UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

MAY 28 2008

Ms. L'Oreal Stepney, Director
Water Quality Division (MC-145)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711

Dear Ms. Stepney:

We appreciate the opportunity to review draft language for the revisions of the *Texas Surface Water Quality Standards* and are providing comments in the enclosure to this letter. The Surface Water Quality Standards Advisory Workgroup meetings have provided forums for valuable discussions on several significant issues under consideration in the current revision.

The Environmental Protection Agency (EPA) supports the Texas Commission on Environmental Quality's (TCEQ) efforts in the development of numeric criteria for chlorophyll a in numerous reservoirs. These proposed criteria represent a significant commitment from TCEQ, and extensive coordination with numerous entities at the federal, state, and local levels. We congratulate TCEQ, and encourage further progress with additional nutrient criteria development.

The recalculation of human health criteria for toxic substances also represents a considerable effort by TCEQ staff. EPA appreciates receiving the additional information, in your letter dated April 23, 2008, regarding TCEQ's intent to adopt a methylmercury criterion of 0.7 mg/kg. We are working with the EPA Headquarters offices to review this information and will provide separate comments for methylmercury in the near future.

If you have any questions, please contact me at (214) 665-7101 or Jane Watson at (214) 665-7135.

Sincerely,

Larry Wright for

Miguel I. Flores
Director
Water Quality Protection Division

Enclosure

cc: Ms. Sidne Tiemann, TCEQ – Water Quality Standards Team (MC-150)

Texas Surface Water Quality Standards (TX WQS)
(Materials provided for May 2008 Stakeholders meeting)

§307.3. Definitions and Abbreviations

The draft definitions of noncontact recreation, primary contact recreation, secondary contact recreation are acceptable.

§307.4. General Criteria

§307.4(j). Aquatic recreation. The proposed revisions are acceptable; however, additional justification will be needed for changing the presumed use from contact recreation use to secondary contact recreation in intermittent streams without perennial pools and in non-tidal wetlands. Additional comments are included below under §307.7(b)(1).

§307.6. Toxic Materials

§307.6(c). Table 1. Criteria in Water for Specific Toxic Materials – Aquatic Life Protection.

Cadmium – EPA supports the use of updated equations for freshwater criteria. EPA's 2001 criteria document[1] also includes updated criteria for saltwater of 40 ug/l (acute) and 8.8 ug/l (chronic), which have not been included in the May 2008 handout. Incorporating the conversion factors for dissolved metals results in current recommendations of 39.76 (acute) and 8.75 ug/l (chronic). EPA recommends the adoption of the updated saltwater criteria.

Diazinon – The values proposed for acute criteria for both freshwater and saltwater are final acute values (FAVs), rather than EPA's recommended criteria. EPA requests justification for this approach, if this is the intent. In the case of diazinon, the freshwater acute and chronic criteria recommendations are the same value. The derivation or EPA's criteria recommendations is found on page 45 of the 2005 criteria document and the processes are the same as used for most other substances.[2] The acute criterion (freshwater) was calculated by dividing the FAV of 0.3397 ug/l by a factor of 2, which results in a criterion of 0.17 ug/l. The chronic criterion was calculated by dividing the FAV by an Acute to Chronic Ratio (ACR), which was set at a value of 2 (additional discussion on pages 11-12 of the criteria document). Since the ACR is the same value as the "2" in the derivation of the acute criterion, both criteria are the same value. This comment also applies to the saltwater criterion for diazinon, which uses a FAV of 0.8185 ug/l. In some cases, it may be appropriate to recalculate EPA's aquatic life criteria by removing data for species not present in Texas. However, this is not likely to result in less stringent criteria for diazinon as the four most sensitive freshwater species in Table 3 of EPA's criteria document are all found in Texas. For the saltwater criteria, only nine genera are included in Table 3 and all are found in Texas.

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[1] U.S. EPA. 2001. *2001 Update of Ambient Water Quality Criteria for Cadmium.* Office of Water. Washington, D.C. (EPA-822-R-01-001). 166 pp. available at: http://www.epa.gov/waterscience/criteria/aqualife/cadmium/index.html

[2] U.S EPA. 2005. *Aquatic Life Ambient Water Quality Criteria for Diazinon.* Office of Water. Washington D.C. . (EPA-822-F-05-006). 85 pp. available at: Aquatic Life Ambient Water Quality Criteria for Diazinon - Final (PDF)

Dieldrin – The draft standards include a revised acute criterion 1.7 ug/l for freshwater. EPA also obtained this value by removing data for salmon, trout and three species of stoneflies found in Table G2 of EPA's "1995 updates" for several substances.[3] The recalculation produced a FAV of 3.426 ug/l, which could be used with the ACR of 8.53 to calculate a revised chronic criterion of 0.40 ug/l. The current chronic criterion of 0.002 ug/l is based on EPA's 1986 "Gold Book."[4]

Endrin - The acute freshwater criterion of 0.086 ug/ from EPA's "1995 updates" is included in the draft standards; however, the updated chronic criterion of 0.036 ug/l for freshwater is not included. The current chronic criterion of 0.002 ug/l is based on EPA's 1986 "Gold Book."

Hexachlorocyclohexane (Lindane) – EPA requests justification for the acute freshwater criterion of 1.23 ug/l. We recalculated the freshwater acute criterion in the "1995 updates" by removing data for trout, salmon and stonefly and obtained a acute criterion of 1.07 ug/l.

Pentachlorophenol – EPA has published updated equations for freshwater criteria. Although the saltwater criteria in the current TX WQS have been recalculated by removing genera not found in Texas, the current freshwater criteria are based on the equations in EPA's 1986 criteria document. The updated acute criterion is slightly more stringent than EPA's previous recommendation, while the chronic criterion is slightly less stringent. EPA recommends proposing freshwater criteria of $e^{(1.005(pH)-4.869)}$ (acute) and $e^{(1.005(pH)-5.134)}$ (chronic).

Tributyltin - EPA supports the adoption of the updated chronic criterion for saltwater; however, it is not clear why other updated criteria have not been included. EPA's 2003 criteria document also includes an acute freshwater criterion of 0.46 ug/l, a chronic freshwater criterion of 0.072 ug/l, and an acute saltwater criterion 0.42 ug/l.[5]

<u>§307.6(d). Table 2 – Criteria in Water for Specific Toxic Materials.</u>

EPA appreciates the use of procedures found in the 2000 Human Health Methodology for updating human health criteria in Table 2. One component of the updated methodology is use of a Relative Source Contribution (RSC). We believe that a RSC value was used in calculating criteria for thallium and possibly for chlorobenzene. However, it appears that an RSC was not used for the following substances where EPA has published a recommended RSC: cyanide, o-dichlorobenzene, 1,1 – dichloroethylene, endrin, ethylbenzene hexachlorocyclohexane (lindane), hexachlorocyclopentadiene, and toluene. For toluene, use of the RSC in the fish consumption value produces a criterion of 4005 ug/l and would also result in a water + fish value (343 ug/l) which is lower than the MCL-based criterion of 1000 ug/l. This result may be applicable to additional substances in the above list.

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[3] U.S. EPA. 1996. *1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water*. Office of Water. EPA-820-B-96-001. Washington, D.C. 112 pp. (not available on-line)

[4] U.S. EPA. 1986. *Quality Criteria for Water*. Office of Water Regulations and Standards, Washington DC. EPA 440/5-86-001. 477 pp. available at: http://www.epa.gov/waterscience/criteria/library/goldbook.pdf

[5] U.S. EPA. 2003. *Ambient Aquatic Life Water Quality Criteria for Tributyltin (TBT) - Final*. Office of Water. (EPA-822-R-03-031). Washington, D.C. 138 pp. available at http://www.epa.gov/waterscience/criteria/tributyltin/

Aldrin - Using a cancer potency factor of 17 mg/kg-day and a BCF of 4670, we calculated a criterion of 0.00049 ug/l for consumption of water + fish. If these are the same assumptions used by TCEQ, please review the criterion calculation for this substance. EPA recommends using the calculated value of 0.0005 ug/l for the fish only criterion, rather than rounding up to 0.001 ug/l.

Anthracene - Using a reference dose of 0.3 mg/kg-day and a BCF of 30, we calculated a criterion of 26,786 u/l for consumption of water + fish. If these are the same assumptions used by TCEQ, please review the criterion calculation for this substance. The MCL-based criterion of 100 ug/l is more protective than the risk-based water + fish criterion.

Antimony – EPA's current criteria recommendations for antimony include a RSC of 40%. Without using this value, EPA still obtains a different value for the water + fish criterion. Using a reference dose of 0.0004 mg/kg-day and a BCF of 1, we calculated a criterion of 1,071 ug/l. The MCL-based criterion of 6 ug/l is more protective than the risk-based water + fish criterion, but less protective if the RSC is incorporated. Also, there is typographical error in the CASRN (remove a "7').

Arsenic – Risk-based values are proposed to replace the current criterion of 50 ug/l (based on the previous MCL). Since EPA is reassessing the cancer potency factor for arsenic used in the agency's recommended CWA criteria, TCEQ may wish to use the updated MCL of 10 ug/l for arsenic.

Bis (chloromethyl) ether – Using a cancer potency factor of 146 mg/kg-day (converted with a ¾ scaling factor) and a BCF of 0.63 (corrected value from an error in EPA's 2002 human health matrix), we obtained the values found in the May 2008 handout. However, it may not be appropriate to use the conversion from ⅔ to ¾ for this substance. EPA and TCEQ staff previously discussed this issue in late 2006 and early 2007. Region 6 sent questions to EPA Headquarters, but did not receive a final response. We will reinitiate discussions with the Headquarters experts on the conversion of the scaling factors. If it is not appropriate to convert the scaling factors, the criteria would be 0.0016 ug/l (water + fish consumption) and 0.29 ug/l (fish only consumption).

Chlorobenzene – Using a reference dose 0.02 mg/kg-day, a BCF of 10.3 and a RSC of 20%, we calculate criteria of 86 ug/l (water + fish) and 1040 ug/l). If these are the same assumptions used by TCEQ, please review the criteria calculations for this substance.

Chloroform – We can not match the recalculated criteria using a reference dose of 0.01 mg/kg-day and a BCF of either 3.5 (from EPA's 2002 matrix) or 35 from TCEQ's spreadsheets from the the 2000 TX WQS. Please review the calculations.

1,2 Dibromoethane - Using a cancer potency factor of 2 mg/kg-day and a BCF of 9.4 (from the spreadsheet for the 2000 TX WQS), we calculated a criterion of 0.16 ug/l for consumption of water + fish and a criterion of 2.13 ug/l for consumption of fish only. If these are the same assumptions used by TCEQ, please review the criteria calculations for this substance. Please note that this was one of the substances included in previous discussions on conversion of the scaling factors.

1,2 Dichloroethane – Using a cancer potency factor of 0.091 mg/kg-day and a BCF of 1.2, we calculated a criterion of 366 ug/l for consumption of fish. For consumption of water + fish, we calculated a criterion of 3.8 ug/l, which is less than the MCL-based value of 5 ug/l. The spreadsheets used for the 2000 TX WQS include a BCF of 39.8. Use of the higher BCF is acceptable, but would produce lower than found in the draft standards or in EPA's calculations.

Dieldrin – EPA recommends using the calculated values of 0.0005 ug/l for both criteria, rather than rounding up to 0.001 ug/l.

Dioxins/Furans – EPA supports the use of additional congeners/isomers and toxic equivalency factors (TEFs). We reviewed the list using EPA's 2007 regulation for reporting dioxin under the Toxic's Release Inventory .[6] Should the TEF for OCDD be 0.0003 rather than 0.003?

Heptachlor - Using a cancer potency factor of 4.5 mg/kg-day and a BCF of 11200, we calculated criteria of 0.00079 ug/l for both water + fish and fish only. If these are the same assumptions used by TCEQ, please review the criteria calculations for this substance.

Heptachlor epoxide - Using a cancer potency factor of 9.1 mg/kg-day and a BCF of 11200, we calculated criteria of 0.00039 ug/l for consumption of water + fish and fish only. If these are the same assumptions used by TCEQ, please review the criteria calculations for this substance.

Hexachlorocyclohexane (alpha) – Using a cancer potency factor of 6.3 mg/kg-day and a BCF of 130, we calculated criteria of 0.026 ug/l (water + fish) and 0.048 ug/l (fish only). If these are the same assumptions used by TCEQ, please review the criteria calculations for this substance.

Hexachlorocyclohexane (beta) – Using a cancer potency factor of 1.8 mg/kg-day and a BCF of 130, we calculated criteria of 0.09 ug/l (water + fish) and 0.17 ug/l (fish only). If these are the same assumptions used by TCEQ, please review the criteria calculations for this substance.

Methylmercury – EPA will provide a separate review of the tissue criterion of 0.7 ug/kg. A separate CASRN number is available for methylmercury (22967-92-6), which could be used in Table 2.

Methyl Ethyl Ketone – The criteria are acceptable, but we calculated slightly higher values using a reference dose of 0.6 mg/kg-day and a BCF of 1 (obtained from TCEQ's spreadsheets for the 2000 TX WQS). If these are the same assumptions, TCEQ may wish to re-run the calculations to see if criteria of 13,941 ug/l (water + fish) and 1.61E+06 ug/l (fish only) are obtained.

Nickel – The criteria are acceptable, but it may be clearer to identify the fish consumption value as 1040 ug/l, rather than 1.14E+03 ug/l.

§307.6(d)(3)(A). We appreciate the correction of the bioconcentration factors. For the reference to EPA's 2002 criteria matrix, please insert "*Calculation*" between "*Criteria*" and "*Matrix*."

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[6] U.S. EPA. 2007. Dioxin and Dioxin-like Compounds; Toxic Equivalency Information; Community Right-To-Know Toxic Chemical Release Reporting. *Federal Register*, Vol 72:26544-26554. available at: http://www.epa.gov/tri/lawsandregs/teq/TRI%20TEQ%20Final%20Rule.pdf

§307.6(d)(8)(A) and (B). The references to paragraph (3)(G), regarding use of the MCL where this value is more stringent, should be updated to paragraph (3)(H) if the changes in the preceding paragraphs of subsection (d)(8) are retained in the proposed standards.

§307.6(e)(2). General provisions for controlling total toxicity. The removal of item (E) for toxicity due to diazinon is acceptable; however, we have comments on items (A) and (D). Item (A) reads:

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

Where an effluent "...has a significant potential for exerting toxicity in receiving waters..." Federal regulations at 40 CFR §122.44(d)(1) require permit limits to control the toxicity. Whole effluent toxicity biomonitoring (also known as WET monitoring) is required of all discharges classified as "Majors" and those minors with suspected toxicity. The standard should be revised to preclude any misunderstanding.

Item (D) of paragraph (2) reads:

> If toxicity biomonitoring results indicate that a discharge is exceeding the restrictions on total toxicity in this section, then the permittee shall conduct a toxicity identification evaluation and toxicity reduction evaluation in accordance with permitting procedures of the commission. As a result of a toxicity reduction evaluation, additional conditions may be established in the permit. Such conditions may include total toxicity limits, chemical specific limits, and/or best management practices designed to reduce or eliminate toxicity.

EPA believes that toxicity reduction evaluation (TRE) and toxicity identification evaluation (TIE) requirements should be established in the implementation procedures rather than as water quality standards. While EPA does recommend that permittees perform multiple TIEs as a part of a TRE study to resolve toxicity, we do not recommend that the water quality standards *require* a TIE, as implied by the use of the word 'shall'. This is a tool that may be used by the permittee to help in identifying the toxic agent. To our knowledge, neither TCEQ nor EPA Region 6 has ever *required* a permittee to perform a TIE, and therefore the standard is not being met. The decision on whether or not to perform TIEs should be left up to the permittee. Certainly a TIE is not necessary in every case, and a standards-based requirement, if used, could result in many permittees expending resources unnecessarily. Likewise, not every situation may require or result in a TRE – item (D) removes a great deal of TCEQ's flexibility by forcing these procedures. EPA recommends TCEQ remove references to performing TREs/TIEs from the standards and address these issues in the standards implementation procedures.
In addition, the water quality standards state that a TRE must be completed and that the result of the TRE may be a chemical specific limit, a BMP, or a WET limit. EPA does not recommend completion of a TRE as a prerequisite to any of the referenced actions. In any event, this language is inconsistent with Federal regulations at 40 CFR §122.44(d)(1). The phrase "conditions may be established" should be replaced by the phrase "conditions must be established..."

§307.7. Site-specific Uses and Criteria

§307.7(b)(1). Recreation. The uses and associated criteria for primary contact recreation 1 (freshwater and saltwater) and primary contact recreation 2 (freshwater) are acceptable. The risk levels for these uses are within the range that EPA has determined to be acceptable for protection of the general population.

The criteria associated with the secondary contact recreation use (freshwater) and the noncontact recreation use (freshwater and saltwater) are also acceptable. However, the revision of the presumed contact recreation use to secondary contact recreation for intermittent streams without perennial pools and non-tidal wetlands will require additional justification, such as a use attainability analysis.

Under item (A)(v), the use of enterococci as the indicator for highly saline inland water bodies is acceptable. There may be a typographical error in the single sample criterion for the primary contact recreation 1 use. If the assumptions used to calculate this value are a risk level of 0.8, an 82% confidence level, and a log standard deviation of 0.4, the enterococci criterion is 78 per 100 ml, rather than 79 per 100 ml.

§307.7(b)(2). Domestic water supply. EPA supports the adoption of a sole-source drinking water supply subcategory, but recommends adding language under item (A)(ii) to include protection of groundwater resources. Since the draft language is based on other state regulations (30 TAC Chapter 321, Subchapter B – Concentrated Animal Feeding Operations), it may be appropriate to include protection of groundwater in a separate sentence, rather than adding a fourth factor. We suggest the following language: "a surface water source that exerts a direct influence on the physical and/or chemical characteristics of ground water serving a ground water well that is a source of public drinking water supply." Also, should language under item (B) be modified to read "...apply to [both] all domestic water supply use subcategories...?"

§307.7(b)(3). Table 3 – Aquatic Life Subcategories (Table 4 in current WQS). EPA supports the use of expanded descriptions for aquatic life subcategories. We agree with recommendations provided by other agencies at the May 2008 stakeholders meeting to retain the aquatic life attributes found in the current TX WQS and to modify the description for minimal aquatic life to include systems which are not "extremely altered" (i.e., intermittent streams).

§307.7(b)(4)(E). Nutrient criteria. EPA recommends revising the proposed provision to read: "Numeric or narrative criteria to preclude excessive growth..." If a definition of nutrient criteria is included in §307.3(a), we also recommend that it reference both narrative and numeric values.

§307.8. Application of Standards

§307.8(a)(1). EPA supports the proposed use of alternative low-flow values for protection of aquatic communities in spring-fed streams. Although EPA considers the calculated value for a 7Q2 (or harmonic mean) low flow in a specific segment to be an implementation action, narrative provisions for critical low flow are considered to be water quality standards subject to EPA approval under CWA §303(c). Where site-specific low flow values such as the 5th percentile for springfed streams and the 0.1 percentile for springfed streams are used in lieu of a

7Q2 flow, use of those flows are subject to EPA approval as water quality standards. This could be accomplished in two ways: (1) the calculated value for each of the spring-fed streams could be included in Appendix A with a footnote, as already found for segment 1814 – San Marcos River or (2) a narrative provision for calculation of the alternate flow values could be included in the WQS (possibly in §307.8(a)(1)).

§307.9. Determination of Standards Attainment

§307.9(c)(1). In addition to the updated references, the citation of "40 CFR 36" should be correct to read "40 CFR 136" (insert "1").

§307.9(c)(3). Removal of paragraph (c)(3) from the current standards and the use of paragraph of (c)(2) seems to confine measurement of dissolved oxygen in all water body types (for standards compliance purposes) to a single sample taken near the surface. Items (B) and (C) from (c)(3) are more consistent with TCEQ's monitoring procedures for impounded waters and tidal waters.[7] This document includes measurement of vertical profiles of the entire water column, or at depth (between 1 foot and one half the depth of the mixed surface layer) in stratified waters, would be required. Will assessments of dissolved oxygen data for standards compliance in all water types be solely based on near surface measurements with this change? EPA recommends that the rule maintain some measure of specificity on the applicability of measurements taken at depth in deep water systems.

§307.9(e)(4). Toxic Materials. The draft standards include changing from an average to a median for assessment of human health criteria. EPA recommends the use of the mean when assessing human health criteria (or geometric means for highly skewed data). The following text from Appendix C of EPA's CALM guidance provides a good discussion of the concept of using measures of central tendency vs. extreme values in this type of assessment.[8]

> "The choice of whether to measure central tendency or extreme values in a population distribution usually depends on whether we want some convenient means of characterizing the "average" condition in the population or if we want to know the magnitude of the "best" or "worst" conditions in the population. In the former situation we would focus on the mean or median. For example if some sort of remedial action had been applied to reduce nutrient loading in a body of water, we might want to compare mean or median concentrations of various phosphates or algal abundances before and after treatment to determine if there had been a "general" improvement in the body of water. Alternatively, if we had human health concerns associated with consumption of fish tissue containing mercury above some threshold concentration, we might want to estimate the 95th percentile of tissues concentrations of mercury in the resident fish population. The reason for this is that if 5% or more of the fish have tissue levels above a critical threshold for human health effects, there would be at least a 1/20 chance of toxic

[7] TCEQ. 2003. *Surface Water Quality Procedures Manual*-Volume I. Report No. RG-415. Texas Commission on Environmental Quality, Austin, TX. 198 pp.

[8] U.S. EPA, 2002. *Consolidated Assessment and Listing Methodology, Toward a Compendium of Best Practices, First Edition. July, 2002.* Office of Wetlands, Oceans and Watersheds. Washington, D.C. available at: http://www.epa.gov/owow/monitoring/calm.html.

exposure due to human consumption of those fish. This would be so regardless of the magnitude of the population mean or median mercury concentration. In other words, interest focuses on the extremes (e.g., the 95th percentile) because it is only the extremes that are likely to effect human health."

The use of a median will typically smooth out outliers to provide a better description of average conditions. However, for protection of human health, extreme values are more of a concern. The use of an average or mean incorporates magnitude more than with use of a median.

Appendix A – Site-specific Uses and Criteria for Classified Segments

EPA supports the designation of the seagrass uses for the segments identified in TCEQ's May 2008 handout, as well as the stepwise process for development of uses and criteria to protect this critical resource. Activities of participating agencies of the Seagrass Monitoring Workgroup may support the development of narrative or numeric criteria for consideration in future WQS revisions. Such criteria could focus on the light requirements of seagrasses or the relative importance of suspended solids, chlorophyll a, and other light absorbing and light scattering substances. As a longer-term project, numeric criteria for nutrients may be appropriate to protect seagrasses from excessive epiphytic algal growth and the effects of excessive macro-algal growth. The state could also develop criteria reflective of the biological health of seagrass communities. Another biological measure would be to establish aerial coverage of seagrasses that can be monitored through aerial or satellite imagery.

Appendix E – Site-specific Toxics Criteria

EPA compared the draft revisions for Appendix E with our records and offers the following comments:

- segment 0501 (Dupont): Should an extension of "-000" be added to TDPES #00475?
- segment 1006 (Texas Genco): We believe the upper end of the site description for this WER should be Spring Gully, rather than Spring Creek.
- segment 1008 (San Jacinto River Authority): Should the extension for TPDES permit #12597 be "001" rather than "000?";
- segment 2431 (ISP Technologies): The May 2008 handout includes a WER of 2.0 for this facility; however, our records indicate that a WER of 1.88 was determined to be "approvable."
- segment 2481 (City of Ingleside): During review of the supporting documentation copper and zinc WERs for this facility, it was determined that a copper WER of 2.17 was "approvable." It is also acceptable to retain the WER of 2.0 in the 2000 TX WQS.
- segment 2485 (City of Corpus Christi): Should the extension for TPDES #10401 be identified as "003," rather than "001?"

The site descriptions for WERs within the following segments are highlighted in the May 2008 handout: 0403 (Johnson Creek Reservoir), 0404 (Welsh Reservoir), 0501 (Sabine River Tidal), 0806 (West Fork Trinity River), 1201 (Brazos River Tidal), 1236 (Ft. Phantom Hill Reservoir), 1242 (Lake Creek Reservoir), 1412 (Red Draw Reservoir), and 1701 (Victoria Barge Canal – two WERs). If the highlighting indicates that closer review of the area for application of the WER is needed, EPA agrees. Several of these WERs were approved as part of the 2000 WQS. We re-reviewed the files for the two aluminum WERs and two copper WERs in reservoirs (segments 0403, 0404, 1236 and 1242) and believe that it is appropriate to include footnote 3 for application of the WER to the entire water body for these four studies.

EPA has also completed review of several WER studies which have not been included in the May 2008 handouts. The table below includes these WERs which were found to be technically "approvable" by both TCEQ and EPA, but public participation on the site-specific criteria has not been completed due to timing of permitting actions.

Segment	TPDES	Facility	Parameter	WER
0404	10575-004	City of Mount Pleasant	Copper	7.16
1009	13296-002	Harris County MUD No. 358	Copper	8.47
1014	12726-001	Harris County MUD No. 155	Copper	4.65
1113	10539-001	City of Clear Lake Water Authority	Copper	1.19
1209	02120-000	Texas Municipal Power Agency	Aluminum	6.81

Final studies for WERs developed by International Paper in Texarkana (TPDES #01339-000) and the Cinco Municipal District (TPDES #13558-001) are under review by EPA.

Appendix F – Site-specific Nutrient Criteria

EPA requests supporting documentation regarding TCEQ rationale in protecting water quality by setting relatively high chlorophyll a criteria. We understand that TCEQ staff are recalculating chlorophyll criteria with different procedures, but this issue may still apply with newer criteria. The May 2008 handout includes following segments with chlorophyll a criteria above 20 ug/L:

0219 – Lake Wichita (42.5 ug/l)
0229 – Lake Tanglewood (30.38 ug/l)
0302 - Wright Patman Lake (24.7 ug/l)
0509 – Lake Murval (33 ug/l)
0803 – Lake Livingston (24.95 ug/l)
0818 – Cedar Creek Reservoir (23.47 ug/l)
0823 – White Rock Lake (31.78 ug/l)
0830 – Benbrook Lake (21.9 ug/l)
1210 – Lake Mexia (26.38 ug/l)
1212 – Sommerville Lake (30.1 ug/l)
1222 – Proctor Lake (29.58 ug/l)
1425 – O.C. Fisher Reservoir (27.2)
2312 – Red Bluff Reservoir (20.3 ug/l)

These values represent open, deep water conditions, and would do not seem to be protective of the water bodies, especially shallows areas and coves, or downstream water bodies. We concur with TCEQ's approach to define "least-impacted" reservoirs, and individual reservoir selection. The above chlorophyll a values, however, do not seem consistent with least-impacted conditions.

One option discussed at the September 2007 stakeholders meeting included setting a minimum chlorophyll a criterion of 5 ug/l for certain reservoirs, as this value is often used as an Ambient Water Reporting Limit (AWRL). The draft criteria provided in the May 2008 materials do not use this approach. EPA supports using these lower values, where ever justified through data analysis, rather than a default value based on current quantification limits.

EPA understands that TCEQ is also considering the use of nitrate-nitrite data as a surrogate for total nitrogen (TN), either as numeric criteria or as screening values. We request supporting documentation for this effort, as well as documentation of any other water bodies or nutrient – related criteria TCEQ intends to propose. We would like to review any documentation for the nutrient criteria prior to submittal of adopted standards.