

Permit Writing and Enforcement

A. Permit Requirements that Would Be Enforceable But Still Account for the Variability and Lack of Accuracy of WET Methods

1. Where WET testing is necessary, a “tiered” or “stepwise” approach to WET testing must be prescribed for both compliance testing and “reasonable potential” decisions.

- a. Step 1: Characterize the effluent
 - i. WET monitoring must be required for some specific time interval (e.g., one year) to characterize the effluent and to establish the baseline toxicity level and the need for WET triggers.
 - ii. At the end of this effluent characterization period, it must be determined whether the performance standards have been met for acute or chronic toxicity or both, using the following criteria:
 - For acute tests: Develop a more realistic approach to determining reasonable potential which employs such items as actual CVs, considers “less-than” values as zeros, does not use assumed relationships of data such as the LC1/LC50 ratio, and appropriately considers the use of the CV with the average values and not the maximum value in the dataset.
 - For chronic tests: There must be no detectable chronic toxicity (determined using detection limits) at an effluent concentration representing the edge of the mixing zone.
 - EPA’s procedures should not preclude the alternate use of Percent Effect approaches.
 - iii. If the effluent does not meet these performance standards, WET permit triggers must be required.
- b. Step 2: Set the WET Triggers
 - i. Acute trigger: The permit trigger must be the LC₅₀ at the compliance point concentration. This would constitute the numeric acute limit.
 - ii. Chronic triggers:
 - Chronic triggers must be used only as a guide for further analysis

- The chronic trigger must be set at a level ensuring, with 99% confidence, that the response measured is different from responses observed in non-toxic exposures.

For example, for the fathead minnow (based on EPA's interlaboratory validation study data), the mortality must be >17%, and the growth effects compared to controls must be >27%.

- Alternatively, express chronic triggers as an average and a maximum value for each endpoint.

For example, for the fathead minnow survival endpoint (based on EPA's interlaboratory validation study data), the average mortality must be > 12% at a 95% confidence level, and the maximum mortality must be >17% at a 99% confidence level.

c. Step 3: Actions to be taken if a WET test is failed:

i. Failure of an acute test:

- Retest within 30 days.
- If the second test is failed, develop and implement a TIE/TRE.
- If the second test is passed, resume normal testing.

ii. Failure of a chronic test:

- If the trigger is set at a 99% confidence level for each endpoint:
 - Perform two additional tests within six weeks of collecting the sample for the original test.
 - If at least two out of the three total tests fail, develop and implement a TIE/TRE.
 - If the permittee passes at least two out of the three tests, resume normal testing.
- If the trigger is set as an average and a maximum:
 - If a test result exceeds the "maximum" trigger, develop and implement a TIE/TRE.
 - If a test result exceeds the "average" trigger:
 - If the permittee performs additional testing and the average of the test results exceeds the

average trigger, develop and implement a TIE/TRE.

- If the permittee does *not* perform additional testing, develop and implement a TIE/TRE.
- If the permittee performs additional testing and the tests do *not* exceed the average trigger, resume normal testing.

d. “Off-ramps” from a TIE/TRE

- i. If the permittee cannot identify the cause of toxicity within 18 months of implementing a TIE and there have been no further test failures, end the TIE and resume the normal testing schedule.
- ii. If the permittee continues to fail WET tests but is unable to identify the cause of toxicity within 18 months after implementing an exhaustive TIE plan and applying appropriate influent and effluent controls, special technical evaluation with the assistance of EPA or the state will be warranted and civil penalty relief granted.
- iii. If WET tests are failed but no pattern of toxicity can be found, require additional monitoring of effluent or the receiving stream to provide data to determine appropriate actions. A TIE is not appropriate and must not be required absent a pattern of toxicity.

2. For special situations, WET requirements in permits should be risk-based.

- a. For storm water and other intermittent discharges, WET testing is not appropriate.
- b. For effluent-dominated streams, a WET requirement must not be imposed if it will cause the discharger to eliminate the discharge and with it the habitat it provides.
- c. EPA must advise permittees that WET requirements for *small* discharges to *large* waterbodies may not be appropriate.

B. Enforcement of WET Permit Requirements to Avoid Unfairness

1. Acute Test Failure

- a. Failure of one acute test must not be a “violation” of an NPDES permit unless there is demonstrable instream effect.
- b. Failure of two acute tests remote in time (for example 3-5 years apart) must not be a violation.
- c. Failure of two consecutive acute tests, on the other hand, can be violation unless the permittee demonstrates no instream effect or that the test results reflect conditions that were beyond the permittee’s control.

2. Chronic Test Failure

- a. Failure of a chronic test must never, by itself, be the basis for a violation.
- b. Failure of chronic tests may be a “violation” where the test results, considered with other evidence, indicate environmental toxicity.
- c. Failure to comply with accelerated testing or a TIE/TRE is a violation. If a permittee fails to complete any step required by the permit on time, its failure is a violation of the permit.