

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
AMENDING RULES

The State of Wisconsin Natural Resources Board proposes an order to amend NR 106.09(1), 149.22 and NR 219.04, Table A, note 29 relating to the whole effluent toxicity (WET) test methods

WT-53-04

Analysis Prepared by Department of Natural Resources

Statutory Authority: ss. 227.11(2), 281.15 and 283.13, Stats. These sections grant authority to the department to promulgate rules pertaining to water quality standards and Wisconsin Pollutant Discharge Elimination System (WPDES) Permits.

Statutes Interpreted and Explanation: ss. 281.15 and 283.13, Stats. have been interpreted as allowing the department the authority to establish proper testing methods for parameters which are required in WPDES compliance.

Related statute or rule: The department is currently operating under similar existing requirements in chs. NR 106, NR 149, and NR 219, Wis. Adm. Code, that took effect in October 1996, which reference the 1st edition of the "State of Wisconsin Aquatic Life Toxicity Testing Methods Manual", which will remain in place until these rule revisions are made to update the Methods Manual to a 2nd edition.

Plain Language Rule Analysis: In whole effluent toxicity (WET) tests, fish and other aquatic organisms are exposed to wastewater effluent samples for a specific time period to determine if those effluents contain harmful mixtures of pollutants that may cause death or interfere with growth or reproduction to test organisms. WET Monitoring is required in many Wisconsin Pollutant Discharge Elimination System (WPDES) permits in order to determine the potential for impairment of fish and aquatic life communities that may exist in the streams or lakes receiving the wastewater. WPDES Permit holders and laboratories working on their behalf conduct WET tests in accordance with a 1996 Methods Manual entitled "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 1st Edition*" (PUBL-WW-033-96). Improvements to the test methods based on the latest science warrant updating the Methods Manual to a 2nd Edition.

Department staff have worked cooperatively with the UW-Madison State Lab of Hygiene (SLH), private WET labs, permittees, and others to develop and pilot revisions to WET test methods found in the proposed 2nd edition. Staff have met face-to-face with laboratories and permittees in order to gain their input and learn from their experiences; conducted research at the SLH to develop and pilot proposed method revisions; and held discussions regarding implementation issues surrounding proposed method changes. Changes include additional test acceptability criteria, new lab staff qualifications and training requirements, and other adjustments to help insure quality data for use when determining compliance with WPDES permit requirements.

Adoption of the 2nd Edition of the WET Methods Manual will benefit several constituents, including WPDES permittees, consultants, and other interested parties. Specifically, these changes will bring test methods up-to-date with the current science while providing needed details on specific testing and sampling procedures, types of tests, definitions, quality control/quality assurance procedures, etc.

Federal regulatory Analysis: The United States Environmental Protection Agency (USEPA) promulgated regulations concerning the use of WET methods to protect aquatic life in National Pollutant

Discharge Elimination System (NPDES) permits in 1995 (60 FR 53529, October 16, 1995). The USEPA-approved WET methods are specified in the “Guidelines Establishing Test Procedures for the Analysis of Pollutants”, 40 CFR 136.3, Tables IA and II, of the Clean Water Act. These WET methods employ standardized, freshwater, marine, and estuarine vertebrates, invertebrates, and plants to directly measure acute and chronic effects of effluents and receiving waters monitored under NPDES permits. On November 19, 2002, USEPA revised and made available updated method manual editions.

As regulations, adherence to the specific test procedures outlined in these USEPA documents is required when monitoring WET under the NPDES program. The extent that such procedures are “requirements” depends on the text of the documents themselves (i.e., words of obligation, such as “must” or “shall” indicate a required procedure; “may” or “should” provide flexibility so that states and laboratories may optimize test methods for specific situations). Wisconsin's Methods Manual is intended to comply with the requirements of 40 CFR part 136, while providing testing and laboratory procedures specific to those performing WET testing for the WPDES program. EPA's methods, out of necessity, include many provisions which allow different protocols to be followed, depending on the intended use of the test results and the area of the country in which the test is to be applied. Wisconsin's Methods Manual eliminates many of these optional parameters in order to insure the consistency of methods used by Wisconsin labs and permittees and, where possible, to improve upon available WET methods and make them more appropriate for use by Wisconsin permittees.

State Regulatory Analysis: Minnesota, Iowa, Illinois and Michigan programs also require WET testing in NPDES permits, as required by federal regulations. While Wisconsin supplies its permittees with state-specific testing methods, these other states do not. Instead, these states refer to USEPA methods manuals in permits. They do not provide consistent, state-wide WET method guidance, but rather supply state-specific requirements, when applicable, in individual permits.

Summary of the factual data and analytical methodologies: Experts in the science of WET testing agree that the most important factors controlling variability in WET tests are: 1) strict adherence to clearly specified methods, 2) proper analyst experience, and 3) proper implementation of test methods by qualified laboratories. "State of Wisconsin Aquatic Life Toxicity Testing Methods Manual" was created to insure that these factors are controlled in tests performed in Wisconsin and submitted for determining compliance with WPDES permits.

Improper utilization of WET methods can have a substantial impact on test variability. Since USEPA methods are written to apply to a wide variety of permittees in a wide range of site-specific situations around the country, the methods contain many optional steps which can be used to fit different situations. In order to control WET variability, it is necessary to limit these optional test methods which can cause differences in how tests are conducted. The experience and qualifications of the analyst performing the test dictates how well culture and test methods are followed and the extent to which good judgment is exercised when issues arise in the process of conducting the test, analyzing data, and interpreting results. Quality WET labs must be able to demonstrate a serious commitment to a quality assurance/control program that extends beyond analyst experience. Federal regulations do not require that laboratories be certified to perform WET tests, therefore it is necessary to require that Wisconsin labs be certified in order insure quality data is available to permittees for determining compliance with WPDES permit requirements.

Effects on small business and the private sector: The Methods Manual must be followed by permittees and their contract laboratories when required in a WPDES permit. WET tests are required in a WPDES permit when an effluent is discharged to a surface water and site-specific factors suggest that there is a potential for the discharge of toxic substances in amounts that may be harmful to fish and aquatic life. Therefore, municipal and industrial permittees with surface water discharges that have WET test

requirements in their permits are affected by these rules. Laboratories that perform WET tests for hire for these permittees are also affected. The Department does not expect these changes to significantly affect these entities, however, because the changes that are proposed to WET test methods are not expected to be controversial or to significantly increase the costs currently associated with WET testing.

Smaller industrial permittees that discharge to a surface water and have WET requirements in their permits, as well as smaller WET labs who may wish to be certified to conduct WET tests, will be affected by this rule. The Department does not expect significant impacts to these businesses, however, because the changes that are proposed to WET test methods are not expected to require additional staff time or resources on the part of the permittee, and are not expected to significantly increase the costs associated with WET testing.

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SECTION 1. NR 106.09(1) is amended to read:

NR 106.09(1) DATA EVALUATION. Data evaluation procedures are specified in the "~~State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 1st Edition~~", Wisconsin Department of Natural Resources, 1996. The "Aquatic Life Testing Methods Manual, 1st Edition" (1996) is incorporated by reference whole effluent toxicity test methods specified in NR 219.04, Table A. In the event of a WET test failure, facility specific requirements shall be established in the WPDES permit which specify required follow-up actions.

~~Note: This publication is available at the office of the department of natural resources, the secretary of state and the revisor of statutes. Copies are available from the Department of Natural Resources, Bureau of Integrated Science Services, P.O. Box 7921, Madison, WI 53707.~~

SECTION 2. NR 149.22 is amended to read:

NR 149.22 REQUIREMENTS FOR EFFLUENT TOXICITY CERTIFICATION AND REGISTRATION. This section applies to those laboratories certified or registered under test category 20. The required quality control procedures along with the criteria and procedures for effluent toxicity testing are given in the "~~State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 1st Edition~~", Wisconsin Department of Natural Resources, 1996 whole effluent toxicity test methods specified in s. NR 219.04, Table A.

~~Note: This publication is available for inspection at the offices of the Department of Natural Resources, the Secretary of State, and the Revisor of Statutes. Copies are available from the Department of Natural Resources, Bureau of Integrated Science Services, P.O. Box 7921, Madison, WI 53707.~~

SECTION 3. NR 219.04, Table A, note 29, as created in CHR 04-033, is amended to read:

²⁹ Compliance monitoring must be performed in accordance with the specifications in the "State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, ~~1st~~ 2nd Edition," Wisconsin Department of Natural Resources, ~~1996~~ 2004. This publication is available for inspection at the offices of the Department of Natural Resources, the Secretary of State and the Revisor of Statutes. Copies are available from: the Department of Natural Resources, Bureau of Integrated Science Services, P.O. Box 7921, Madison, WI 53707.

SECTION 4. EFFECTIVE DATE. This rule shall take effect the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2)(intro.), Stats.

SECTION 5. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on January 26, 2005.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
Scott Hassett, Secretary

(SEAL)