



WISCONSIN LEGISLATIVE COUNCIL RULES CLEARINGHOUSE

Ronald Sklansky
Clearinghouse Director

Richard Sweet
Clearinghouse Assistant Director

Terry C. Anderson
Legislative Council Director

Laura D. Rose
Legislative Council Deputy Director

CLEARINGHOUSE REPORT TO AGENCY

[THIS REPORT HAS BEEN PREPARED PURSUANT TO S. 227.15, STATS. THIS IS A REPORT ON A RULE AS ORIGINALLY PROPOSED BY THE AGENCY; THE REPORT MAY NOT REFLECT THE FINAL CONTENT OF THE RULE IN FINAL DRAFT FORM AS IT WILL BE SUBMITTED TO THE LEGISLATURE. THIS REPORT CONSTITUTES A REVIEW OF, BUT NOT APPROVAL OR DISAPPROVAL OF, THE SUBSTANTIVE CONTENT AND TECHNICAL ACCURACY OF THE RULE.]

CLEARINGHOUSE RULE 02-019

AN ORDER to amend subchapter IV (title) of chapter NR 211 and NR 219 Table B; and to create NR 106.145 and 211.41, relating to regulating mercury in wastewater discharge permits.

Submitted by **DEPARTMENT OF NATURAL RESOURCES**

02-05-02 RECEIVED BY LEGISLATIVE COUNCIL

03-04-02 REPORT SENT TO AGENCY

RS:REL:tlu;ksm

LEGISLATIVE COUNCIL RULES CLEARINGHOUSE REPORT

This rule has been reviewed by the Rules Clearinghouse. Based on that review, comments are reported as noted below:

1. STATUTORY AUTHORITY [s. 227.15 (2) (a)]

Comment Attached YES NO

2. FORM, STYLE AND PLACEMENT IN ADMINISTRATIVE CODE [s. 227.15 (2) (c)]

Comment Attached YES NO

3. CONFLICT WITH OR DUPLICATION OF EXISTING RULES [s. 227.15 (2) (d)]

Comment Attached YES NO

4. ADEQUACY OF REFERENCES TO RELATED STATUTES, RULES AND FORMS
[s. 227.15 (2) (e)]

Comment Attached YES NO

5. CLARITY, GRAMMAR, PUNCTUATION AND USE OF PLAIN LANGUAGE [s. 227.15 (2) (f)]

Comment Attached YES NO

6. POTENTIAL CONFLICTS WITH, AND COMPARABILITY TO, RELATED FEDERAL
REGULATIONS [s. 227.15 (2) (g)]

Comment Attached YES NO

7. COMPLIANCE WITH PERMIT ACTION DEADLINE REQUIREMENTS [s. 227.15 (2) (h)]

Comment Attached YES NO



WISCONSIN LEGISLATIVE COUNCIL RULES CLEARINGHOUSE

Ronald Sklansky
Clearinghouse Director

Richard Sweet
Clearinghouse Assistant Director

Terry C. Anderson
Legislative Council Director

Laura D. Rose
Legislative Council Deputy Director

CLEARINGHOUSE RULE 02-019

Comments

[NOTE: All citations to "Manual" in the comments below are to the Administrative Rules Procedures Manual, prepared by the Revisor of Statutes Bureau and the Legislative Council Staff, dated September 1998.]

2. Form, Style and Placement in Administrative Code

a. In s. NR 106.145 (2) (b) (intro.), the phrase "For this determination" should be replaced by the phrase "For the determination under par. (a)." Also, the introduction should conclude with the phrase "comply with all of the following."

b. In s. NR 106.145 (3) (intro.), the first sentence should read: "In this paragraph, "major municipal discharge" and "minor municipal discharge" have the meanings specified in s. NR 200.02 (7) and (8)." The last sentence of the introduction, of course, then should be deleted and a colon should follow the word "location."

c. In s. NR 106.45 (7) (b) (intro.), the phrase "do all of the following" should be inserted after the word "permittee." In s. NR 106.45 (7) (c) (intro.), "all of" should be inserted before the phrase "of the following."

d. In s. NR 106.45 (7) (e) (intro.), the phrase "any of" should be inserted after the word "consider." In par. (e) 6., the semi-colon should be replaced by a period.

e. In s. NR 106.45 (7) (f), the introduction should conclude with the phrase "include all of the following."

f. In s. NR 106.45 (7) (g), the introduction should conclude with the phrase "include all of the following." Subdivisions 1. and 2. should begin with the phrases "An evaluation of" and "Identification of," respectively.

g. In s. NR 106.45 (8) (a), the introduction should conclude with the phrase "do all of the following." Similarly, in par. (a) 3., the introduction should conclude with the phrase "meet all of the following requirements."

h. In s. NR 106.45 (8) (b), the introduction should conclude with the phrase "for all of the following."

i. In s. NR 106.45 (9) (a), the terms "grab sample" and "24-hour composite sample" in the second sentence, should be placed within quotation marks.

j. The Note to s. NR 145.06 (9) (b) should indicate how the EPA publication may be obtained.

k. In s. NR 145.06 (9) (c), the introduction should be renumbered as subd. 1., and the remaining subdivisions and internal cross-references should be renumbered accordingly.

l. Section NR 145.06 (10) (a) should be rewritten to read "In this subsection, 'method blank,' 'matrix spike' and 'limit of detection' have the meanings specified in s. NR 149.03."

5. Clarity, Grammar, Punctuation and Use of Plain Language

a. In s. NR 106.45 (2) (b), it is unclear whether the phrase "12 daily discharge concentrations spread out over a period of at least 2 years" means 12 discharge concentrations per day over a two-year period or 12 days of discharge concentrations over a two-year period.

b. In s. NR 106.45 (3) (a) 5., "determines" is a better word choice than "believes." Does the department intend to exempt food processing industries from the monitoring requirement, when their industrial discharges have average flow rates, with the sentence "The department may exempt discharges . . . such as for food processing industries."?

c. In s. NR 106.45 (4) (b), should any of the occurrences of the word "section" be replaced by the word "subsection"? If not, this provision, or a portion of it, should be placed as a separate subsection at the end of s. NR 106.45.

d. Are there circumstances when an existing discharger that relocates its outfall would be covered under s. NR 145.06 (4) (b)? If so, these circumstances should be included in the rule.

e. In s. NR 145.06 (7) (c) 4., who determines "other appropriate mercury reduction activities"? The department? The department in consultation with the permittee?

f. In s. NR 106.45 (7) (f) 4., it appears that the word "is" should be replaced by the word "are."

g. In s. NR 145.06 (10) (d), the first comma should be deleted.

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
AMENDING AND CREATING RULES

The Wisconsin Natural Resources Board proposes an order to amend NR 211 subch. IV (title) and NR 219 TABLE B and to create NR 106.145 and 211.41 relating to regulating mercury in wastewater discharge permits.

WT-12-02

Analysis Prepared by the Department of Natural Resources

Statutory authority: chs. 281 and 283, Stats.

Statutes interpreted: ss. 283.15, 283.31, Stats.

This action provides a common-sense approach to regulating mercury in wastewater effluents. It adds a new high-sensitivity analytical method to NR 219 that allows mercury to be accurately measured in surface waters and wastewater effluents. A new section in NR 106 makes a finding that wastewater treatment technology for mercury is impractical and requires wastewater permittees to implement pollution prevention programs in exchange for water quality standards variances. A new section in NR 211 requires municipal entities to impose source reduction measures on users of their sewer systems.

SECTION 1. NR 106.145 is created to read:

NR 106.145 Mercury variances. This section provides an alternative means of regulating mercury in WPDES permits through the establishment of alternative mercury effluent limitations and other requirements and is intended as a supplement to the authority contained in other sections of this chapter. For purposes of this section, an alternative mercury effluent limitation represents a variance to water quality standards specified in chs. NR 102 to 105.

(1) FINDINGS. On the effective date of this rule ... [revisor inserts date], the department finds all of the following:

(a) Requiring all dischargers of mercury to remove mercury using wastewater treatment technology to achieve discharge concentrations necessary to meet water quality standards would result in substantial and widespread adverse social and economic impacts.

(b) Problems persist in obtaining representative and reliable analysis of mercury in wastewater discharges.

(c) Appropriate mercury source reduction activities are environmentally preferable to wastewater treatment technology in many cases because wastewater treatment for mercury produces a sludge or other resultant wastewater stream that can be as much or more of an environmental liability than the untreated effluent.

(2) DETERMINING THE NECESSITY OF MERCURY EFFLUENT LIMITATIONS. (a) The department shall determine if a mercury effluent limitation is necessary using the procedures in s. NR 106.05.

(b) For ^{the} ~~this~~ determination, ^{under par. (a)} the department shall use representative data that:

1. Meet the requirements of subs. (9) and (10).

2. Consist of at least 12 daily discharge concentrations spread out over a period of at least 2 years.

→ comply with all of the following

In this 4

(3) DATA GENERATION. (a) If an applicant in any of the categories specified in this subsection does not have sufficient discharge data that meet the criteria of sub. (2) at the time of application for permit reissuance, the reissued permit shall require the permittee to monitor for mercury at the following frequency and location: "Major municipal discharge" and "minor municipal discharge" have the meanings specified in s. NR 200.02(7) and (8):

1. Monthly influent and effluent for a major municipal discharge with an average flow rate greater than or equal to 5 million gallons per day.

2. Quarterly influent and effluent for a major municipal discharge with an average flow rate greater than or equal to one million gallons per day but less than 5 million gallons per day.

3. Quarterly influent and effluent for a minor municipal discharge if there are 2 or more exceedances in the last 5 years of the high quality sludge concentration of 17 mg/kg specified in s. NR 204.07(5).

4. Monthly effluent for industrial discharges that the department has determined are likely to contribute net discharges of mercury to the environment or if sludge or biosolids mercury concentrations indicate a source of mercury.

5. Quarterly effluent for industrial discharges with average flow rates, excluding noncontact cooling water as defined in s. NR 205.03(21), of more than 100,000 gallons per day and the department has no information on the mercury concentration in the discharge. The department may exempt discharges in this category if the department believes there is little risk that the effluent will contain mercury, such as for food processing industries.

Note: Any permittee who believes that a significant portion of the mercury in its effluent originates from its intake of surface water is encouraged to provide results of intake monitoring.

6. The department may reduce monitoring frequency from monthly to quarterly for permittees described in subds. 1. and 4. after at least 12 representative results have been generated.

(b) The department may require, on a case-by-case basis, a permittee not included in one of the categories specified in par. (a) to perform mercury monitoring.

(c) Permittees shall collect and analyze samples according to the requirements in subs. (9) and (10).

(4) VARIANCE ELIGIBILITY. (a) When the department makes a determination of the necessity for a water quality based effluent limitation for mercury under sub. (2), the department shall determine if a mercury variance is justified based on information submitted by the permittee in a variance application.

(b) This ~~section~~ ^{subsection?} does not apply to new dischargers to the Great Lakes system, as defined in s. NR 102.12(1), unless the proposed discharge is necessary to alleviate an imminent and substantial danger to the public health or welfare. For the purposes of this section, a new discharger is any building, structure, facility or installation from which there is or may be a discharge of pollutants, as defined in s. NR 200.02(4), the construction of which commenced after the effective date of this rule ... [revisor inserts date]. An existing discharger that relocates its outfall after the effective date of this rule ... [revisor inserts date] may be covered under this section. Relocation includes the diversion of a discharge from a land treatment system to a surface water.

(c) A variance may be renewed using the procedures and requirements in subs. (5) to (8). A variance may not be renewed if the permittee did not substantially comply with all of the conditions of the variance.

(5) CALCULATION OF AN ALTERNATIVE MERCURY EFFLUENT LIMITATION. (a) An alternative mercury effluent limitation shall equal the upper 99th percentile of representative daily discharge concentrations as calculated under s. NR 106.05(4)(a), except as provided in par. (c).

(b) The alternative mercury effluent limitation shall be a daily maximum concentration.

(c) An alternative effluent limitation may not be greater than the alternative effluent limitation contained in the previous permit, unless the permittee demonstrates that the previous alternative limitation was based on monitoring that did not represent actual discharge concentrations.

(6) DEPARTMENT ACTION ON VARIANCE APPLICATIONS. (a) The department shall grant an alternative mercury effluent limitation to a discharger when all of the following have been met:

1. The information provided in the variance application described in sub. (8) supports granting the alternative mercury effluent limitation.

2. The permittee and the department agree upon the alternative mercury effluent limitation and the specific permit language requiring implementation of the pollution minimization program provided in sub. (7).

(b) If the information provided in the variance application does not support granting the variance or if the department and the permittee cannot agree on the alternative mercury effluent limitation and the specific permit language incorporating the pollutant minimization program, the department shall include the water quality based effluent limitation or limitations in the permit.

(c) If the department grants a variance, the permit shall require monitoring subject to the data quality requirements of subs. (9) and (10), at the following locations:

1. Effluent for all discharge types.

2. Influent and sludge or biosolids for major and minor municipal discharges.

(7) POLLUTANT MINIMIZATION PROGRAMS. (a) If the department grants an alternative effluent limitation under sub. (6), the reissued permit shall require the permittee to implement a cost-effective pollutant minimization program as defined in s. NR 106.04(5).

(b) If the reissued permit requires monthly data generation under sub. (3)(a) 1. or 4., the permit shall contain a special condition that triggers a pollutant minimization program if the first 24 months of data demonstrate that a limit will be necessary under sub. (2). The permit shall also require that the permittee:

1. Submit a pollutant minimization program plan meeting the requirements specified in this subsection to the department within 36 months of permit reissuance.

2. Implement the pollutant minimization program following submittal of the plan.

3. Submit the first annual status report required in par. (g) within 48 months of permit reissuance.

(c) For municipal permittees, a pollutant minimization program shall consist of the following elements:

1. Source identification.

2. Activities to help educate the general public, health professionals, school teachers laboratory personnel or other professionals about ways to reduce use of mercury-containing products, recycle mercury-containing products and prevent spills.

3. A program for collecting mercury from the permittee's users. This program may be independently operated by the permittee, jointly by the permittee and others or by another governmental unit.

4. Other appropriate mercury reduction activities.

(d) For industrial permittees, a pollutant minimization program may consist of any of the following elements:

1. Source identification and inventory.
2. Improvement of operational, maintenance or management practices.
3. Substitution of raw materials or chemical additives with low-level alternatives.
4. Institution of alternative processes.

(e) In assessing the appropriate elements for a pollutant minimization program, the department may consider the following:

1. The type of discharger.
2. The operations that generate the wastewater.
3. The level of mercury in the effluent, influent and biosolids or sludge.
4. The costs of potential source reduction measures.
5. The characteristics of the community in which the discharger is located.
6. The opportunities for material substitution;
7. The opportunities available for support from or cooperation with other organizations.
8. The actions the discharger has taken in the past to reduce mercury.
9. Any other relevant information.

(f) The pollutant minimization program plan shall:

1. Identify specific activities to be undertaken and a relative timeline to reach those activities.
2. State which, if any, activities were already implemented and how effective they were in reducing potential or actual mercury discharges.
3. Commit the permittee to document how the pollutant minimization program plan was implemented including measures such as the number of contacts of various types made, programs implemented and other activities.

4. Provide for steps to measure the effectiveness of the pollution minimization program elements in reducing potential or actual mercury discharges. Where influent, effluent, sludge or biosolids ^{is} monitored, measures shall include any changes in mercury concentrations over historic data. Where practicable, other measures or estimates of mercury reductions from programs such as mercury recycling, collection or disposal may also be included.

include all of the following

(g) Within 12 months of the implementation of the pollutant minimization program and annually thereafter, the permittee shall report to the department on the progress of the pollutant minimization program as required in s. NR 106.04(5). This annual report shall:

- An evaluation of*
is include all of
1. Evaluate the effectiveness of the program in accordance with the plan.
 2. Identify barriers that have limited program effectiveness and adjustments to the program that will be implemented during the next year to help address these barriers.

(h) Permittees may collaborate with one another or other parties to plan and implement a pollutant minimization program.

Note: Permittees that do not prepare or effectively implement a pollutant minimization program are subject to regulatory requirements for mercury, without variances to water quality standards. For municipal permittees this may mean development and enforcement of mercury discharge standards for users of the public sewerage system pursuant to s. NR 211.10(3). For users of the municipal sewerage system this may mean changes in processes, installation of treatment technology, or other means to comply with the municipal mercury discharge standards pursuant to s. NR 211.10 (1). Implementation of the municipal mercury discharge standards may require a program of user discharge permits and wastewater discharge monitoring.

(8) VARIANCE APPLICATIONS. (a) To apply for a variance under this section, a permittee shall:

- do all of the following*
1. Submit the variance application at the same time as the application for permit reissuance following data generation.
 2. State the basis for concluding that wastewater treatment technology for mercury is impractical.
 3. Supply representative effluent monitoring results of sufficient number and sensitivity to quantify with reasonable certainty the concentration and mass of mercury discharged. Representative sample results shall:
→ meet all of the following reqs
 - a. Be of sufficient quantity to allow calculation of the upper 99th percentile values pursuant to s. NR 106.05(5).
 - b. Reasonably represent current conditions.
 - c. Meet the data quality requirements of subs. (9) and (10).
 - d. Represent a time period of at least 2 years.
 4. Submit a pollution minimization program plan described in sub. (7)(f).

(b) A permittee applying for a variance renewal shall follow the procedures in par. (a) except:

1. The permittee shall submit information indicating whether the permittee substantially complied with existing variance conditions.
2. A new pollutant minimization program plan shall re-evaluate the plan required under the previous permit.

(9) SAMPLING REQUIREMENTS. (a) Sample types may be grab or 24-hour composite. "Grab sample" and "24-hour composite sample" have the meanings specified in s. NR 218.04.

(b) Sample collection methods shall be consistent with EPA Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, EPA-821-R-96-011.

Note: This method provides flexible procedures for collecting samples under clean conditions. Sample collection personnel may modify this procedure or eliminate steps if the modification does not lead to unacceptable contamination levels in samples.

(c) ¹At least one field blank shall be collected at each site for each day a sample is collected. If more than one sample is collected in a day, at least one field blank for each 10 samples collected on that day shall be collected.

1. Field blanks shall be exposed to the same collection conditions as samples.

2. If mercury or any potentially interfering substance is found in the field blank at a concentration equal to or greater than 0.5 ng/L or one-fifth the level in the associated sample, whichever is greater, results for associated samples may not be used for regulatory compliance purposes unless the conditions in subd. 3. are met.

3. If at least 3 field blanks are collected on a day when samples are collected and the average mercury concentration of the field blanks plus 2 standard deviations is less than or equal to one-half of the level in the associated sample or less than the lowest water quality criterion for mercury found in ch. NR 105, whichever is greater, results may be used.

Note: As of the effective date of this rule ... [revisor inserts date] the lowest water quality criterion listed in the ch. NR 105 is 1.3 ng/L.

4. The permittee shall report, but may not subtract, field blank concentrations when reporting sample results.

(10) LABORATORY ANALYSIS REQUIREMENTS. (a) Method blank, matrix spike and limit of detection have the meanings specified in s. NR 149.03.

(b) The analytical method used shall be sensitive enough to quantify mercury concentrations in the sample or mercury concentrations down to the lowest water quality criterion found in ch. NR 105, whichever is greater.

(c) The laboratory performing the analyses shall be certified under ch. NR 149 for low-level mercury analyses. Until low-level mercury certification is available, the lab shall be certified under ch. NR 149 for mercury and recognized by the department as having demonstrated its low-level mercury capabilities under the emerging technology provision contained in s. NR 149.12(2).

(d) Method blanks analyzed concurrently with samples shall be reported with sample results. Method blanks may be subtracted from sample results unless concentrations of mercury in the method blank exceed the laboratory's limit of detection, 0.5 ng/L or 5% of the sample concentration, whichever is greater.

(e) Matrix spikes analyzed concurrently with samples shall have recoveries between 71 and 125 percent.

(11) DATA REJECTION. The department may reject any sample results if data quality requirements specified in subs. (9) and (10) are not met or if results are generated by a laboratory that is not in compliance with certification requirements specified in ch. NR 149.

(12) APPLICABILITY OF THE VARIANCE PROCESS UNDER S. 283.15, STATS. If a water quality based effluent limitation is included in a permit under sub. (6)(b), a permittee may apply to the department for a variance from the water quality standard used to derive the limitation following the procedure specified in s. 283.15, Stats. Where a permittee has been granted a mercury variance under this section, the provisions of s. 283.15, Stats. are not applicable.

SECTION 2. Subchapter IV of ch. NR 211 (title) is amended to read:

Subchapter IV—Regulation of chloride and mercury sources

SECTION 3. NR 211.41 is created to read:

NR 211.41 POTW action to reduce mercury discharges from all sources. Notwithstanding all other provisions of this chapter, a POTW shall develop and enforce any specific standards or requirements and implement any source reduction activities necessary to comply with requirements established in s. NR 106.145. These standards, requirements and source reduction activities shall address mercury from all relevant sources, including but not limited to industrial, commercial and residential sources.

SECTION 4. NR 219 TABLE B is amended to read:

TABLE B

LIST OF APPROVED INORGANIC TEST PROCEDURES FOR WASTEWATER

Parameter, Units & Methods	EPA ¹	SW-846 ^{11,7}	Standard Methods ^{2,2a}	ASTM ¹	USGS ⁴	Other
35. Mercury - Total ⁶ , ug/L: Cold vapor, AA manual or Automated;	245.1 ^{1e} 245.2	7470A	3112 B	D3223-86	I-3462-85	977.22 ⁵
35f. Mercury, Total - Low Level, ng/L ⁴⁰ <u>Cold vapor atomic fluorescence (CVAF) with purge and trap concentration</u> CVAF without purge and trap concentration	1631D 245.7					

⁴⁰ Quality control requirements for low level mercury are found in s. NR 106.145 (9) and (10). Low-level mercury methods are performance-based so some method modifications are allowable, provided quality control requirements are met. If an atomic absorption detector is substituted for the atomic fluorescence detector, the appropriate method citation is 245.1 (manual) or 245.2 (automated). If method 1631 is modified to eliminate the purge and trap step, the appropriate method citation is 245.7.

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on

The rules shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2)(intro.), Stats.

Dated at Madison, Wisconsin _____

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
Darrell Bazzell, Secretary

(SEAL)

State of Wisconsin
Department of Natural Resources

**NOTICE TO PRESIDING OFFICERS
OF PROPOSED RULEMAKING**

Pursuant to s. 227.19, Stats., notice is hereby given that final draft rules are being submitted to the presiding officer of each house of the legislature. The rules being submitted are:

Natural Resources Board Order No. WT-12-02

Legislative Council Rules Clearinghouse Number 02-019

Subject of Rules Mercury in wastewater
discharge permits

Date of Transmittal to Presiding Officers July 9, 2002

Send a copy of any correspondence or notices pertaining to this rule to:

Carol Turner, Rules Coordinator
DNR Bureau of Legal Services
LS/5, 101 South Webster

Telephone: 266-1959
e-mail: turnec@dnr.state.wi.us

An electronic copy of the proposed rule may be obtained by contacting Ms. Turner

REPORT TO LEGISLATURE

NR 106, 211 and 219, Wis. Adm. Code
Mercury in wastewater discharge permits

Board Order No. WT-12-02
Clearinghouse Rule No. 02-019

Statement of Need

The proposed rule provides a new regulatory mechanism for controlling mercury pollution from wastewater discharges. The Department has determined that it is not technologically and economically feasible to remove mercury at wastewater treatment plants. The new mechanism is needed to replace a less formal wastewater mercury strategy that has guided how the Department placed requirements for mercury in permits since 1996. The existing mercury strategy was based on the lack of analytical capability to measure the low mercury concentrations necessary to meet water quality standards. Near the end of 1999, U.S. EPA officially approved a sensitive test method that allows laboratories to accurately measure mercury in wastewater effluents and surface waters. This capability now allows the Department to use direct means of evaluating compliance with water quality standards. That change dictates the need for a more formal regulatory mechanism.

One of the provisions of the proposed rule promulgates the new analytical methods for measuring mercury concentrations in wastewater. This change necessitates a new permitting mechanism that recognizes that the Department can now directly determine if water quality standards are being met.

The new permitting mechanism both accounts for the uniqueness of mercury as a pollutant and conforms to federal Clean Water Act regulations. The rule relies heavily on pollution prevention as a means of making progress toward achieving water quality standards for mercury. A variance provision will allow permittees to remain in compliance until pollution prevention steps succeed in lowering mercury discharges.

The proposed rule allows a phased approach progressing from data collection, through pollution prevention planning and implementation and then variances.

Modifications as a Result of Public Hearing

Section NR 106.145(4)(b) was clarified that the only prohibition is for a new discharger to Great Lakes waters. A new discharger in areas of the state not within the Great Lakes system and a relocated discharge within the Great Lakes system would be eligible for the variance subject to the conditions imposed in s. NR 106.145.

Section NR 106.145(10)(c) was created to state that the Department may exempt a permittee from the sensitivity requirement if the permittee can demonstrate to the Department's satisfaction that the specific effluent matrix does not allow the level of sensitivity using the most sensitive approved method with all reasonable precautions.

Other wording changes were made to clarify the Department's intent.

Appearances at the Public Hearing and Their Position

In support:

Ralph Erickson, Madison Metropolitan Sewerage District, 1610 Moorland Road, Madison, WI 53713

In opposition – none

As interest may appear:

Chris Groh, Wis. Rural Water Association, 3610 Powell Drive, Eau Claire, WI 54703

Mark Surwillo, 801 Thilmann Road, Kaukauna, WI 53145

Response to Legislative Council Rules Clearinghouse Report

The recommendations were accepted.

Final Regulatory Flexibility Analysis

This rule should have only minor impacts on small businesses. The rule affects industrial, as well as municipal facilities, some of whom are probably classified as small businesses. However, water quality standards and permitting procedures for mercury have already been promulgated in chs. NR 105 and 106. Lacking this proposed rule, a permittee is still required under those existing rules to demonstrate that it can meet water quality standards. In fact, the multiple discharger variance that this proposed rule authorizes may simplify the permitting process for some entities unable to meet mercury limits by avoiding the need to make individual justifications for variances.

The pollution minimization programs that this rule requires would mean that municipal entities might impose requirements on users of wastewater collection systems. For example, dentists might be required to install chair-side traps to recycle the mercury amalgam waste coming from old fillings drilled from patients' teeth. Again, lacking this rule package, these mercury sources would presumably be targeted eventually by municipal permittees operating under the more general provisions of the toxics reduction rules. This rule will mean that these efforts are taken in a more efficient, systematic way.

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
AMENDING AND CREATING RULES

The Wisconsin Natural Resources Board proposes an order to amend NR 106.04(5) and NR 211 subch. IV (title) and to create NR 106.145, 211.41 and NR 219, Table B, item 35f. relating to regulating mercury in wastewater discharge permits.

WT-12-02

Analysis Prepared by the Department of Natural Resources

Statutory authority: chs. 281 and 283, Stats.
Statutes interpreted: ss. 283.15, 283.31, Stats.

This action provides a common-sense approach to regulating mercury in wastewater effluents. It adds a new high-sensitivity analytical method to NR 219 that allows mercury to be accurately measured in surface waters and wastewater effluents. A new section in NR 106 makes a finding that wastewater treatment technology for mercury is impractical and requires wastewater permittees to implement pollution prevention programs in exchange for water quality standards variances. A new section in NR 211 requires municipal entities to impose source reduction measures on users of their sewer systems.

SECTION 1. NR 106.04(5) is amended to read:

NR 106.04(5) For purposes of this chapter, a cost-effective pollutant minimization program is an activity which has as its goal the reduction of all potential sources of the pollutant for the purpose of maintaining the effluent at or below the water quality based effluent limitation. The pollutant minimization programs specified in ss. NR 106.05 (8), 106.06(6) (d), and 106.07(6) (f) and 106.145(7) shall include investigation of treatment technologies and efficiencies, process changes, wastewater reuse or other pollution prevention techniques that are appropriate for that facility, taking account of the permittee's overall treatment strategies, facilities plans and operational circumstances. Past documented pollution prevention or treatment efforts may be used to satisfy all or part of a pollution minimization program requirement. The permittee shall submit to the department an annual status report on the progress of a pollutant minimization program.

SECTION 2. NR 106.145 is created to read:

NR 106.145 Mercury regulation. This section provides an alternative means of regulating mercury in WPDES permits through the establishment of alternative mercury effluent limitations and other requirements and is intended as a supplement to the authority and procedures contained in other sections of this chapter. For purposes of this section, an alternative mercury effluent limitation represents a variance to water quality standards specified in chs. NR 102 to 105.

(1) **FINDINGS.** On the effective date of this rule ... [revisor inserts date], the department finds all of the following:

(a) Requiring all dischargers of mercury to remove mercury using wastewater treatment technology to achieve discharge concentrations necessary to meet water quality standards would result in substantial and widespread adverse social and economic impacts.

(b) Representative data on the relatively low concentrations of mercury in wastewater are rare and methods for collecting that data have only recently been developed.

(c) Appropriate mercury source reduction activities are environmentally preferable to wastewater treatment technology in many cases because wastewater treatment for mercury produces a sludge or other resultant wastewater stream that can be as much or more of an environmental liability than the untreated effluent.

(2) DETERMINING THE NECESSITY OF MERCURY EFFLUENT LIMITATIONS. (a) The department shall determine whether a mercury effluent limitation is necessary using the procedures in s. NR 106.05.

(b) For the determination under par. (a), the department shall use representative data that comply with all of the following:

1. Data shall meet the sampling and analysis requirements of subs. (9) and (10).
2. Data shall consist of at least 12 monitoring results spaced out over a period of at least 2 years.

(3) DATA GENERATION. (a) In this paragraph, "major municipal discharge" and "minor municipal discharge" have the meanings specified in s. NR 200.02(7) and (8). If an applicant in any of the categories specified in this subsection does not have sufficient discharge data that meet the criteria of sub. (2) at the time of application for permit reissuance, the reissued permit shall require the permittee to monitor and report mercury at the following frequency and location:

1. Monthly influent and effluent for a major municipal discharge with an average flow rate greater than or equal to 5 million gallons per day.

2. Once every 3 months influent and effluent for a major municipal discharge with an average flow rate greater than or equal to one million gallons per day but less than 5 million gallons per day.

3. Once every 3 months influent and effluent for a minor municipal discharge if there are 2 or more exceedances in the last 5 years of the high quality sludge mercury concentration of 17 mg/kg specified in s. NR 204.07(5).

4. Monthly effluent for an industrial discharge that the department determines is likely to contribute net discharges of mercury to the environment or if sludge or biosolids mercury concentrations indicate a source of mercury.

5. Once every 3 months effluent for an industrial discharge with an average flow rate, excluding noncontact cooling water as defined in s. NR 205.03(21), of more than 100,000 gallons per day and the department has no information on mercury concentrations in similar discharges. The department may exempt discharges in this category if the department determines that there is little risk that the effluent will contain mercury.

Note: Any permittee who believes that a significant portion of the mercury in its effluent originates from its intake of surface water is encouraged to provide results of intake monitoring.

6. The department may reduce monitoring frequency from monthly to once every 3 months for discharges described in subs. 1. and 4. after at least 12 representative results have been generated.

(b) The department may require mercury monitoring for other discharges not included in one of the categories specified in par. (a) if the department has a reasonable expectation that the discharge includes significant quantities of mercury.

(c) Permittees shall collect and analyze samples according to the requirements in subs. (9) and (10).

(4) ALTERNATIVE MERCURY EFFLUENT LIMITATION ELIGIBILITY. (a) When the department makes a determination of the necessity for a water quality based effluent limitation for mercury under sub. (2), the department shall determine if an alternative mercury effluent limitation is justified based on information submitted by the permittee in an alternative mercury effluent limitation application.

(b) The department may not establish an alternative mercury effluent limitation for a new discharge to waters in the Great Lakes system, as defined in s. NR 102.12(1), unless the proposed discharge is necessary to alleviate an imminent and substantial danger to the public health or welfare. For the purposes of this section, a new discharger is any building, structure, facility or installation from which there is or may be a discharge of pollutants, as defined in s. NR 200.02(4), the construction of which commenced after the effective date of this rule ... [revisor inserts date]. An existing discharger that relocates its outfall after the effective date of this rule ... [revisor inserts date] may not be considered a new discharger for purposes of this paragraph. Relocation includes the diversion of a discharge from a land treatment system or systems to a surface water.

(c) The term of an alternative mercury effluent limitation may not extend beyond the term of the permit.

(d) An alternative mercury effluent limitation may be renewed using the procedures and requirements in subs. (5) to (8). An alternative mercury effluent limitation may not be renewed if the permittee did not substantially comply with all of the mercury-regulation conditions of the previous permit.

(5) CALCULATION OF AN ALTERNATIVE MERCURY EFFLUENT LIMITATION. (a) An alternative mercury effluent limitation shall equal the upper 99th percentile of representative daily discharge concentrations as calculated under s. NR 106.05(4)(a), except as provided in par. (c).

(b) The alternative mercury effluent limitation shall be expressed as a daily maximum concentration.

(c) An alternative mercury effluent limitation may not be greater than the alternative mercury effluent limitation contained in the previous permit, unless the permittee demonstrates that the previous alternative mercury effluent limitation was based on monitoring that did not represent actual discharge concentrations.

(6) DEPARTMENT ACTION ON ALTERNATIVE MERCURY EFFLUENT LIMITATION APPLICATIONS. (a) The department shall establish an alternative mercury effluent limitation for a discharger when all of the following have been met:

1. The information provided in the alternative mercury effluent limitation application described in sub. (8) supports establishing the alternative mercury effluent limitation.

2. The permittee and the department agree upon the alternative mercury effluent limitation and the specific permit language requiring implementation of the pollution minimization program described in sub. (7).

(b) If the information provided in the alternative mercury effluent limitation application does not support establishing an alternative mercury effluent limitation or if the department and the permittee cannot agree on the alternative mercury effluent limitation and the specific permit language incorporating the pollutant minimization program, the department shall include the water quality based effluent limitation or limitations in the permit. This paragraph does not prohibit the department from seeking and the applicant providing supplemental information after the initial application is submitted.

(c) If the department grants an alternative mercury effluent limitation, the permit shall require monitoring subject to the data quality requirements of subs. (9) and (10), at the following locations:

1. Effluent for both municipal and industrial discharges.

2. Influent and sludge or biosolids for major and minor municipal discharges.

(7) POLLUTANT MINIMIZATION PROGRAMS. (a) If the department grants an alternative mercury effluent limitation under sub. (6), the reissued permit shall require the permittee to implement a pollutant minimization program as defined in s. NR 106.04(5) and detailed for mercury in this subsection.

(b) If the reissued permit requires monthly data generation under sub. (3)(a) 1. or 4., the permit shall contain a special condition that triggers a pollutant minimization program if the first 24 months of data demonstrate that a limit will be necessary under sub. (2). The permit shall also require that the permittee do all of the following:

1. Submit to the department within 36 months of permit reissuance a pollutant minimization program plan meeting the requirements specified in this subsection.
2. Implement the pollutant minimization program following submittal of the plan.
3. Submit the first annual status report required in par. (g) within 48 months of permit reissuance.

(c) For municipal permittees, a pollutant minimization program shall consist of all of the following elements:

1. Source identification.
2. Activities to help educate the general public, health professionals, school teachers, laboratory personnel or other professionals about ways to reduce use of mercury-containing products, recycle mercury-containing products and prevent spills.
3. A program for collecting mercury from the permittee's sewer system users. This program may be independently operated by the permittee, jointly by the permittee and others or by another governmental unit.
4. Other activities that the department, in consultation with the permittee, deems appropriate for the individual permittee's circumstances.

(d) For industrial permittees, a pollutant minimization program may consist of any of the following elements:

1. Source identification and inventory.
2. Improvement of operational, maintenance or management practices.
3. Substitution of raw materials or chemical additives with low-mercury alternatives.
4. Institution of alternative processes.

(e) In assessing the appropriate elements for a pollutant minimization program, the department may consider any of the following:

1. The type of discharger.
2. The operations that generate the wastewater.
3. The level of mercury in the effluent, influent and biosolids or sludge.
4. The costs of potential source reduction measures.

5. The environmental costs and benefits of the pollutant minimization program elements.
6. The characteristics of the community in which the discharger is located.
7. The opportunities for material substitution.
8. The opportunities available for support from or cooperation with other organizations.
9. The actions the discharger has taken in the past to reduce mercury use or discharges.
10. Any other relevant information.

(f) The pollutant minimization program plan shall include all of the following:

1. Identify specific activities to be undertaken and a relative timeline to implement those activities.
2. State which, if any, activities have already been implemented and how effective they were in reducing potential and actual mercury discharges.
3. Commit the permittee to document how the pollutant minimization program plan was implemented including measures such as the number of contacts of various types made, programs implemented and other activities.
4. Provide for steps to measure the effectiveness of the pollution minimization program elements in reducing potential and actual mercury discharges. Where the permittee regularly monitors influent, effluent, sludge or biosolids for mercury, measures shall include any changes in mercury concentrations over comparable historic data. Where practicable, other measures or estimates of mercury reductions from programs such as mercury recycling, collection or disposal may also be included.

(g) Within 12 months of the beginning of implementation of the pollutant minimization program and annually thereafter, the permittee shall report to the department on the progress of the pollutant minimization program as required in s. NR 106.04(5). This annual report shall include all of the following:

1. An evaluation of the effectiveness of the program in accordance with the plan.
2. Identification of barriers that have limited program effectiveness and adjustments to the program that will be implemented during the next year to help address these barriers.

(h) Permittees may collaborate with one another or other parties to plan and implement a pollutant minimization program.

Note: Permittees that do not prepare or effectively implement a pollutant minimization program are subject to regulatory requirements for mercury, without alternative mercury effluent limitations to water quality standards. For municipal permittees this may mean development and enforcement of mercury discharge standards for users of the public sewerage system pursuant to s. NR 211.10(3). For users of the municipal sewerage system this may mean changes in processes, installation of treatment technology, or other means to comply with the municipal mercury discharge standards pursuant to s. NR 211.10 (1). Implementation of the municipal mercury discharge standards may require a program of user discharge permits and wastewater discharge monitoring.

(8) ALTERNATIVE MERCURY EFFLUENT LIMITATION APPLICATIONS. (a) To apply for an alternative mercury effluent limitation under this section, a permittee shall do all of the following:

1. Submit an alternative mercury effluent limitation application at the same time as the application for permit reissuance following data generation.
2. State the basis for concluding that wastewater treatment technology for mercury is impractical.
3. Supply representative effluent monitoring results of sufficient number and analytical sensitivity to quantify with reasonable certainty the concentration and mass of mercury discharged. Representative sample results shall meet all of the following requirements:
 - a. Be of sufficient quantity to allow calculation of the upper 99th percentile values pursuant to s. NR 106.05(5).
 - b. Reasonably represent current conditions.
 - c. Meet the data quality requirements of subs. (9) and (10).
 - d. Represent a time period of at least 2 years.
4. Submit a pollution minimization program plan described in sub. (7)(f).

(b) A permittee applying for renewal of an alternative mercury effluent limitation previously granted shall follow the procedures in par. (a) except for all of the following:

1. The permittee shall submit information indicating whether the permittee substantially complied with mercury regulation conditions of the existing permit.
2. A new pollutant minimization program plan shall re-evaluate the plan required under the previous permit.

(9) SAMPLING REQUIREMENTS. (a) Sample types may be grab or 24-hour composite. "Grab sample" and "24-hour composite sample" have the meanings specified in s. NR 218.04.

(b) Sample collection methods shall be consistent with *EPA Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels*, EPA-821-R-96-011.

Note: This method provides flexible procedures for collecting samples under clean conditions. Sample collection personnel may modify this procedure or eliminate steps if the modification does not lead to unacceptable contamination of the samples. This method may be accessed on the department's website at <http://www.dnr.state.wi.us/org/water/wm/ww/mercury/1669.pdf>.

(c) Requirements for field blanks are as follows. A field blank means an aliquot of mercury-free reagent water that is placed in a sample container, shipped to the field and treated as a sample in all respects, including contact with the sampling devices and exposure to sampling site conditions, filtration, storage, preservation, and all analytical procedures. The purpose of the field blank is to determine whether the field or sample transporting procedures and environments have contaminated the sample:

1. At least one field blank shall be collected at each site for each day a sample is collected. If more than one sample is collected in a day, at least one field blank for each 10 samples collected on that day shall be collected.
2. If mercury or any potentially interfering substance is found in the field blank at a concentration equal to or greater than 0.5 ng/L, the limit of detection or one-fifth the level in the associated sample, whichever is greater, results for associated samples may not be used for regulatory compliance purposes unless the conditions in subd. 3. are met.

3. If at least 3 field blanks are collected on a day when samples are collected and the average mercury concentration of the field blanks plus 2 standard deviations is less than or equal to one-half of the level in the associated sample or less than the lowest water quality criterion for mercury found in ch. NR 105, whichever is greater, results may be used.

Note: As of the effective date of this rule ... [revisor inserts date] the lowest water quality criterion listed in the ch. NR 105 is 1.3 ng/L.

4. Once a permittee demonstrates the ability to collect samples from a given site using an established procedure that meet the use-criteria of subd. 2., the permittee may decrease the number of field blanks to no fewer than one field blank for each 4 sampling days.

a. The initial demonstration shall consist of at least 6 consecutive sampling days.

b. If the permittee makes significant changes to the sampling procedure or sampling personnel, the 6-day demonstration shall be repeated.

c. If after reducing the field blank frequency, a field blank fails to meet the use-criteria, the permittee shall take corrective action and return to collecting field blanks on each sampling day until it can meet the use-criteria for at least 3 consecutive sampling days.

d. In no case may the permittee decrease field blanks to fewer than one for each 10 samples.

5. The permittee shall report, but may not subtract, field blank concentrations when reporting sample results.

Note: When using the data, the department may subtract field blanks from sample concentrations on a case-by-case basis.

(10) LABORATORY ANALYSIS REQUIREMENTS. (a) In this subsection, "method blank", "matrix spike" and "limit of detection" have the meanings specified in s. NR 149.03.

(b) The analytical method used shall be sensitive enough to quantify mercury concentrations in the sample or mercury concentrations down to the lowest water quality criterion found in ch. NR 105, whichever is greater.

(c) The department may exempt a permittee from the sensitivity requirement in par. (b) if the permittee can demonstrate to the department's satisfaction that the specific effluent matrix does not allow this level of sensitivity using the most sensitive approved method with all reasonable precautions.

(d) The laboratory performing the analyses shall be certified under ch. NR 149 for low-level mercury analyses. Until low-level mercury certification is available, the lab shall be certified under ch. NR 149 for mercury and recognized by the department as having demonstrated its low-level mercury capabilities under the emerging technology provision contained in s. NR 149.12(2).

(e) Method blanks analyzed concurrently with samples shall be reported with sample results. Method blanks may be subtracted from sample results unless concentrations of mercury in the method blank exceed the laboratory's limit of detection, 0.5 ng/L or 5% of the sample concentration, whichever is greater.

(f) Matrix spikes analyzed concurrently with samples shall have recoveries between 71 and 125 percent.

(11) DATA REJECTION. The department may reject any sample results if data quality requirements specified in subs. (9) and (10) are not met or if results are produced by a laboratory that is not in compliance with certification requirements specified in ch. NR 149.

(12) **APPLICABILITY OF THE VARIANCE PROCESS UNDER S. 283.15, STATS.** If a water quality based effluent limitation is included in a permit under sub. (6)(b), a permittee may apply to the department for a variance from the water quality standard used to derive the limitation following the procedure specified in s. 283.15, Stats. Where a permittee has been granted an alternative mercury effluent limitation under this section, the procedures of s. 283.15, Stats. are not applicable.

SECTION 3. Subchapter IV of ch. NR 211 (title) is amended to read:

Subchapter IV—Regulation of chloride and mercury sources

SECTION 4. NR 211.41 is created to read:

NR 211.41 POTW action to reduce mercury discharges from all sources. Notwithstanding all other provisions of this chapter, a POTW shall develop and enforce any specific standards or requirements and implement any source reduction activities that are necessary to assure compliance with requirements established in s. NR 106.145. These standards, requirements and source reduction activities apply to mercury discharges to the POTW from all relevant sources, including but not limited to industrial, commercial and residential sources.

SECTION 5. NR 219 TABLE B, Item 35f. is created to read:

TABLE B

LIST OF APPROVED INORGANIC TEST PROCEDURES FOR WASTEWATER

Parameter, Units & Methods	EPA ¹	SW-846 ^{11,7}	Standard Methods ^{1,2a}	ASTM ³	USGS ⁴	Other
35f. Mercury, Total - Low Level, ng/L ⁴⁰						
Cold vapor atomic fluorescence (CVAf) with purge and trap concentration	1631D					
CVAf without purge and trap concentration	245.7					

⁴⁰ Quality control requirements for low level mercury are found in s. NR 106.145 (9) and (10). Low-level mercury methods are performance-based so some method modifications are allowable, provided quality control requirements are met. If an atomic absorption detector is substituted for the atomic fluorescence detector, the appropriate method citation is 245.1 (manual) or 245.2 (automated). If method 1631 is modified to eliminate the purge and trap step, the appropriate method citation is 245.7.

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on 6/26/02.

The rules shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2)(intro.), Stats.

Dated at Madison, Wisconsin _____

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
Darrell Bazzell, Secretary

(SEAL)