



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 6  
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WATER QUALITY DIVISION

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

Subject: Revisions to Whole Effluent Toxicity components of the TPDES program

*L' Oreal*  
Dear Ms. Stepney:

In my letter dated February 24, 2005, I requested that each State work with Region 6 to develop a mutually acceptable strategy directed toward implementing a predictive approach to determining reasonable potential for whole effluent toxicity (WET). I also requested the Region 6 states to begin developing requirements to establish WET limits for sub-lethal effects (e.g., growth or reproduction), where required by applicable water quality standards, to fully comply with NPDES regulations at 40 CFR Part 122.44(d)(1).

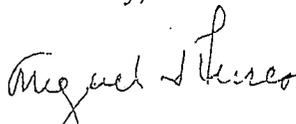
As you know, EPA Office of Water's Permitting for Environmental Results (PER) process identified the lack of these program components as a significant weakness in the Region 6 NPDES permitting program. To ensure the program is in full compliance with Federal regulations, Region 6 and its states must incorporate these permitting practices into their NPDES permits.

During the transitional period, EPA has been actively supporting our states through various activities, including: Region 6 / State WET meeting (April 6, 2005); technical assistance visits to each state agency on revising its rules and implementation procedures; public outreach via presentations at the annual meetings for the New Mexico Municipal Wastewater Association, the Oklahoma City MS4 conference and the Arkansas Environment Federation; and a two-day state of the science NPDES WET workshop at Region 6 in Dallas. Region 6 is committed to working closely with you to answer questions, resolve impediments to State NPDES WET program revisions and to provide any support you and your staff may need to implement these requirements.

I am enclosing a copy of the final EPA Region 6 NPDES WET Implementation Strategy. It has been implemented in EPA Region 6 issued permits since May 2005. I encourage TCEQ to adopt a similar strategy to be implemented in TPDES permits.

Please provide me with a status update, by April 1, 2006, on the WET revision initiative within your agency, including identification of milestones that will allow TCEQ to complete the tasks necessary to implement the revisions in NPDES permits issued beginning January, 2007. Failure to fully adopt all WET requirements in a timely manner places both the TCEQ and Region 6 at risk with respect to administration of the NPDES permitting program. My staff and I are fully committed to assisting TCEQ in any way we can in developing and implementing your strategy. If you have questions or would like to discuss this further you may call me or your staff may contact Claudia Hosch at (214) 665-6464 or via e-mail at [hosch.claudia@epa.gov](mailto:hosch.claudia@epa.gov).

Sincerely,



Miguel I. Flores  
Director  
Water Quality Protection Division.

Enclosure

cc: Mr. Martin Maner, ADEQ  
Mr. Chuck Brown, LDEQ  
Ms. Marcy Leavitt, NMED  
Mr. Derek Smithee, OWRB  
Mr. Jon Craig, ODEQ

bcc: Division Reading File	6WQ
Branch Reading File	6WQ-P
Bill Honker	EPA R6, WPD
David Gillespie	EPA R6, ORC
Claudia Hosch	EPA R6, NPB
Willie Lane	EPA R6 NPB
Phillip Jennings	EPA R6, NPB
James Hanlon	EPA, OWM
Linda Boornazian	EPA, OWM/WPD
Thomas Lavery	EPA OWM/WPD
Stephen Sweeney	EPA OGC

## EPA Region 6 WET Permitting Strategy

May, 2005

This strategy is designed to implement regulatory requirements established in 1989 and guidance developed since that time. The Clean Water Act and federal regulations at 40 CFR § 122.44(d)(1) establish the basis for whole effluent toxicity (WET), or biomonitoring, requirements for wastewater discharge permits issued under the NPDES permitting program. The applicable federal regulations require that the permitting authority determine, during the permit development period, whether the reasonable potential exists for an effluent to cause or contribute to an excursion above a State's narrative or numeric criterion for the protection of aquatic life. If reasonable potential is found to exist, WET limits must be included in the permit. A chemical-specific limit may be established in lieu of a WET limit where the permitting authority demonstrates, in the fact sheet, that the chemical limit will preclude toxicity at unacceptable levels. All available, valid and relevant information will be used in making permitting decisions. EPA Region 6 WET permitting practices follow the current agency policy on independent applicability.

References to sub-lethal effects in this document apply only to chronic testing. Where the permit establishes 7-Day Chronic test requirements, the reasonable potential analysis will be performed for both lethal and sub-lethal effects. Where the permit establishes 48-Hour Acute test requirements, the reasonable potential analysis will be performed on lethal effects.

### Applicability

WET requirements are established for all Region 6 discharges classified as majors (e.g., POTW  $\geq$  1.0 mgd design flow) with the exception of once-through, non-contact cooling water discharges to which no chemical treatment is added. WET requirements will also be applied on a case-by-case basis to minor discharges with known or suspected toxic potential, or which are designed to discharge  $\geq$  0.5 mgd with a chlorine residual. As an option in such cases, WET testing may not be required if the permittee agrees to a compliance schedule to install dechlorination to meet a non-detect total residual chlorine limit.

### Reasonable Potential

As applicable, reasonable potential to cause or contribute to an exceedance of State narrative criteria for the protection of aquatic life will be determined by the method established in EPA's Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, second printing (see Box 3-2, page 53). This approach is also provided in federal regulations pertaining to wastewater discharges into the Great Lakes, at 40 CFR § 132, Appendix F, Procedure 6. Where a facility does not intend to significantly alter the effluent quality or quantity during the permit term, has a critical dilution of 90% or greater, has performed quarterly testing and has demonstrated no significant-lethal-or-sub-lethal effects during the previous five-year period, a finding of no reasonable potential may be made.

## WET Limits

A WET limit is a permit control required where the reasonable potential exists for an exceedance of the State water quality criteria for protection of aquatic life and a specific toxicant has not been identified and controlled via a toxicity reduction evaluation (TRE). If, during permit development, reasonable potential is found to exist for lethal and/or sub-lethal effects, WET limits will be included in the permit. A compliance schedule of up to three years duration can be included. The minimum monitoring frequency for species under a WET limit is once per quarter for the life of the permit. WET limits may be removed from a permit after the first five years in effect, based on a demonstration of no lethal or sub-lethal effects during that period.

## Monitoring Frequencies

### Facilities with WET Limits

Normally, the minimum monitoring frequency for species under a WET limit is once per quarter for the first five years after a WET limit goes into effect.

### Major Dischargers

For major dischargers, the *minimum* monitoring frequency for WET is once per quarter for the invertebrate and vertebrate test species, with a potential reduction in testing frequency after completing one year of testing with no lethal or sub-lethal effects (see Region 6 WET Monitoring Frequency Guidance, 06/30/00). Some facilities pose a more significant concern (e.g., POTWs  $\geq 20$  mgd and petroleum/chemical refineries) and have historically been required to perform WET monitoring on a quarterly basis, for at least one test species, for the life of the permit. The minimum WET monitoring frequency reduction option does not apply to these discharges.

### Minor Dischargers

Testing frequencies for minor dischargers and dischargers with a critical dilution of  $<1.0\%$  will be established on a case-by-case basis.

### All Dischargers

When a test failure occurs, the monitoring frequency will automatically increase to once per month for the next three months. The purpose of this testing is to determine whether toxicity is present at a level and frequency that will provide toxic samples to use in performing a toxicity reduction evaluation (TRE). The additional tests are not performed for the purpose of confirming whether the original test failure was 'real.' If no additional test failures occur during the three-month period, the testing frequency will return to once per quarter for the life of the permit or until another test failure occurs. If multiple intermittent test failures occur, a TRE may be required, and the testing frequency may be increased for the affected test species.

### Toxicity Reduction Evaluations / Toxicant Identification Evaluations (TREs/TIEs)

Where reasonable potential is not demonstrated and the permit is issued with WET monitoring requirements only, the permit will contain trigger language to require a TRE. A TRE is a 28-month study to identify sources and controls for toxicants in effluents. A TIE is a set of effluent manipulations that is used to identify specific toxic compounds in a sample known to be toxic. EPA does require TREs but does not typically require TIEs. Generally, permittees are allowed latitude in choosing how they proceed through a TRE and come into compliance. A TRE will usually result in either WET limits (if a specific toxicant is not identified, confirmed and controlled), or chemical limits. In some cases a best management practice (BMP) may be included as a permit control. If additional testing indicates that a chemical-specific limit or a BMP does not result in controlling toxicity, and reasonable potential exists; the permit then will be revised to include WET limits.

### Lethal Effects

Region 6 will implement TREs and limits for lethal effects as it has historically. A TRE for lethal effects is triggered by failure in a scheduled test followed by failure in one or more tests performed during the following period of increased frequency.

### Sub-Lethal Effects

Due to the potential difficulty of resolving toxicity related, in some cases, to identifying toxicants responsible for sub-lethal effects, EPA Region 6 will take a graduated approach to TREs and implementation of WET limits where significant sub-lethal effects are demonstrated only in effluent concentrations greater than 75% effluent. Where significant effects are demonstrated at effluent concentrations of 75% or less, aggressive TREs have demonstrated a high degree of success. While TREs may still be required, Region 6 will implement limits for sub-lethal limits at the 80% effluent level at this time. A TRE for sub-lethal effects is triggered by failure in a scheduled test followed by sub-lethal failures in two or more tests performed during the following period of increased frequency.

### IN ADDITION:

1. Where WET testing has demonstrated a significant toxic effect within two years of the RP determination made during permit development, and the facility has not completed significant relevant improvements, a WET limit will be incorporated into the permit because that data would still be valid and representative, and would indicate that reasonable potential continues to exist.
2. Where there are < 10 test results per species at the time of permitting; and RP is found to exist based solely on the paucity of data, the Agency and permittee may agree to include a permit condition to allow up to twelve months to develop the additional test data necessary to perform another RP determination, using all the data, to determine whether a WET limit is necessary or not.

3. State agencies authorized to administer the NPDES permitting program will decide whether to change results reporting from NOECs to Toxic Units (TUs). EPA Region 6 recommends the use of TUs to simplify the reasonable potential calculation.
4. EPA will consider an alternative WET reasonable potential determination procedure should an agency authorized to administer the NPDES permitting program formally submit one for review. EPA anticipates no basis to delay permitting decisions pending such reviews/revisions.