

WHOLE EFFLUENT TOXICITY (WET) TESTING DID YOU KNOW?

Purpose: The purpose of this PROVIsion is to ensure that our clients are made aware of some of the issues regarding whole effluent toxicity (WET) testing, also known as biomonitoring, that are either buried in the permit language or perhaps relatively recent changes to the permit requirements.

1. Retesting and Triggers for Toxicity Reduction Evaluation (TRE): In 2008, the retesting procedures and TRE triggers were changed. Previously, if a permittee experienced a lethal failure, two consecutive monthly retests were required and confirmation of lethality would be demonstrated by failure of at least one of the two monthly retests. Permits with effective dates subsequent to April 2008 now require the permittee to conduct three consecutive monthly retests in the event of results demonstrating either lethal or sublethal effects for any routine permit compliance WET test. A routine test failure for lethality followed by one additional failure for lethality during the three monthly retests confirms effluent lethality and triggers requirements for the permittee to initiate a TRE. A sublethal failure during routine compliance testing followed by two of the three required retests also demonstrating sublethal effects confirms effluent sublethality and triggers TRE requirements.
2. WET Permit Limitations Based on Lethal or Sublethal Test Failures: The 2008 changes made to the Louisiana Water Quality Management Plan allow the LDEQ to establish WET permit limitations in a renewal permit when lethal or sublethal failures have been demonstrated for several testing periods during the 5-year term of the existing permit but may not have triggered a TRE. The language specifically states, "In instances prior to permit issuance or reissuance where available data demonstrate reasonable potential to cause statistically significant lethal or sublethal effects, the LDEQ will use the following procedures to require a WET limit in the reissued permit. WET limits shall be permitted as 30-day average minimum (or daily average) No Observed Effect Concentration (NOEC) for both acute and chronic testing and either a 48-hour minimum NOEC for acute testing or 7-day minimum NOEC for chronic testing." The significance of these changes is that a permittee may now have enforceable WET limitations established without ever having been required to conduct a TRE and the opportunity for possibly determining and eliminating the cause/source of the toxicity and thereby avoid having WET permit limitations established.
3. Reverting to Previous Testing Frequency: In instances when reduced frequencies for WET testing have been granted by LDEQ based on good performance and the permit is administratively continued pending issuance of a renewal permit, upon the expiration date provided in the currently effective permit the permittee is required to revert back to the original testing frequencies established in the permit until such time as the renewal permit becomes effective, at which time the permittee will follow the newly established permit requirements.
4. Submittal Requirements. In the reporting section of the permit language for WET testing, there are instructions for when to submit the full WET testing report and when to submit the Table 1 Summary Sheets.
 - a. Full WET testing Report: The first full report for the effective permit is required to be submitted. Additionally, for any test that fails, is considered invalid, or that is

terminated early for any reason, the full report must be submitted for Agency review.

- b. Table 1 Summary Sheets: The Table 1 Summary Sheets from the full WET testing reports must be submitted with the discharge monitoring reports (DMRs) each monitoring period for which WET testing occurs.
5. Maximum 30-Day Average Effluent Flow Rate: Permittees should realize that this value plays a critical role in determining the critical dilution and dilution series that will be established in the LPDES Permit. It's typical for facility types that do not continuously monitor flow to have a slightly more difficult time with this. Therefore, it's crucial to ensure the facility has a good mechanism in place for determining an accurate effluent flow rate and that records are well-maintained to be used during the permit renewal process.
6. Critical Dilution: Permittees should be aware that in cases where the critical flow rate of the receiving stream is less than or equal to 0.1 cubic foot per second (cfs), 0.1 cfs shall be the default critical flow for streams not designated intermittent at LAC 33.IX.1123, Table 3. The burden is on the permittee to provide hydrologic data to support the use of a critical flow rate greater than the default in such instances.
7. Dilution Series: Permittees should be sure to provide their WET testing laboratories with any updated WET testing language regarding their permits to ensure the lab is testing in accordance with the correct dilution series, critical dilution, and any other specific requirements that may have been revised.
8. Representative Sampling: If a permittee has provisions in place for periodic chlorination, biocide usage, or other potentially toxic substances that would be intermittently discharged in the site wastewater effluent, the WET testing samples must be representative of these episodic periods. For example, if a permittee must use a molluscicide for the control of zebra mussels or Asiatic clams in raw or service water, the required routine WET testing must be conducted during a treatment period.

For further questions concerning WET testing or any other water quality management issues, please contact Melissa Strickland or Aimee' Killeen using the following contact information.



PROVIDENCE

**1201 Main Street
Baton Rouge, Louisiana 70802
Phone: (225) 766-7400
Fax: (225) 766-7440**

PROVision is a publication of Providence Engineering and Environmental Group LLC. Every effort has been made to remain consistent with official statutes, regulations, policy, and guidance.

If this article conflicts with a state or federal regulation or standard, then the regulatory language or standard prevails.

Copyright © 2009 by Providence Engineering and Environmental Group LLC