition to any exceptions to standards in mixing zones and below critical low-flow conditions; and others again recommended the use of 7Q10 flows to define critical conditions. Responses to these comments are included in the discussion on §307.8, concerning the application of standards.

In §307.6(d)(2), concerning implementation procedures for total toxicity testing, one commenter stated that total toxicity testing should only be used as an indicator of the possible need for a toxicity reduction evaluation, and requirements for total toxicity testing should not be incorporated directly into discharge permits. This commenter also noted the potential difficulty or impossibility of determining specific sources of toxicity in municipal effluents. Another commenter suggested that instream chemical and biological monitoring could be conducted in lieu of effluent toxicity testing, and this commenter further suggested that toxicity testing in this triennium should be used to verify the relationship between total effluent toxicity and instream toxicity. One commenter suggested that toxicity testing should only be required of discharges with flows greater than five million gallons per day, and toxicity testing should only be performed on a quarterly basis. The commission responds that the staff is aware of the relatively high costs of total toxicity testing, and potential expense of toxicity reduction evaluations, and expenses to permittees will be kept as low as possible without compromising the regulatory intent of this section. Procedural details of total toxicity (biomonitoring) requirements are being developed in cooperation with EPA, in order to insure that total toxicity testing procedures for federal NPDES permits and commission discharge permits are identical. The above comments will be considered in the development of these procedures.

In §307.6(d)(2)(B), concerning the implementation schedule for total toxicity testing, one commenter stated that total toxicity testing requirements should be implemented statewide immediately, rather than initially implemented on the nine priority segments listed. Another commented that the Houston ship channel should be included as a priority segment with immediate implementation of total toxicity testing requirements. The commission responds that the initial implementation of toxicity testing requirements on nine priority segments will provide an opportunity to fully develop and refine procedures for total toxicity testing. The Houston ship channel has a tremendous number of permitted discharges and this area is therefore inappropriate for inclusion in an initial implementation phase. The commission also notes that the delay until statewide implementation is only approximately six months.

In §307.6(d)(2)(D), EPA requested that documents on EPA methodologies be referred to as latest revisions. In response, this change is made as requested, and a reference to these documents as guidelines is corrected to methods. One commenter stated that the most sensitive organisms should be used for total toxicity testing. The commission responds that standard lab organisms of appro-

propriate sensitivity will normally be specified for toxicity tests, and organisms selected will also be congruent with EPA permit requirements for total toxicity testing. One commenter suggested that the reference to appropriate, sensitive aquatic organisms in §307.6(d)(2)(D) be changed to representative, sensitive aquatic organisms, since the latter phrase is used in definitions of toxicity in §307.3. In response, this change is made as suggested. In §307.6(d)(2)(E), several commenters objected to the consideration of the additional factors listed when establishing permit limits under toxicity testing procedures. The response of the commission is the same as previously presented in the discussion on §307.6(c)(3) concerning the establishment of permit limits for specific numerical criteria. In §307.6(d)(2)(E), a reference to discharge permit is changed to discharge permit limits to correct a clerical error.

In §307.7, concerning site-specific uses and criteria, the first two paragraphs are labeled (a) and (b) respectively in order to correct a clerical error. One commenter requested that reasonable control of fecal coliform bacteria concentrations should be defined. The commission responds that a precise definition cannot be applied statewide, but an example of elevated bacterial densities which cannot be reasonably controlled might occur when such densities were attributable to widespread, diffuse sources of undetermined origin throughout a major watershed. The commission also notes that the number of recreational designations restricted to non-contact recreation have been greatly reduced in this revision of the standards. In response to EPA comments, a sentence is added to §307.7(b)(1) which indicates that in classified segments where contact recreation is considered unsafe for reasons unrelated to water quality, a designated use of noncontact recreation may be assigned to fecal coliform criteria normally associated with contact recreation.

In §307.7(2)(A)(ii), concerning aquifer protection, several commenters indicated that areas other than the Edwards Aquifer should be considered for aquifer protection designation. The commission responds that expansion of the aquifer protection designation will be given future consideration when the implementation procedures of the Edwards Aquifer watershed programs have been further developed. In §307.7(b)(2)(B)(i), concerning radioactivity, one commenter stated that actions should be taken if natural levels of radioactivity in drinking water are above the federal Safe Drinking Water Act limits. The commission responds that actions to be taken in such cases are specified in 25 TAC §§289.1-289.126 (relating to Texas Regulations for Control of Radiation).

In §307.7(3)(b)(A)(Table 3), concerning aquatic life subcategories, a variety of changes were requested. EPA and others commented that the minimum dissolved oxygen criteria were too low for most of the aquatic life subcategories, especially during spawning seasons. Several commenters asked for clarification on the application and relationship of daily mean and minimum criteria. Two others recommended that procedures for site-specific determination of the aquatic life subcategories be further defined. EPA and others recommended various modi-

fications in the narrative characteristics of aquatic life subcategories, particularly the incorporation of additional factors related to aquatic habitat. In response to these comments, the commission has revised Table 3 on aquatic life subcategories to incorporate the following changes. Minimum dissolved oxygen concentrations are elevated from the proposed concentrations for intermediate and limited freshwater aquatic life uses, and for all saltwater aquatic life uses. Because some specific waters have greater natural daily variations in dissolved oxygen than is indicated by these new criteria, the possible applicability of lower dissolved oxygen minima on a site-specific basis is footnoted. As a further addition, dissolved oxygen minima are specified not to extend beyond eight hours per 24 hour day. Seasonal freshwater criteria are added which elevate dissolved oxygen criteria during the spring at water temperatures of 63 degrees-73 degrees Fahrenheit. During this period, the dissolved oxygen means and minima for limited and intermediate aquatic life are elevated by 1.0 mg/L, the mean for high aquatic life is elevated by 0.5 mg/L and the minimum by 1.5 mg/L, and the minimum for exceptional aquatic life is elevated by 1.0 mg/L. The application of dissolved oxygen models to mean criteria at steady-state, critical conditions is described in an added footnote to Table 3. The narrative descriptions of aquatic life characteristics are revised and presented in a simplified matrix format which facilitates the development of additional procedures to assign site-specific aquatic life uses. The commission is currently investigating more detailed methods for determining aquatic life uses, and these methods will be subject to EPA approval and public review. One commenter also suggested separate aquatic life subcategories for intermittent and ephemeral streams. The commission responds that the proposed subcategories and the separate intermittent stream policy in §307.4(i) provide for an adequate range of stream types, at least until the ongoing studies are completed.

In response to a request for clarification, the reference to average annual values for chemical parameters in §307.7(b)(4) is changed to averages over an annual period. EPA and others commented that instantaneous maximum criteria for chlorides, sulfate, and total dissolved solids should be considered in addition to the proposed criteria which are based on annual average values. The commission responds that the high temporal and spatial variability of these constituents creates difficulties in establishing accurate instantaneous maximum criteria, but the eventual feasibility of such criteria will remain under investigation. In §307.7(b)(5), one commenter suggested that sodium should be a criterion for the protection of agricultural water supply. The commission responds that the chloride and total dissolved solids criteria adequately represent the suitability of water for this use, but the possibility of sodium criteria may need reconsideration in the future.

In §307.8, concerning the application of standards, several commenters expressed opposition to the suspension of certain standards below critical low-flows. Others commented that critical low-flow should be at 7Q10 rather than 7Q2 conditions. The commission responds that the application of standards

above 7C2 flows provides an appropriate level of water quality protection for a state in which so many streams have very low or zero flows at 7C2 conditions. In order to further clarify the applicability of the general criteria, as recommended by commenters, those subsections of the general criteria which consist of site-specific numerical criteria are added to the list of standards in §307.8(a) that do not apply below low-flow conditions, and to the list of standards in §307.8(b) that do not apply in mixing zones. The new additions to each of these two subsections are the dissolved oxygen criteria for unclassified waters, the dissolved oxygen criteria for intermittent streams, and the fecal coliform criteria for unclassified waters.

In §307.8(b), concerning mixing zones, EPA and others requested specific definitions of mixing zone sizes. One commenter also noted that it may not always be appropriate to allow a mixing zone. The commission responds that the determination of mixing zone sizes (including consideration of negligible or zero mixing zone sizes in sensitive environments) is being developed as permit implementation procedures of the commission. Several commenters stated that the allowance of acute toxicity in a zone of initial dilution is inconsistent with EPA policy. The commission responds that zones of initial dilution are allowable under EPA guidance, and the proposed language in §307.8(b)(2) effectively limits zones of initial dilution to a small portion of the mixing zone. One commenter requested that turbidity and color criteria be exempted in the mixing zone as long as use is not impaired. The commission responds that the allowance of increases in turbidity and color which are not substantial or persistent in §307.4(b)(5) of the general criteria provides sufficient consideration for mixing of the discharge with ambient waters. One commenter stated that long series of overlapping mixing zones should be prohibited. In response, a sentence which prohibits impairment of existing and designated uses by the combined impact of a series of contiguous mixing zones is added to §307.8(b)(7). In response to another comment, the exclusion of mixing zones from "public water supply intakes" is changed to "domestic water supply intakes" in §307.8(b)(8). Several utility companies suggested that mixing zones should be allowed to encompass a drinking water supply if it can be demonstrated that MCL's for that drinking water supply will not be exceeded after treatment. The commission responds that the protection afforded drinking water supply intakes in §307.8(b)(8) is not expected to be unduly burdensome to permitted dischargers. In §307.9, concerning the determination of standards attainment, one commenter suggested that permitted dischargers should be required to conduct instream as well as effluent sampling. The commission responds that instream sampling is already required in selected discharge permits as needed. In response to a request from EPA, the title of §307.9(b) is changed from "Sample collection and preservation" to "Collection and preservation of water samples". Several commenters suggested that sampling for standards attainment should include bottom layers in stratified waters. The commission responds that selected parameters in bottom waters are sampled at many of the commission's monitoring stations around the state, but the use of these samples to

determine standards attainment is not generally feasible, particularly with respect to dissolved oxygen. EPA requested clarification on which criteria are subject to the sampling depths described in §307.9(b). In response, §307.9(b)(2) is changed to clearly indicate the depth collection procedures for chloride, sulfate, total dissolved solids, dissolved oxygen, and pH; and new §307.9(b)(3) is added to indicate that numerical criteria for toxic materials are applicable to water samples collected at any depth. One commenter suggested that samples for determining water quality standards attainment in tidal streams such as the Houston ship channel should be taken at the one-foot level instead of a composite of the mixed surface layer as indicated in §307.9(b)(2)(d). The commission responds that the use of composite samples of the mixed surface layer for determining standards attainment are a better reflection of actual water quality conditions, but the criteria used to determine the depth of the mixed surface layer is under review.

EPA commented that procedures for radioactivity measurements should also be applied to tidal waters, and in response the qualifying phrase "in nontidal waters" in §307.9(c)(2) is removed. Several commenters requested clarification on the time frames used to determine standards attainment for various criteria. In response, the following changes are incorporated in §307.9(d). The title is changed from "interpretation of results" to "Sampling periodicity and evaluation". In §307.9(d)(1), the term "chemical parameters" is changed to "chloride, sulfate, and total dissolved solids", and the procedures for averaging samples taken at different times and sampling sites are reworded. Specific sampling periodicities for standards attainment are added to §307.9(d) for bacteria, toxic materials, temperature and pH, and dissolved oxygen.

Numerous comments were received on segment specific uses and criteria contained in §307.10-Appendix A. Several of these comments concerned segments that did not have proposed changes from the previous 1984 water quality standards. One commenter requested that aquatic life uses and criteria be upgraded for the following segments: 0304-Days Creek; 0404-Big Cypress Creek Below Lake Bob Sandlin; 0406-Black Bayou; 0805-Upper Trinity River/Lower West Fork Trinity River; 0819-East Fork Trinity River; 1013-Buffalo Bayou Tidal; 1014-Buffalo Bayou Above Tidal; 1432-Upper Pecan Bayou; 1902-Lower Cibola Creek; and 2308-Rio Grande Below International Dam. Another commenter stated that the special exception for Segment 0805 which reduces the dissolved oxygen criterion to 1.0 mg/L when flows in Fort Worth are less than 80 cfs should be deleted. The commission responds that the aquatic life uses and associated criteria for these segments, as previously adopted in the 1984 water quality standards and unchanged in the proposed water quality standards, are correct as proposed based on EPA approval of use attainability analyses on each referenced segment with the exception of Segments 0805, 1013, and 1014. With respect to these three segments, a detailed analysis of Segment 0805 is scheduled for completion by May 1988 and use attainability analyses are currently being revised for Segments 1013 and 1014. Should the results of these use

attainability analyses recommend changes in the designated uses for the segments, appropriate revisions will be made to the water quality standards by amendment.

Numerous comments, both in support and in opposition, were received on the proposed changes from noncontact recreation to contact recreation for 45 designated segments. Many commenters were specifically opposed to the new designation of contact recreation in one or more of the following segments: 0804-Trinity River Above Lake Livingston; 0805-Upper Trinity River/Lower West Fork Trinity River and 0819-East Fork Trinity River. The commission responds that the proposed standards are in accordance with 40 Code Federal Regulations §131.10 and EPA policy, which requires an EPA-approved use attainability analysis for any waters not designated for contact recreation. In response to EPA comments, the fecal coliform criterion for several ship channel segments (1005-Houston Ship Channel/San Jacinto River, 1701-Victoria Barge Canal, 2437-Texas City Ship Channel, 2438-Bayport Channel, 2484-Corpus Christi Inner Harbor and 2484-Brownsville Ship Channel) designated for noncontact recreation is changed from 2,000 per 100 ml to 200 per 100 ml. Should a use attainability analysis on any of the affected segments demonstrate that contact recreation is unattainable, appropriate revisions to the water quality standards will be made by amendment.

One commenter suggested that the 4.0 mg/L dissolved oxygen criterion for Segment 0701-Taylor Bayou Above Tidal is inappropriately high and that the stream should be classified as intermittent as defined in §307.3(a)(18). The commission responds that a use attainability analysis on Segment 0701 supports the 4.0 mg/L dissolved oxygen criterion and that the proposed intermittent stream policy is not applicable to classified streams.

One commenter suggested that the aquatic life designation for Segment 0801-Trinity River Tidal be changed from high to exceptional. The commission responds that after further development of the aquatic life habitat criteria and characteristics, this segment and others may be considered for aquatic life use modifications in future revisions to the water quality standards. For the same reasons, the requests of several commenters to classify certain currently unclassified streams (e.g., above-tidal portions of Houston Ship Channel tributaries, many streams within the Big Thicket National Preserve in the Trinity and Neches Basins, Palo Duro Creek in Hansford County, and San Fernando Creek in Kleberg County) may be considered for classification with appropriate aquatic life uses in future revisions to the standards. One commenter stated that the 1.0 mg/L dissolved oxygen criterion for Segment 1007-Houston Ship Channel/Buffalo Bayou should be at least 2.0 mg/L. The commission responds that the 1.0 mg/L criterion is appropriate and was approved by EPA.

One commenter indicated that since there are agricultural and industrial water supply rights on Segments 1108-Chocolate Bayou Above Tidal and 1202-Brazos River Below Navasota River these uses should be specifically designated for these segments. The commission responds that although agricultural and industrial water supply uses may not be specifically

delineated, the historical, current, and future use of any state waters suitable for these purposes are not and will not be affected by the lack of such designation in the water quality standards.

One commenter stated that since the downstream relocation of the upper boundary of Segment 1201-Brazos River Tidal there was no longer any public water supply use in the segment. The commission responds that a permit exists to withdraw water from Segment 1201, and a portion of this water is sold for municipal use.

One commenter indicated that the criteria for dissolved substances (total dissolved solids, chloride, and sulfate) should be re-examined for the Colorado River near Austin to reduce inconsistencies with criteria in adjacent segments. Another commenter pointed out the possibility of errors in the large data base for dissolved substances in the Colorado River. Others were concerned with proposed increases in criteria for dissolved substances for some of the Highland Lakes. The commission responds that although the proposed criteria changes were justified based on the existing data and methodologies employed for criteria calculation, the proposed criteria for the entire Colorado River Mainstem (Segments 1402-1410 including 1426, 1428, and 1429) and the four major tributaries to the Highland Lakes (Segments 1414-1417) were recalculated for the adopted sections. Recalculation procedures included the following: utilization of specific conductance instead of total residue to calculate total dissolved solids, in order to expand the available data base; removal of additional outliers from the data base; re-examination of the data for long-term trends, and pooling of data between adjacent mainstem segments when differences were not statistically significant.

One commenter suggested that all numerical criteria for Segment 1806-Guadalupe River Above Canyon Lake should be the same as the new proposed Segments 1817 and 1818, the North Fork Guadalupe River and South Fork Guadalupe River, respectively. In response, the commission has re-evaluated the available data, and as a result the criteria for total dissolved solids, chloride, and sulfate in Segment 1806 are changed to slightly lower values.

One commenter stated that Segment 1811-Upper San Antonio River should be reclassified for noncontact recreation and limited aquatic life. The commission responds that the contact recreation designation is mandated by EPA policy, as previously discussed, and the high quality aquatic life use designated for this segment is supported by an EPA-approved use attainability analysis.

One commenter requested that Segments 2104 and 2107-2109 of the Nueces Basin be classified for public water supply since these segments flow into Choke Canyon Reservoir and Lake Corpus Christi. The same commenter also stated that the criteria for dissolved substances in Segment 2106 can now be lowered to the footnoted values of 250 mg/L chloride, 250 mg/L sulfate, and 500 mg/L total dissolved solids, since the anticipated upstream releases of water from Choke Canyon Reservoir are now in effect. The commission concurs and the changes have been made as requested, and the footnote to Segment 2106 in Appendix A is deleted.

Several commenters were concerned with the proposed increases in the criteria for dissolved substances in Segment 2307-Rio Grande Below Riverside Diversion Dam and Segment 2308-Rio Grande Below International Dam. The commission responds that because of the recent, partial failure of the Riverside Diversion Dam and the expressed concerns, the criteria for dissolved substances in 2307 and 2308 are changed back to the previously existing criteria as contained in the 1984 water quality standards.

In the ongoing process of determining appropriate dilution flows for recent permit actions, the commission has recalculated and corrected 7Q2 flows for several segments which are affected by upstream reservoirs, in order to eliminate consideration of any flow data prior to reservoir construction and also to include more recent data. Based on these flow recalculations, the proposed 7Q2 flows are changed for the following segments in §307.10-Appendix B: 0214, 0303, 0305, 0404, 0503, 0506, 0506, 0602, 0804, 0607, 0608, 0811, 0802, 0804, 0805, 0819, 0839, 1009, 1102, 1202, 1209, 1214, 1219, 1242, 1402, 1428, 1803, 1911, and 2112. A gaging station citation has also been corrected in Appendix B for Segment 0409.

In §307.10-Appendix C, the commission makes a clerical correction in the segment description for 0802-Trinity River Below Lake Livingston, Chambers County in the proposed description is changed to Liberty County.

• 31 TAC §§307.1-307.3

The repeals are adopted under the Texas Water Code, §28.023, which provides the Texas Water Commission with the authority to make rules setting water quality standards for all water in the state; and under the Texas Water Code, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties under the Water Code and other laws of this state.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on April 8, 1988.

TRD-8803653 William G. Newchurch  
Director  
Texas Water Commission

Effective date: April 29, 1988

Proposal publication date: October 9, 1987

For further information, please call: (512) 463-8087

• 31 TAC §§307.1-307.10

The new sections are proposed under the Texas Water Code, §28.023, which provides the Texas Water Commission with the authority to make rules setting water quality standards for all water in the state. The new sections are also proposed under the Texas Water Code, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties under the Water Code and other laws of this state.  
§307.3. Definitions and Abbreviations.

(v) Definitions. The following words and terms, when used in this chapter,

shall have the following meanings unless the context clearly indicates otherwise.

(1) Acute toxicity—Toxicity which exerts short-term lethal impacts on representative, sensitive organisms. The duration of exposure applicable to acute toxicity is normally 96 hours or less. (Direct thermal impacts are excluded from definitions of toxicity).

(2) Ambient—The natural conditions that would be expected to occur in waters unaffected or not influenced by the activities of man.

(3) Best management practice—A practice or combination of practices determined to be the most practicable means of preventing or reducing, to a level compatible with water quality goals, the amount of pollution generated by nonpoint sources.

(4) Bioaccumulative toxic—A toxic substance which has a tendency to accumulate in organisms.

(5) Chronic toxicity—Toxicity which exerts sublethal negative effects such as growth impairment and reduced reproduction, or which exerts lethality after long-term exposure, on representative, sensitive organisms.

(6) Commission—The Texas Water Commission.

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

(8) Continuing planning process—A document that describes the state's planning and management process and procedures for making water quality decisions required by the Clean Water Act, §303(e) (33 United States Code 1313).

(9) Criteria—Water quality conditions which are to be met in order to support and protect desired uses.

(10) Critical low-flow—Low-flow condition (e.g., 7Q2 flow) below which some standards do not apply. The impacts of permitted discharges are analyzed at critical low-flow.

(11) Discharge permit—A permit issued by the state to discharge effluent into waters of the state.

(12) EC50—The concentration of a toxicant that produces sub-lethal impacts on 50% of the organisms tested in a specified time period.

(13) Effluent—Wastewater discharged from any point source prior to entering a water body.

(14) Epilimnion—The upper mixed layer of a lake (including impoundments, ponds, and reservoirs).

(15) Fecal coliform—That por-

tion of the coliform bacteria group which is present in the intestinal tracts and feces of warm-blooded animals.

(16) Freshwaters—Inland waters which exhibit no measurable elevation changes due to normal tides.

(17) Halocline—A vertical gradient in salinity under conditions of density stratification that is usually recognized as the point where salinity exhibits the greatest difference in the vertical direction.

(18) Intermittent stream—A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 ft <sup>3</sup>/<sub>s</sub> is considered intermittent. Streams with perennial pools which create significant aquatic life uses are not intermittent.

(19) LC50—The concentration of a toxicant that is lethal (fatal) to 50% of the organisms tested in a specified time period.

(20) Marine waters—Waters which have measurable elevation changes due to normal tides. Marine waters are considered to be saltwater for purposes of standards application.

(21) Mixing zone—The area contiguous to a discharge where mixing with receiving waters takes place and which may not meet certain criteria applicable to the receiving water.

(22) Noncontact recreation—Recreational pursuits not involving a significant risk of water ingestion, including fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity.

(23) Nonpersistent toxic—A toxic substance that readily degrades in the aquatic environment, exhibits a half-life of less than 96 hours, and does not have a tendency to accumulate in organisms.

(24) Oyster waters—Waters producing edible species of clams, oysters, or mussels.

(25) Persistent toxic—A toxic substance that is not readily degraded and exhibits a half-life of 96 hours or more in an aquatic environment.

(26) Practical quantitation level—The lowest concentration at which a particular substance can be measured by approved laboratory methods.

(27) Salinity—The total dissolved solids in water after all carbonates have been converted to oxides, all bromide and iodide have been replaced by chloride, and all organic matter has been oxidized. For most purposes, salinity is considered equivalent to total dissolved salt content. Salinity is normally expressed in parts per thousand.

(28) Settleable solids—The volume or weight of material which will settle out of a water sample in a specified period

of time.

(29) Seven-day, two-year low flow—The lowest flow that occurs for seven consecutive days during a two-year period as statistically determined from historical data. It is the flow used for determining the allowable discharge load to a stream.

(30) Shellfish—Clams, oysters, mussels, crabs, crayfish, lobsters, and shrimp.

(31) Standards—The designation of water bodies for desirable uses and the narrative and numerical criteria deemed necessary to protect those uses.

(32) Total dissolved solids—The amount of material (inorganic salts and small amounts of organic material) dissolved in water and commonly expressed as a concentration in terms of milligrams per liter. The term is equivalent to the term filtrable residue, as used in the publication entitled, *Standard Methods for the Examination of Water and Wastewater*.

(33) Total suspended solids—Total suspended matter in water, which is equivalent to nonfiltrable residue.

(34) Total toxicity—Toxicity as determined by exposing aquatic organisms to samples or dilutions of instream water or treated effluent. Also referred to as whole-effluent toxicity.

(35) Toxicity—The occurrence of lethal or sublethal adverse effects on representative, sensitive organisms due to exposure to toxic materials. Adverse effects caused by conditions of temperature, dissolved oxygen, or nontoxic dissolved substances are excluded from the definition of toxicity.

(36) Toxicity biomonitoring—The determination of total toxicity.

(37) Water quality management program—The commission's overall program for attaining and maintaining water quality consistent with state standards, as authorized under the Texas Water Code, the Texas Administrative Code, and the Clean Water Act, §§106, 205(j), 208, 303(e), and 314 (33 United States Code 1251 et seq).

(38) Zone of initial dilution—The small area at the immediate point of discharge where initial dilution with receiving waters occurs, and which may not meet certain criteria applicable to the receiving water. A zone of initial dilution is substantially smaller than a mixing zone.

(b) Abbreviations. The following abbreviations apply to this chapter:

- (1) AP—aquifer protection;
- (2) BMP—best management practices;
- (3) AS—agricultural water supply;

(4) CFR—Code of Federal Regulations;

(5) CR—contact recreation;

(6) CPP—continuing planning process;

(7) DO—dissolved oxygen;

(8) E—exceptional quality aquatic habitat;

(9) EPA—United States Environmental Protection Agency;

(10) F—degree(s) Fahrenheit;

(11) ft <sup>3</sup>/<sub>s</sub>—cubic feet per second;

(12) H—high quality aquatic habitat;

(13) I—intermediate quality aquatic habitat;

(14) IS—industrial water supply;

(15) L—limited quality aquatic habitat;

(16) mg/L—milligrams per liter;

(17) ml—milliliter;

(18) N—navigation;

(19) NCR—noncontact recreation;

(20) NPDES—National Pollutant Discharge Elimination System, as set out in the Clean Water Act, §402 (33 United States Code 1342);

(21) O—oyster waters;

(22) PQL—practical quantitation level;

(23) PS—public water supply;

(24) 7Q2—seven-day, two-year low flow;

(25) TDS—total dissolved solids;

(26) USGS—United States Geological Survey;

(27) WQM—water quality management. §307A. General Criteria.

(a) Application. The general criteria set forth in this section apply to surface water in the state and specifically apply to substances attributed to waste discharges or the activities of man. General criteria do not apply to those instances in which surface water, as a result of natural phenomena, exhibit characteristics beyond the limits established by this section. General criteria are superseded by specific exemptions stated in this section or in §307.8 of this title (relating to the Application of Standards), or by site-specific water quality standards for classified segments. Provisions of the general criteria remain in effect in mixing zones or below critical low-flow conditions unless specifically exempted in §307.8 of this title (relating to the Application of Standards).

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uses. Baseline water quality as of November 28, 1975 (in accordance with EPA Standards Regulation, 40 Code of Federal Regulations Part 131) define existing conditions for determinations of significant degradation.

(4) When significant degradation of waters exceeding fishable/swimmable quality is anticipated, a statement that the antidegradation policy will be pertinent to the permit action will be included in the public notice for the said permit application or amendment. If no significant degradation is anticipated, the public notice will so state. The determination of existing use and the probability of significant degradation are issues upon which evidence can be introduced in permit hearings.

(5) Interested parties will be given the opportunity to provide comments and additional information concerning the determination of existing uses, anticipated impacts of the discharge, baseline conditions, and necessity of the discharge for important economic or social development if significant degradation of water quality is expected. The commissioners will decide after full satisfaction of the intergovernmental coordination and public participation provisions of the continuing planning process if the economic or social development is important enough to allow the degradation.

(6) Waste load evaluations conducted by the commission will adhere to the provisions of the antidegradation policy. If the waste load evaluation indicates that a significant degradation of waters exceeding fishable/swimmable quality is expected, the public hearing notice will so state. The commission will not approve any waste load evaluation that would allow a significant degradation of waters exceeding fishable/swimmable quality unless and until it has been demonstrated to the commission that the recommended lower water quality is necessary for important economic or social development. Permits which are consistent with an approved waste load evaluation under this antidegradation policy will not be separately subjected to the antidegradation provisions of this section unless the discharge may cause impacts on the receiving water which were not addressed by the waste load evaluation.

(7) Additional implementation procedures for the antidegradation policy are described in the continuing planning process document.

Source: The provisions of this §307.5 adopted to be effective April 29, 1988, 13 TexReg 1784.

§ 307.6. Toxic Materials

(a) Application. Standards and procedures set forth in this section apply to all water in the state, except as indicated in §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 except in small zones of initial dilution at discharge points, in accordance with §307.8 of this title (relating to Application of Standards).

(2) Water in the state with designated or existing aquatic life uses shall not be chronically toxic to aquatic life, except in mixing zones and below critical low-flow conditions, in accordance with §307.8 of this title (relating to Application of Standards).

(3) Water in the state shall be maintained to preclude adverse toxic effects on human health resulting from contact recreation, consumption of aquatic organisms, or consumption of drinking water after reasonable treatment. In addition to other provisions of this section, permitted discharges or other controllable sources shall not cause maximum contaminant levels for public drinking water supplies, as established in the federal Safe Drinking Act (42 United States Code 300f et seq.), to be exceeded after reasonable treatment by a water supply treatment plant. The commission will utilize available investigative and regulatory means to identify and control sources of toxic pollutants which cause or could potentially cause the following guidelines to be exceeded.

(A) EPA maximum contaminant levels for drinking water supplies; and

(B) United States Food and Drug Administration Action Levels for toxic concentrations in fish and shellfish tissue.

(c) Specific numerical criteria.

(1) Numerical criteria are established in the following table (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.

Parameter
Aldrin
Arsenic
Cadmium
Chlordane
Chlorpyrifos
Chromium (I)
Chromium (II)
Copper
Cyanide
DDT
Demeton
Dieldrin
Endosulfan
Endrin
Guthion
Heptachlor
Hexachlorocyclopentadiene (Lindane)
Lead
Malathion
Mercury
Methoxychlor
Mirex
Nickel
Total PCB's
Parathion
Pentachloro
Selenium
Silver
Toxaphene
Zinc

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## SURFACE WATER QUALITY STANDARDS

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and aquatic life uses. Uses for unclassified head and barge and ship canals may include navigation, contact (where not prohibited) and non-contact recreation, industrial water supply, and multiple life uses.

(f) Bacteria. A fecal coliform criterion of not more than 200 bacteria per 100 ml shall apply to all water bodies not specifically listed in Appendix A of §307.10 of this title (relating to Appendices A-C). Application of this criterion shall be in accordance with §307.7(b)(1) of this title (relating to Site-Specific Uses and Criteria).

Source: The provisions of this §307.4 adopted to be effective April 29, 1988, 13 TexReg 1784.

### § 307.5. Antidegradation

(a) Application. The antidegradation policy and implementation procedures set forth in this section shall apply to actions before the commission when such actions would increase pollutant loads to the water in the state. Such actions include permit actions, waste load evaluations, and any other miscellaneous actions, such as those related to man-induced nonpoint sources of pollution, which may impact the water in the state.

(b) Antidegradation policy. In accordance with the Texas Water Code, §26.003, it is the policy of the commission that:

(1) existing uses will be maintained and protected. Categories of existing uses are the same as for designated uses, as defined in §307.7 of this title (relating to Site-Specific Uses and Criteria);

(2) no activities subject to regulatory action which would cause significant degradation of waters exceeding fishable/swimmable quality will be allowed unless it can be shown to the commission's satisfaction that the lowering of water quality is necessary for important economic or social development. Significant degradation is defined as a lowering of water quality to more than a de minimis extent, but not to the extent that an existing use is impaired. Fishable/swimmable waters are defined as waters which have quality sufficient to support propagation of indigenous fish, shellfish, and wildlife and recreation in and on the water;

(3) outstanding national resource waters are defined as high quality waters within or adjacent to national parks and wildlife refuges, state parks, wild and scenic rivers designated by law, and other designated areas of exceptional recre-

ational or ecological significance. The quality of outstanding national resource waters will be maintained and protected;

(4) the commission will not authorize or approve any waste discharge that will result in the quality of any water being lowered below water quality standards without complying with federal and state laws applicable to water quality standards amendment.

(5) anyone discharging wastewater which would constitute a new source of pollution or an increased source of pollution from any industrial, public, or private project or development will be required to provide a level of wastewater treatment consistent with the provisions of the Texas Water Code and the Clean Water Act (33 United States Code 1251, et seq.). As necessary, cost effective and reasonable best management practices established through the Texas water quality management program shall be achieved for nonpoint sources of pollution; and

(6) application of antidegradation provisions shall not preclude the commission from establishing modified thermal discharge limitations consistent with the Clean Water Act, §316(a) (33 United States Code 1326).

(c) Antidegradation implementation procedures.

(1) The commission staff will review any wastewater discharge permit application or amendment in accordance with permitting procedures described in the continuing planning process. This review will include a preliminary determination of the existing uses of the receiving water. These existing uses will be maintained and protected.

(2) For proposed permit applications or amendments to discharge into waters exceeding fishable/swimmable quality, the commission staff will preliminarily determine if the discharge is expected to cause a significant degradation of water quality.

(3) All pollutants which could cause significant degradation of waters exceeding fishable/swimmable quality will be considered in the evaluation of waste discharge permits. For dissolved oxygen, analyses of significant degradation will utilize the same critical conditions as are used for permit reviews and waste load evaluations. For other parameters, appropriate conditions may vary. Conditions for determining significant degradation will be commensurate with conditions for determining existing

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