

567—63.4(455B) Whole effluent toxicity (WET) testing requirements in permits.**63.4(1) WET testing.**

a. All major municipal and industrial dischargers shall conduct WET testing. Additional toxicity monitoring may be specified in operation permits for major or minor facilities in accordance with 63.3(5).

b. All dischargers required to conduct WET tests shall conduct, at a minimum, one valid WET test annually. The testing requirements will be placed in the operation permit for each discharger required to conduct this testing. A “valid WET test” is one that meets the testing requirements in 63.4(2)“a.”

c. Any WET test completed by the department or other agency and conducted according to the procedures stated or referenced in this rule may be used to determine compliance with an operation permit.

63.4(2) Testing procedures.

a. All WET tests shall be conducted as follows:

(1) Use a 24-hour composite sample of the effluent collected at the location stated in the operation permit;

(2) Commence within 36 hours of sample collection;

(3) Use the test methods referenced in 40 CFR Part 136 and protocols described in the EPA document EPA-821-R-02-012, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th edition, October 2002;

(4) Use the water flea (*Ceriodaphnia dubia*) and the fathead minnow (*Pimephales promelas*);

(5) Be conducted as static pass/fail;

(6) Include the following for each organism: a 100 percent culture water control series, a 100 percent effluent series, and any additional dilution series specified in the operation permit;

(7) Last for 48 hours, at which time the mortality will be determined for all tests; and

(8) Be conducted by a laboratory certified in Iowa.

b. All WET test results, including results of any tests performed at a greater frequency than required in the operation permit, shall be submitted to the department within 30 days of test completion.

63.4(3) Positive result. If there is a positive toxicity test result in the diluted effluent sample from a valid WET test, the following requirements apply unless the exception in 63.4(3)“d” is applicable. For the purposes of this rule, “positive toxicity test result” means a statistically significant difference of mortality rate between the control and the diluted effluent test.

a. At a minimum, the discharger shall conduct quarterly WET tests until three successive tests are determined not to be positive, after which the toxicity testing shall be resumed as specified in the operation permit.

b. If the discharger has two successive positive valid diluted WET test results or three positive test results out of five valid diluted tests, the discharger shall conduct a toxicity reduction evaluation (TRE). A TRE is a stepwise process, similar to that found in EPA Document 600/2-88/062, that combines effluent toxicity tests and analysis of the chemical characteristics of the effluent to determine the cause of the effluent toxicity or the treatment methods that will reduce the effluent toxicity, or both.

c. The discharger may be required to conduct instream monitoring or other analyses in conjunction with the TRE. If at any time during the course of conducting a TRE there are three consecutive follow-up toxicity test results for the diluted sample which are not positive, the discharger will be considered as in compliance and work on the TRE may cease. WET testing shall then resume as specified in the operation permit. Nothing in these rules shall preclude the department from taking enforcement action beyond that described in these rules.

d. When the pretest chemical analysis for un-ionized ammonia nitrogen (NH₃-N) or TRC on the diluted effluent sample exceeds the concentrations given below, a positive test result is likely to have been caused by high concentrations of un-ionized NH₃-N or TRC, and the test result will not be used to determine if follow-up testing is needed.

(1) Un-ionized NH₃-N—0.9 mg/l

(2) TRC—0.1 mg/l

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