Form 1100-001P (Rev. 08/14)

**Wisconsin Department of Natural Resources**
**Natural Resources Board Agenda Item**

Item No. 3.A.3.

**SUBJECT:**
Request that the Board authorize public hearings for WT-11-12, proposed rules affecting Chapters NR 106, 205, and 212, Wis. Adm. Code. related to policies and procedures related to the Wisconsin Pollutant Discharge Elimination System (WPDES) permit program for regulating wastewater discharges

**FOR: October 2015 Board meeting**

**PRESENTER'S NAME AND TITLE:** Adrian Stocks, Permits Section Chief

**SUMMARY:**
The proposed rule revisions relate directly to the Wisconsin Pollutant Discharge Elimination System (WPDES) permit program that regulates wastewater discharges. In a letter dated July 18, 2011, the U.S. Environmental Protection Agency (EPA) identified 75 potential issues with Wisconsin's statutory and regulatory authority for the WPDES permit program. EPA directed the department to either make rule changes to address the inconsistencies between federal and state requirements or obtain a statement from the Attorney General's Office verifying that the state's existing rule is consistent with federal regulations.

This rule package (referred to as Rule Package #4) seeks to address 18 of these issues relating to calculation of water quality based effluent limitations, expression and inclusion of effluent limits in WPDES permits, whole effluent toxicity, compliance schedules, and TMDL development and implementation, among others. Several sections being amended were also invalidated in MEDC v. WDNR, Case No. 12CV3654 including the calculation of ammonia limitations and compliance schedule procedures for chloride and ammonia limitations. These proposed revisions would make the rules consistent with the court decision as well as federal regulations.

The statement of scope for this rule, WT-11-12, was approved by the Governor on May 3, 2012, and approved by the Natural Resources Board on June 26, 2012. From December 4, 2014 to January 7, 2015, the department solicited comments for participation on the economic impact analysis. The rule is expected to be a moderate economic impact. Businesses most likely to be economically impacted by the proposed rule revision are those with whole effluent toxicity (WET) concerns. The proposed rule revision changes WET reasonable potential procedures, which are used to determine the need for WET limitations and monitoring in WPDES permits. The revised procedure requires estimating a 95th percentile toxicity value by using a reasonable potential multiplication factor. The other aspects of this revision are expected to have no economic impact. .

**RECOMMENDATION:** That the Board authorize public hearings for WT-11-12.

**LIST OF ATTACHED MATERIALS (check all that are applicable):**

- ☐ (choose one)
- ☒ Fiscal estimate and economic impact analysis (EIA) form
- ☒ Response summary
- ☒ Attachments to background memo
- ☐ Environmental assessment or impact statement
- ☒ Board order/rule

| Approved by | Signature | Date |
|---|---|---|
| Susan Sylvester, Bureau Director | Susan Sylvester | 8/18/15 |
| Patrick Stevens, Environmental Management Division | | 9/21/15 |
| Cathy Stepp, Secretary | for Michael L. Bruch | 9/29/15 |

cc: Board Liaison - AD/8 Program attorney – LS/8 Department rule coordinator – LS/8

# CORRESPONDENCE/MEMORANDUM

DATE: September 15, 2015

TO: All Members of the Natural Resources Board

FROM: Cathy Stepp, Secretary

SUBJECT: Background memo on Board Order WT-11-12, relating to authorization of public hearings.

**Why is the rule being proposed?**

On July 18, 2011, the Department received a letter from the U.S. Environmental Protection Agency (EPA) identifying 75 issues and potential inconsistencies with Wisconsin's authority to administer its approved Wisconsin Pollutant Discharge Elimination System (WPDES) permit program. EPA directed the department to either make rule changes to address these inconsistencies or address these issues through other avenues. Modifications to chs. NR 106, NR 205, and 212, Wis. Adm. Code, are necessary to address several issues identified in the EPA letter.

**Summary of rule.**

This rule package (referred to as Rule Package #4) seeks to address 18 of the 75 EPA issues relating to calculation of water quality based effluent limitations, expression and inclusion of effluent limits in WPDES permits, whole effluent toxicity, compliance schedules, and TMDL development and implementation, among others. Specifically, the proposed rule revisions perform six overall functions: modifies the procedures used to calculate water quality-based effluent limitations for toxic substances; changes how effluent limitations for toxic substances are expressed and when they are included in WPDES permits; modifies the procedure used for determining when whole effluent toxicity (WET) limitations are required in WPDES permits; creates a framework to develop and implement TMDLs; clarifies and modifies procedures for granting compliance schedules; and other modifications.

Several sections being amended were also invalidated in MEDC v. WDNR, Case No. 12CV3654 (Dane County Circuit Court Decision) including the calculation of ammonia limitations and compliance schedule procedures for chloride and ammonia limitations. These proposed revisions would make the rules consistent with the court decision as well as federal regulations.

**How does this affect existing policy?**

The proposed revisions are designed to better align Wisconsin's WPDES permitting program with federal regulations promulgated under the Clean Water Act and the Great Lakes Innitiative. Revisions are recommended to NR 106, NR 205, and NR 212, which will vary in complexity and deviation compared to existing policy. Several changes are clarifying in nature such as the revisions to compliance schedule procedures. Other changes, such as the creation of TMDL development and implementation procedures, are recommended to specify DNR policy. Some revisions will increase the complexity of Wisconsin's permitting program compared to the existing policies. These include: 1) modifications to whole effluent toxicity (WET) procedures, 2) modifications to procedures used to calculate water quality-based effluent limitations for toxic substances, and 3) changes to the limit expression procedures. These changes will impact the number of water quality-based effluent limitations (WQBELs) in WPDES permits, the methods for calculating some of these WQBELs, and the procedures used to determine the need for WQBELs in WPDES permits. Revisions to the WET procedures are also expected to economically impact some WPDES permittees. As mentioned, these revisions are necessary to address previous court decisions which invalidated portions of the existing policy as well as EPA comment.

**Has the Board dealt with these issues before?**

Yes. At the January 25, 2012 Board meeting an informational update was given on the department's response to EPA's letter of July 18, 2011, which identified 75 potential inconsistencies in Wisconsin's legal authority to administer the WPDES permit program. The department responded to EPA with a proposal to address the inconsistencies in a letter October 14, 2011. And a meeting was held with EPA December 15, 2011, in which EPA requested a more detailed schedule to reconcile the inconsistencies.

The Board approved the scope statement for WT-11-12 at its June 26, 2012, meeting. Other rule packages to address the 75 issues are at different stages in the rule making process.

**Who will be impacted by the proposed rule? How?**

Businesses and municipalities that are authorized to discharge effluent to a surface water of the State in a WPDES permit will likely be impacted by this rule. Permittees should expect additional permit limitations, revised compliance schedule language, and other minor changes in their WPDES permits. These changes should not impact monitoring requirements, or limit the ability for point source discharges to be granted a compliance schedule. A small number of permittees may also receive more restrictive water quality based effluent limitations derived from acute fish and aquatic life criteria. Facilities in low dilution receiving streams that have previously triggered acute toxic water quality based effluent limits, include copper and zinc water quality based effluent limitations, are most likely to be impacted by the proposed regulations. Although these limitations may be more restrictive, DNR does not believe permittees will incur additional costs because these limits are either already being met, or have been granted a water quality standards variance for the limits in question. DNR is also investigating the use of a biotic ligand model to develop site-specific criteria for copper in these areas, which may result in these facilities no longer triggering the need for water quality based effluent limitations.

Some businesses and municipalities may be economically impacted by the proposed rule revision. Businesses and municipalities most likely to be economically impacted are those with WET testing requirements. Based on WET data collected from 2004-2014, it is projected that about 126 facilities will incur higher costs associated with additional WET testing and toxicity reduction evolution studies. These costs are projected to total $452,000 - $626,000 over the next five years on a statewide basis. Given the nature of these costs, these costs are not believed to dissipate over time. The rule revisions are estimated to have a level 2 economic impact.

**Information on environmental analysis, if needed?**

Pursuant to s. NR 150.20(2)(a)23., Wis. Adm. Code, permanent rules are equivalent analysis actions. An environmental analysis and public disclosure is conducted as part of the permanent rulemaking process.

**Small Business Analysis.**

Of the 126 WPDES permit holders that are believed to be economically and fiscally impacted by the proposed rule revision, 43 dischargers are believed to be small businesses. The potentially impacted businesses include food processors, cheese makers, and other small businesses like metal finishing plants and manufacturers. WET laboratories are typically small business and would likely be positively impacted by the revisions. Costs incurred by these small businesses are the result of increased WET monitoring, and toxicity reduction evolution (TRE) studies. It is estimated that small cheese makers may incur a fiscal impact of $83,000-$109,000, the impact to food processors may range from $51,000-$65,500, and other small businesses may incur a cost between $24,000-$35,000. Flexibility has been built into this rule to help minimize these economic impacts. Specifically, the rule package clarifies what WET data should be used to make WET limitation determinations in WPDES permits. Additionally, this rule provides flexibility on monitoring and reporting requirements for WET.

# Response to Comments on Economic Impact Analysis (EIA)
# Rule Package WT-11-12

## WET Sample Shipping Costs

**Henry J. Probst**
**The Probst Group, LLC**
The Probst Group, LLC (TPG) offers the following brief commentary regarding the Economic Impact Analysis for Rule Package WT-11-12. TPG has served as environmental consultant for numerous industrial dischargers, several of which are included in the listing of dischargers likely to be impacted by the proposed modifications to the whole effluent toxicity (WET) program. We have worked through WET test issues with many of our clients over the years, and we certainly agree the proposed modifications to the WET program will have an increased economic impact on numerous dischargers.

The unit costs included in WDNR's Economic Impact Analysis (EIA) document for the acute and chronic toxicity tests were consistent with our recent experience; however, we have observed that overnight shipping of the samples for the chronic WET tests can run in the range of $350-500. This represents potentially another $44,800 – $64,000 over each permit term for the 64 dischargers expected to be impacted by the modifications.

**Eric Bott, WMC**
Wisconsin Manufacturers & Commerce (WMC) is a business trade organization with more than 3,800 members statewide in the manufacturing, agricultural, energy, commercial, mining, and service sectors. Roughly one-quarter of private sector employees in Wisconsin are employed by WMC member companies. After reviewing the draft rule and preliminary economic impact analysis received from DNR on December 8th, 2014, WMC sought feedback from members including a majority of the private sector dischargers identified by the Department as likely to be impacted by the proposal. Based upon that feedback, we find the following:

The Department estimates costs for an individual whole effluent toxicity (WET) test at $500 to $750. According to responses from our membership, actual costs average $1,500 per test when staff time, collection, and shipping are taken into consideration.

**Paul Kent and Marney Hoefer, STAFFORD ROSENBAUM LLP**
**on behalf of Municipal Environmental Group - Wastewater Division**
We are writing on behalf of the Municipal -Wastewater Group - Wastewater Division (MEG), which is an association of over 100 municipalities throughout the state of Wisconsin who own and operate wastewater treatment facilities. I would like to thank you for the time you took to explain the rule package to us. It has helped us to clarify some of the potential impacts to our members as well as understand the origin of some of the new requirements. It is our understanding that a number of these proposed revisions are directly in response to the letter from EPA dated July 18,2011 which identified 75 issues that the DNR needed to address with respect to its WPDES program. We understand that a number of the issues are therefore based upon federal regulations and that the DNR has limited flexibility to deviate from the requirements as they are interpreted by EPA.

...the costs of WET testing do not take into account the time that is being spent by the facilities staff to take the test as well as additional compliance monitoring that is associated with the imposition of an

additional limit. Although these costs are more difficult to monetize, they should be considered in determining economic impact. Some estimate should be included.

**Marney Hoefer, STAFFORD ROSENBAUM LLP**
**on behalf of Municipal Environmental Group - Wastewater Division**
We met with a number of our municipal operators and they mentioned that the shipping costs for WET tests can be significant because of the size (cooler), weight (cooler and water) and some of them have to be shipped overnight. We heard that this can be up to $500.00 for each round of sampling.

**Nickolas George, MWFPA**
Yes there will be significant economic impact. One company tells us it is a minimum of $1500 per plant. The costs were derived based on past sample experience and include additional costs. When I asked if $1500 was realistic the response was, "Yes, that is correct. The actual test cost is less than that but including collection and shipping that is a fair number."

**Response:**

The Department appreciates the time and effort spent by several commenters to verify the costs of whole effluent toxicity (WET) tests. Several people correctly pointed out that while WET test costs estimated in the draft EIA were appropriate, the Department failed to consider costs associated with shipping of effluent samples for WET tests. This has been rectified in the final EIA.

In order to accurately reflect the costs associated with shipping effluent samples for acute and chronic WET tests, the Department contacted WET consultants with experience in this area. Responses from WET consultants indicated that shipping costs typically range from $75 - $100 for an acute test and $300 - $350 for chronic tests. Department staff used the upper end of this range and added these amounts to the cost of each test. This resulted in a total cost of $600 - $850 per acute test (adjusted up from $500 - $750 in the draft EIA) and $1500 - $1850 per chronic test (adjusted up from $1200 - $1500 in the draft EIA). Using these new numbers, the total cost of acute WET tests as a result of the proposed rule has been adjusted to about $75,000 – $106,000 (adjusted up from $62,000 - $93,000 in the draft EIA) for acute tests and about $190,000 – $240,000 (adjusted up from $154,000 - $192,000 in the draft EIA) for chronic tests. These costs represent the total costs for all permittees over a five-year permit term.

## Costs Associated with Toxicity Reduction Evaluations

**Henry J. Probst**
**The Probst Group, LLC**
The costs associated with failed WET tests and toxicity reduction evaluations (TREs) may likely be significantly higher than identified in the EIA. It has been our experience that there is a considerable amount of effort and expense surrounding analysis of WET test results, retesting, influent testing, and TRE efforts. In our experience with dairy and food plants around the state and across the country, TRE studies have been very expensive and, more often than not, result in only a narrowing of potential contributing factors rather than a clear and decisive determination of the cause for WET test issues. Our experience elsewhere has been that a comprehensive TRE can cost anywhere from $10,000 to $30,000

or more, depending on the complexity of the issues, and were largely inconclusive or served only to identify a fairly long list of potential contributing compounds or conditions.

It is difficult to estimate the true costs associated with the additional efforts related to TRE requirements. Each site is likely to incur substantial costs associated with internal and external laboratory analysis and labor hours, as well as outside consulting costs, in addition to the WET tests and TRE, if triggered. We would expect that if a TRE is triggered, the total cost impact could be multiples of the cost identified in the EIA.

**Eric Bott, WMC**
We are unable at this time to accurately predict the cost impacts associated with increased Toxicity Reduction Evolution (TRE) studies; however, a consensus of responses indicates that substantial staff resources will be required to perform TREs and that the Department's estimates may well be low.

**Patrick J. Cardiff, Director of Manufacturing Process Innovation**
**Grande Cheese Company**
The DNR's cost estimates do not take into account the detailed investigations necessary to determine toxicity of chemicals. The State has indicated that there is a lack of data on chronic or acute effects of coagulants and flocculants. Any plant that must develop a TRE will spend substantial dollars reviewing data or funding studies to show the affect that various concentrations have on aquatic life, acute or chronic.

**Paul Bauer, CEO**
**Ellsworth Cooperative Creamery**
One test is not enough to know what is happening. So while the DNR may require one test it may take several additional tests upstream to understand the problem or issue. So the DNR is under reporting the number of tests for those several plants requiring additional tests.

If a plant fails the WET test there will be expenses beyond the cost of the test itself. Many plants will need to call in outside consultants at a cost of hundreds of dollars per hour. My estimate is about 40 hours of consulting time at $200 per hour or $8000 per failed test; plus the additional time of in house plant personnel. The consultants would require additional testing thus putting additional pressure on lab space thus higher prices.

From my past experience basic city tap water can cause WET test failures, so additional tests would be required add costs to test all sources of product going into the waste water treatment plant.

From my experience a failed test with further outside assistance will cost about $40,000 to find the root issue. This does not include any changes to operations that may cost millions in capital or $100,000's in operating expenses.

So if 62 plants are required for additional testing and half require additional consulting work at $40,000 that's 31x$40,000x 5 years equals $6,200,000. Plus 8 plants must change processes at $100,000 and at five years equals $4,000,000. The industry would have $10,200,000 in additional testing.

Our plant operations would be harmed if we would need the additional tests, consulting fees and operational costs limiting our investment in the plant and jobs at our locations.

**Paul Kent and Marney Hoefer, STAFFORD ROSENBAUM LLP**
**on behalf of Municipal Environmental Group - Wastewater Division**
We understand that the revisions to the reasonable potential provisions for WET testing will result in additional limits and monitoring for a number of POTWs. We also appreciate the DNR's efforts to monetize this impact based upon the costs of WET tests as well as TRE studies. We have asked for information from our members regarding these costs and believe the DNR is within the right range with respect to the WET test costs but the cost of TRE studies seems to be on the low side. TRE studies range significantly especially for municipalities which may have a number of different sources that it needs to investigate. We have heard some of these TRE studies can be as expensive as $100,000. A fuller range of costs should be included for the TRE.

**Response:**

As noted by several commenters, the costs of a Toxicity Reduction Evaluation (TRE) can vary widely from site to site, since the design of the TRE study necessary to find and fix a toxicity problem is often dependent on the complexity of the wastewater and the type of wastewater treatment plant (WWTP) that is present in each case. In order to address the concerns of several comments that felt the Department's original estimates were too low, and to account for related costs such as those associated with sample shipping and WWTP staff time, the Department has doubled the original estimate of the costs related to TREs to $5,000 - $10,000 for acute and 15,000 – $20,000 for chronic (up from $2,500 - $4,000 and $6,400 - $9,200, respectively, in the draft EIA). These costs represent the total costs for all permittees over a five-year permit term.

**Number of Facilities Potentially Impacted by Proposed WET Requirements**

**Eric Bott, WMC**
Some members indicated a concern that more facilities might be impacted than those identified by the Department.

**Patrick J. Cardiff, Director of Manufacturing Process Innovation**
**Grande Cheese Company**
The DNR's estimate of permit holders that may be affected by the rule change is based on past data and does not take into account future phosphorus permit limit compliance. Although each plant will need to develop its own strategy to meet future phosphorus permit limits, it is very likely that all treatment plants will increase the use of coagulant and flocculent chemicals in order to remove phosphorus. New chemicals are being introduced that have unique properties for phosphorus removal, yet may not have known toxicity, whether it be acute or chronic. It is reasonable to assume that many more treatment plants than estimated by the DNR will experience WET test issues and will need to fund expensive, detailed studies to screen products for toxicity.

**Response:**

The estimate of the number of facilities that may be impacted by the proposed rule is based on WET

data collected over the last 10 years (2004 – 2014). When determining the need for WET limits (i.e., calculating reasonable potential), Department staff must consider historical WET data collected by the permittee being evaluated. Therefore, an analysis of the last ten years of WET data for each permittee seems like the most appropriate and accurate way to estimate the number of facilities that are likely to see new WET limits and/or TREs that would not normally be given if WET reasonable potential procedures in place today were used to make these decisions. It is possible that additional facilities not identified in the Department's analysis will experience WET failures in the future, which could result in future WET limits or TREs. However, it is not possible to predict where or when this might occur.

Special care should always be taken by permittees that are adding chemicals to improve wastewater treatment (e.g., for disinfection, to remove phosphorus, to improve sludge settling, etc.), especially those that may add ferric chloride or other chemicals in order to optimize treatment to meet more stringent phosphorus limits. Overuse of any chemicals has the potential to cause effluent toxicity – care should be taken to use only the amount of chemical that is necessary for effective treatment and no more. DNR field staff can provide assistance, if needed, to help permittees determine the proper amount of chemical to be used in their treatment process.

**Impacts Associated With WET Lab Availability**

**Paul Bauer, CEO**
**Ellsworth Cooperative Creamery**
The analysis of the DNR does not cover all the costs. When the DNR asks for something there are many additional costs to the plants. First is the limited availability of the test will cause the price increases for a WET test. WET tests are expensive and they require advance scheduling. If you fail a test the availability to get a rescheduled test is not guaranteed. If the demand for the WET tests go up and the available labs stay the same the price will be increase.

**Patrick Poirier**
**Environmental Consulting and Testing Inc.**
After reading through most of the proposal on additional NPDES permits requiring WET testing I had a quick question/comment. When would the additional (62 acute/64 chronic) permits be issued? As a small business in the State of WI this is could be very beneficial for us. We have a big enough lab so spacing isn't an issue, however, staffing would have to be increased so I'm just planning ahead. Would the additional permits be spread out between all 4 quarters evenly or would one quarter be busier than another? As a small business owner, I'm excited for the opportunity to land more work within the state. As an environmentalist I appreciate the work the WIDNR and EPA puts into protecting our environment. Thank you.

**Response:**

The Department has made efforts in the past, and intends to continue to do so in the future, to spread out the amount of WET testing in such a way as to reduce the burden of testing on the permittee and the labs as much as possible. For example, the new WET procedures required in the proposed rule would be incorporated into permits as they are reissued, rather than all at once. Additionally, when new WET requirements are written into a permit they are usually spread out over the entire permit term (i.e., if 5 tests are needed, the permit requires that tests be taken once per year for five years), rather

than requiring all of the tests to be conducted in a shorter time frame. This should help to alleviate some of the pressures of additional testing and allow WET labs time to plan for additional workloads, if needed.

**Reasonable Potential Multiplication Factor**

**Patrick J. Cardiff, Director of Manufacturing Process Innovation**
**Grande Cheese Company**
"Reasonable potential multiplication factor" – The information provided referenced the use of a "reasonable potential multiplication factor" to estimate the 95$^{th}$ percentile toxicity of a value without providing any information on what this value is and how it is to be determined. This would seem to be of critical importance since it is the sole means used to determine if a parameter needs a permit limit.

**Response:**

A percentile is a statistical term which indicates the relative standing of a value within a data set. In this case, the 95th percentile means that 95% of WET results for the effluent are predicted to lie below the WET criteria value that results from the reasonable potential calculation and 5% are predicted to lie above it.

Another way to think of it is that a percentile is a value in the data set that marks a certain percentage of the way through the data. Suppose a student took a test and their final score was reported to be in the 80th percentile. That doesn't mean the student answered 80% of the questions correctly. It means that 80% of the other students' scores were lower than theirs and 20% of the students' scores were higher than theirs.

The USEPA reasonable potential procedure being incorporated into the proposed rule requires that historical WET datasets be used to predict this 95% percentile value (i.e., the amount of toxicity expected to be present in the effluent 95% of the time). If this site-specific 95$^{th}$ percentile value is determined to be greater than the criteria (1.0 TUa for acute or 1.0 TUc for chronic), then a limit is required.

The multiplication factor in Table 4 is used to estimate this 95$^{th}$ percentile value when the data set is limited. If more data is present in the data set, the multiplication factor is lower because there is less uncertainty. Conversely, uncertainty is higher when there are fewer data, so the multiplication value is higher in those cases.

**Other Comments** (non WET-related)

**Henry J. Probst**
**The Probst Group, LLC**
It would appear that the proposed modifications may implement additional testing for influent streams. This requirement would be expected to have significant economic impact on the sites, as well, although

the total potential economic impact is impossible to project without an understanding of what parameters and frequency may be required.

**Paul Kent and Marney Hoefer, STAFFORD ROSENBAUM LLP**
**on behalf of Municipal Environmental Group - Wastewater Division**
Expression of Limits
The proposed rule revision requires permit limitations for POTW discharges to be expressed as weekly averages and monthly average limitations unless impracticable. We are concerned that costs associated with this rule revision have not been fully identified. The additional limits will impose additional costs on POTWs to ensure that they are in compliance with the limits and may require additional monitoring. Those costs should also be included in this analysis.

**Dennis Wolf, Assistant Public Works Director - Operations**
**Village of Sussex**
The Village of Sussex WPCF has been required to perform toxicity testing for 15 – 20 years. In that time, the frequency has changed several times when WPDES permits have been reissued. We have had a very good track record in passing those tests over this time period, and are now currently performing one acute and one chronic test per year. Our concerns relate to the creation of new methodology for calculating water quality based effluent limitations in low stream flow situations. Over the course of my employment here at the Village of Sussex, 28 years, there have been 2-3 very dry summers where Sussex Creek had essentially dried up, and the only water flowing was from the treatment plant. In this time of very tight budgets, we do not want to see an increase in sampling frequency due to low creek flow. We feel that the Village of Sussex WPCF has already demonstrated that we discharge a very clean, non-toxic effluent into Sussex Creek, and shouldn't be required to spend additional funds.

**Response:**

As mentioned in the Fiscal Estimate and Economic Impact Analysis for this rule package, the Department does not believe that the existing policy regarding effluent or influent monitoring will change as a result of the proposed changes. This is supported by the policy of other region V states as well as EPA conversation. For these reasons, no change was made as a result of these comments.

## Notice of Hearing

The Department of Natural Resources announces that it will hold a public hearing on a permanent rule to revise chs. NR 106, 205, and 212, relating to the Wisconsin Pollutant Discharge Elimination System (WPDES) wastewater permit program regarding expression of limits, whole effluent toxicity, TMDL development and implementation, and other aspects of the WPDES permitting program, at the time and place shown below.

### Hearing Information

Date: December 7, 2015

Time: 1:00-3:00pm

Location: Wisconsin Department of Natural Resources
Room G09
101 South Webster Street
Madison, WI 53703

### Accessibility

1. Hearing impaired persons may request an interpreter for this hearing. Please make reservations for a hearing interpreter at least 10 days before the date of the scheduled hearing, by writing to e-mail
2. Alternatively, you may contact the Department of Natural Resources TDD at (608) 267-6897. The hearing facility is accessible to disabled users.
3. Pursuant to the Americans with Disabilities Act, reasonable accommodations, including the provision of information material in an alternative format, will be provided for qualified individuals with disabilities upon request. Please call with specific information on your request at least 10 days before the date of the scheduled hearing.
4. Handicap access is available at the hearing location.

### Appearances at the Hearing and Submittal of Written Comments

Comments on the proposed rule must be received on or before December 18, 2015. Written comments may be submitted by U.S. mail, fax, E-mail, or through the internet and will have the same weight and effect as oral statements presented at the public hearing. Written comments and any questions on the proposed rules should be submitted to:

Department of Natural Resources
P.O. Box 7921
101 S. Webster Street,
Madison, WI 53707-7921

Or email me at: DNRRULEPACKAGE4@wisconsin.gov

The rules may be reviewed and comments made at:

https://health.wisconsin.gov/admrules/public/Rmo?nRmoId=13185

**Initial Regulatory Flexibility Analysis:**

**Agency Small Business Regulatory Coordinator:**

Linda Haddix (608) 266-1959

Linda.Haddix@wisconsin.gov

Dated at Madison, Wisconsin _____

STATE OF WISCONSIN

DEPARTMENT OF NATURAL RESOURCES

By _____

Cathy Stepp, Secretary

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DOA-2049 (R03/2012)

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# ADMINISTRATIVE RULES
## Fiscal Estimate & Economic Impact Analysis

1. Type of Estimate and Analysis
☒ Original ☐ Updated ☐ Corrected

2. Administrative Rule Chapter, Title and Number
NR 106- Procedures for calculating water quality based effluent limitations for point source discharges to surface waters
NR 205- General Provisions
NR 212- Waste load allocated water quality related effluent limitations

3. Subject
WT-11-12: Revisions to the Wisconsin Pollution Discharge Elimination System (WDPES) Permit program to address some of the issues and potential inconsistencies with federal regulations identified by the U.S. Environmental Protection Agency (EPA) in a letter dated July 18, 2011.

4. Fund Sources Affected
☒ GPR ☐ FED ☐ PRO ☐ PRS ☐ SEG ☐ SEG-S

5. Chapter 20, Stats. Appropriations Affected
None

6. Fiscal Effect of Implementing the Rule
☐ No Fiscal Effect ☐ Increase Existing Revenues ☒ Increase Costs
☐ Indeterminate ☐ Decrease Existing Revenues ☒ Could Absorb Within Agency's Budget
☐ Decrease Cost

7. The Rule Will Impact the Following (Check All That Apply)
☐ State's Economy ☒ Specific Businesses/Sectors
☒ Local Government Units ☐ Public Utility Rate Payers
☒ Small Businesses **(if checked, complete Attachment A)**

8. Would Implementation and Compliance Costs Be Greater Than $20 million?
☐ Yes ☒ No

9. Policy Problem Addressed by the Rule
The primary purpose of this rule revision is to establish clear regulatory requirements for the processing of WPDES permits. In a letter dated July 18, 2011, the U.S. Environmental Protection Agency (EPA) identifies 75 potential issues with Wisconsin's statutory and regulatory authority for the WPDES permit program. EPA directed the department to either make rule changes to address these inconsistencies or address these issues through other avenues. The proposed revisions seek to address 18 of these issues relating to calculation of water quality based effluent limitations, expression and inclusion of effluent limits in WPDES permits, whole effluent toxicity, compliance schedules, and TMDL development and implementation, among others.

10. Summary of the businesses, business sectors, associations representing business, local governmental units, and individuals that may be affected by the proposed rule that were contacted for comments.
This proposed rule revision may impact some businesses with a surface water discharge regulated by a WPDES permit. Businesses most likely to be impacted are those with whole effluent toxicity (WET) concerns. This may include municipal wastewater treatment facilities and industrial discharges such as paper mills, power plants, and cheese makers. WPDES permittees will also likely receive additional permit limitations for pollutants already limited in their permit. These additional limitations are not believed to have an increase monitoring or compliance costs.

11. Identify the local governmental units that participated in the development of this EIA.
None

12. Summary of Rule's Economic and Fiscal Impact on Specific Businesses, Business Sectors, Public Utility Rate Payers, Local Governmental Units and the State's Economy as a Whole (Include Implementation and Compliance Costs Expected to be Incurred)
Businesses and municipalities most likely to be economically impacted by the proposed rule revision are those with whole effluent toxicity (WET) testing requirements. The proposed rule revision changes WET reasonable potential procedures, which are used to determine the need for WET limitations in WPDES permits. The EPA reasonable potential procedure being incorporated into the proposed rule requires that historical WET datasets be used to predict a 95%

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percentile value (i.e., the amount of toxicity expected to be present in the effluent 95% of the time). If this site-specific 95th percentile value is determined to be greater than the WET criteria, then a limit is required. Based on an analysis of all WET data collected from 2004 - 2014, it is estimated that 62 WPDES permit holders will trigger the need for acute WET limitations in their permits that would not be triggered using existing reasonable potential procedures. Receiving an acute WET limitation in a WPDES permit will likely increase costs associated with WET monitoring for the permittee. The cost of an individual acute WET test ranges from $600 - $850/test (includes test cost based on WET lab quotes, plus $100 for sample shipping). Assuming that two additional tests will be conducted per permit term for each of the 62 permit holders, the estimated net cost increase for acute WET monitoring is $75,000 - $106,000 over the five-year permit term. Additionally, it is projected that 9 of these facilities will also incur costs for performing a toxicity reduction evolution (TRE) study to investigate the cause of toxicity, given the frequency and/or severity of the toxicity in their effluent compared to the acute WET limitation. The cost range for an individual acute TRE is $5,000 - $10,000, which translates to a total TRE cost for these 9 facilities from $45,000 - $90,000. The proposed change in reasonable potential determinations will also increase the number of chronic WET limitations in WPDES permits. Based on an analysis of all WET data collected from 2004 - 2014, it is estimated that 64 additional WPDES permits will contain chronic WET limitations. Assuming two additional chronic WET tests per permit term, and an individual chronic test cost of $1,500 – $1,850 (includes test costs based on WET lab quotes, plus $350 for sample shipping), the estimated net cost increase for chronic WET monitoring at these 64 facilities over the five-year permit term is between $190,000 - $240,000. Additionally, it is projected that 8 of these facilities will also incur costs of performing a chronic TRE given the frequency and/or severity of the toxicity in their effluent compared to the chronic WET limitation. The cost range for an individual chronic TRE is $15,000 - $20,000, translating to a net increase of $120,000 - $160,000 for chronic TRE costs at these 8 facilities. The proposed rule revision is believed to cost an estimated total of about $452,000 - $626,000 (sum of above, plus 5% margin of safety) over a 5-year period. Given the nature of these costs, these costs are not believed to dissipate over time.

The other aspects of this revision are expected to have no economic impact. This includes proposed revisions relating to the calculation of fish and aquatic life water quality based effluent limitations for toxic substances. Although the proposed changes may result in more restrictive water quality based effluent limitations derived from acute fish and aquatic life criteria, these changes are projected to impact less than 20 facilities that discharge to effluent dominated receiving waters. Copper and zinc water quality based effluent limitations are most likely to be impacted by the proposed regulations. Of these 20 facilities, many will continue to discharge well below the threshold for triggering these limits. The remaining point sources that have previously triggered the need for copper and zinc limits have also been granted a water quality standards variance, which allows for more cost efficient source reduction activities to be done in lieu of installing new treatment technologies to reduce the discharge of these compounds. These permittees would be able to continue those activities, pending U.S. EPA approval of future variance applications. DNR is also investigating the use of a biotic ligand model to develop site-specific criteria for copper in these areas, which may result in these facilities no longer triggering the need for water quality based effluent limitations. For these reasons, fiscal and economic impacts are unlikely. This rule revision also recommends expressing permit limitations for pollutants already limits in WPDES permits in different time periods. Additional permit limitations for these pollutants may also be included in the WPDES permit upon permit reissuance. These proposed modifications are not believed to impact monitoring or compliance costs, and are, therefore, not believed to have a fiscal or economic impact.

13. Benefits of Implementing the Rule and Alternative(s) to Implementing the Rule

This rule revision will address several issues raised in EPA's July 18th, 2011 letter regarding DNR's authority to administer the WPDEs permit program. For example, EPA over promulgated Wisconsin's WET reasonable potential procedures used for discharges to the Great Lakes Basin on December 6, 2000 at 40 CFR 132.6(j). This rule revision would align Wisconsin's program on a statewide basis with the federal. If this rule revision is not completed, EPA would continue to coordinate the WET program within the Great Lakes Basin. Several sections being amended were also invalidated in MEDC v. WDNR, Case No. 12CV3654 including the calculation of ammonia limitations and compliance

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schedule procedures for chloride and ammonia limitations. These regulations would make the rules consistent with the court decision. This rule may also have a benefit to some specific businesses, business sectors, and local governmental units. Specifically, this rule revision will preserve DNR's authority to issue chloride limits in lieu of WET limits in certain situations, authorize additional time for the purposes of data collection in compliance schedules for secondary values within the Great Lakes basin, and clarify the public comment procedures during the TMDL development process.

14. Long Range Implications of Implementing the Rule

There are no additional long-range impacts beyond those described 12.

15. Compare With Approaches Being Used by Federal Government

Department rules will be made consistent with existing federal regulations with the revisions contained in this rule package. No proposed federal regulations are applicable for this rule package. Specific federal laws that this rule seeks to conform with include:

- 40 CFR 122.44(d) which provides that water quality-based effluent limits (WQBELs) must be derived from and comply with water quality standards and designated uses;
- 40 CFR 122.45 which addresses a variety of issues including the duration over which effluent limitations are to be expressed, internal waste streams, and mass limitations;
- 40 CFR 122.47, which specifies the protocols and restrictions for establishing compliance schedules in WPDES permits for pollutants including ammonia and chloride;
- 40 CFR Part 132, Appendix F, Procedure 9, which authorizes compliance schedule extensions within the Great Lakes Basin;
- 40 CFR, Part 132, Appendix F, Procedure 3, pertaining to TMDLs in the Great Lakes Basin;
- 40 CFR, Part 132, Appendix F, Procedure 5, pertaining to establishing WQBELs in the Great Lakes Basin; and
- 40 CFR, Part 132, Appendix F, Procedure 6, pertaining to whole effluent toxicity in the Great Lakes Basin.

Calculation of Water Quality-Based Effluent Limitations (Issue 28, 35, 36, 40, 42, 43, 70, and 74)

40 CFR 122.44(d)(1)(vii)(A) states that effluent limits must be established using a calculated numeric water quality criterion for the pollutant which will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Under existing Wisconsin law, acute water quality criteria may be exceeded in a stream or river in low stream flow situations. To address this apparent discrepancy, a new method is proposed for calculating water quality-based effluent limitations based on acute toxicity effects to fish and aquatic life. Additionally, adjustments to the limit calculation procedures for chloride and ammonia were made to conform to these requirements. These changes specify that chloride and ammonia limitations will be included in WPDES permits whenever these limitations are determined to be necessary through reasonable potential. The proposed rules also address how WET limitations and chloride limitation interact to meet the requirements of 40 CFR 122.44(d).

Expression and Inclusion of Effluent Limits in WPDES Permits (Issue 2)

40 CFR 122.45(d) stipulates that permit limitations be expressed as weekly average and monthly average limitations for continuous POTW discharges, and maximum daily limitations and monthly average limitations for all other continuous discharges, unless impracticable. Additionally, EPA provides a methodology for calculating and expressing limitations in conformance with 40 CFR 122.45(d) in the "Technical Support Document for Water Quality-based Toxic Control" (March 1991). The proposed rule revisions comply with these requirements by creating a methodology and process for calculating water quality-based effluent limits and expressing all permit limits in Wisconsin. This methodology draws from the Technical Support Document as well as the toxicological data and intent of the water quality criteria to ensure that permit limits are adequately protective of Wisconsin's surface water and designated uses, without being overly restrictive. This rule also maintains the ability to express limitations through other averaging periods if an impracticability demonstration is made. 40 CFR 122.45 also includes requirements for establishing effluent limitations for internal waste streams, mass limitations, and other issues. Revisions are proposed to include these federal

requirements.

Whole Effluent Toxicity (Issue 10)
The GLI requires specific reasonable potential procedures be used to determine the need for WET limitations for point source discharges in the Great Lakes Basin at 40 CFR part 132, Procedure 6 of Appendix F. EPA over promulgated Wisconsin's WET reasonable potential procedures in the Great Lakes Basin on December 6, 2000 at 40 CFR 132.6(j) because Wisconsin's existing program does not comply with these requirements. The proposed rule revision modifies the reasonable potential procedures used for WET limitations to address this over promulgation.

TMDL Development and Implementation (Issue 10)
The GLI requires specific procedures for developing and implementing TMDLs in the Great Lakes Basin at 40 CFR part 132, Procedure 3 of Appendix F. TMDL procedures are also specified at 40 CFR 130.7. In 2000, EPA disapproved of Wisconsin's TMDL development program for toxic compounds, and other pollutants regulated in the GLI and discharged into the Great Lakes Basin and consequently promulgated 40 CFR 132.6(h). The proposed rule revision creates a subchapter in NR 212 to address this over promulgation and to conform to the federal requirements in 40 CFR 132.6(h) and 40 CFR 130.7.

Compliance Schedules (Issues 31, 32, 37, and 40)
Section 502(17) of the Clean Water Act (CWA), 33 U.S.C. 1362(17), defines a compliance schedule as an "enforceable sequence of actions or operations leading to compliance with an effluent limitation". 40 CFR 122.47 also establishes requirements for compliance schedules. A demonstration or data collection that is intended to justify a change in an effluent limitation is not an action leading to compliance with a final effluent limitation under the CWA. Therefore, the proposed rule revision recommends changes to the ammonia and chloride compliance schedule procedures to conform to these requirements. 40 CFR Part 132, Appendix F, Procedure 9, does allow time to be added to a compliance schedule for these purposes for dischargers within the Great Lakes basin that have limitations based on secondary criteria. Therefore, revisions are also recommended to the compliance schedule program for secondary values to limit this authority to only discharges in the Great Lakes Basin in conformance with federal law.

Other
A variance is a revision to a water quality standard that must be supported on the basis of one of the factors specified in 40 CFR 131.10(g), and requires EPA review and approval before it can be implemented (40 CFR 131.21(c)). This rule revision proposes to clarify EPA's role in reviewing variances, and also provides clarification on chloride and ammonia variance procedures.

16. Compare With Approaches Being Used by Neighboring States (Illinois, Iowa, Michigan and Minnesota)
All the other EPA Region 5 states (Illinois, Indiana, Michigan, Minnesota and Ohio) are subject to the EPA regulations. Iowa and portions of the Region 5 states that do not drain to the Great Lakes are not subject to GLI requirements. Although Wisconsin's program is consistent with federal law, it is not directly comparable to the Iowa implementation program, as Wisconsin is subject to these additional federal requirements. A brief comparison of key states is provided below on the six key issues addressed in the proposed rule revision.

Calculation of Water Quality-Based Effluent Limitations
All Region 5 states and Iowa appear to use the final acute value (FAV) and mass balanced approach for calculating water quality-based effluent limitations to protect from acute toxicity effects on fish and aquatic life. Iowa, Indiana, and Ohio use a 1Q10 mass balance based approach for calculating these tyoes of water quality-based effluent limitations. Illinois, Michigan, and Minnesota also use a mass balance based approach for calculating these water quality-based effluent limitations but do not specify the specific stream flow data used in this equation in code. After a cursory review of available guidance, it appears that 7Q10 data are used or alternative flow based on best professional judgment.

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Additionally, none of these states have a 20 mg/L or 40 mg/L cap for ammonia limitations specified in code. It is noted, however, that Michigan does have specific ammonia limitations codified for categories of point source discharges. Therefore, repealing this provision would make Wisconsin's program consistent with EPA regulations, the other Region 5 states, and Iowa.

Expression and Inclusion of Effluent Limits in WPDES Permits

Michigan, Illinois, Ohio, and Iowa express water quality-based effluent limitations derived from acute toxicity impacts on fish and aquatic life as daily maximum limitations, and water quality-based effluent limitations derived from chronic toxicity as monthly average limitations. Statistical methods are not specified in Ohio or Iowa for converting chronic water quality standards for toxic substances to monthly average permit limitations. Michigan and Illinois, on the other hand, chose to codify portions of EPA's Technical Support Document to convert chronic water quality standards to monthly average limitations. Human health limitations are solely expressed as monthly average limitations in these states.

These states do not provide a codified methodology for creating additional permit limitations if the triggered water quality-based effluent limitations are not sufficient to meet the requirements of 122.45(d). Minnesota and Indiana's approach for expression and inclusion of effluent limitations in permits is structured identically to 122.45(d). Minnesota does not provide a methodology in code for calculating these limitations. Indiana, on the other hand, chose to codify EPA's recommending methodology in the Technical Support Document. The proposed rule revisions closely mirrors Indiana's approach for calculating and expressing permit limits as this approach reflects the requirements of 122.45(d) and EPA guidance. However, the proposed methodology also considers the averaging period used to deriving the toxicity criteria and, therefore, differs slightly from the Indiana approach.

Whole Effluent Toxicity

Indiana, Michigan, and Ohio's WET reasonable potential procedures were also over promulgated by EPA on September 5, 2000 at 40 CFR 132.6(c). Indiana and Michigan updated their WET reasonable potential procedures to be consistent with the GLI since the over promulgation. Michigan also specifies when chloride or other pollutant limitations can be used in lieu of WET limitations similar to Wisconsin. Other states do not specify this authority in code. It is not clear whether this action has satisfied EPA at this time. Illinois chose to incorporate the requirements of Procedure 5 of Appendix F at 40 CFR 132 by reference. Illinois uses an alternative method for WET data outside of the Great Lakes basin, however. Wisconsin is proposing to apply the same procedure statewide. Iowa does not appear to have specific WET procedures in code. Iowa is not subject to the GLI and is, therefore, not subject to the same federal restrictions as Wisconsin.

TMDL Development and Implementation

TMDL develop and implementation procedures vary among the Region 5 states. Minnesota, for example, does not have any procedures in code for specifying TMDL development or implementation at this time. Their current TMDL program relies solely on guidance. Michigan and Indiana have promulgated general principles and procedures for developing and implementing TMDLs that appear to align with the requirements of the GLI. Indiana's program solely applies to TMDLs within the Great Lakes Basin, and not to discharges outside of the Basin. Indiana does specify general provisions for calculating wasteload allocations in the absence of a TMDL and preliminary wasteload allocations for the entire state, however. Ohio's program incorporates by reference the requirements of 40 CFR 130.7. Additional specificity is provided in Ohio's TMDL procedures, but these do not align directly with the requirements for the GLI. Illinois TMDL program in the Great Lakes Basin is not specific at this time, and was over promulgated by EPA on September 5, 2000 at 40 CFR 132.6(b). Iowa does not appear to have specific TMDL procedures in code. Iowa is not subject to the GLI and is, therefore, not subject to the same federal restrictions as Wisconsin.

Compliance Schedules

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## ADMINISTRATIVE RULES
## Fiscal Estimate & Economic Impact Analysis

All Region 5 states and Iowa specify their authority for granting compliance schedules for toxic substances in code, including ammonia and chloride. This authority aligns with the CWA, but these programs have varying specificity provided in code. For example, Michigan and Illinois have specific measures and time frames specified in code for their compliance schedules. They also provide that a "reopener" clause can be included in a NPDES permit to modify the permit pending new data, but these data collection efforts are not authorized as part of the compliance schedule. Additionally Michigan and Illinois allow time extensions for the purposes of data collection in compliance schedule for water quality-based effluent limitations derived secondary values. Illinois does not limit this extension to only Great Lake discharges, however. Indiana and Minnesota's compliance schedule authority, on the other hand, is more generically stated compared to Michigan and Illinois, and solely defines what a compliance schedule is and what the maximum duration of a compliance schedule may be.

Other

All water quality standard variances must be approved by EPA. Some states including Illinois, Iowa, and Minnesota do not specify this approval authority specifically in code. Other states such as Michigan and Indiana do specify this authority.

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|---|---|
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STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DOA-2049 (R03/2012)

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# ADMINISTRATIVE RULES
## Fiscal Estimate & Economic Impact Analysis

## ATTACHMENT A

1. Summary of Rule's Economic and Fiscal Impact on Small Businesses (Separately for each Small Business Sector, Include Implementation and Compliance Costs Expected to be Incurred)

Of the 126 WPDES permit holders that are believed to be economically and fiscally impacted by the proposed rule revision, 43 dischargers are believed to be small businesses. The potentially impacted businesses include food processors, cheese makers, and other small businesses like metal finishing plants and manufacturers. WET laboratories are typically small business and would likely be positively impacted by the revisions. Using the same methods previously described, it is estimated that small cheese makers may incur a fiscal impact of $83,000-$109,000, the impact to food processors may range from $51,000-$65,500, and other small businesses may incur a cost between $24,000-$35,000.

2. Summary of the data sources used to measure the Rule's impact on Small Businesses

DNR's System for Wastewater Applications, Monitoring and Permits (SWAMP) was used to compile existing WET data by permittee. These data were then analyzed to determine which of these permittees would trigger a chronic or acute WET limitation based on the revised reasonable potential methodology.

Quotes from WET laboratories frequently used by point source discharges in Wisconsin were used to provide a range of costs for WET testing and TRE studies. Shipping quotes were also gathered from frequently used shipping companies, which included overnight and weekend shipping rates. Other costs, such as staff time, are site-specific and difficult to approximate. Therefore, a 5% margin of safety was added to the total costs projected to account for other potential costs.

3. Did the agency consider the following methods to reduce the impact of the Rule on Small Businesses?

☒ Less Stringent Compliance or Reporting Requirements
☐ Less Stringent Schedules or Deadlines for Compliance or Reporting
☐ Consolidation or Simplification of Reporting Requirements
☒ Establishment of performance standards in lieu of Design or Operational Standards
☐ Exemption of Small Businesses from some or all requirements
☐ Other, describe:

4. Describe the methods incorporated into the Rule that will reduce its impact on Small Businesses

This rule does not specify monitoring frequencies or TRE requirements. Therefore, TRE thresholds and monitoring frequencies were assumed for each permittee. Additional guidance will be developed to help clarify what appropriate monitoring frequencies may be, and when a TRE study should be considered. These decisions will be made on a case-by-case basis to ensure adequate environmental protection and reasonable reporting requirements.

5. Describe the Rule's Enforcement Provisions

N/A

6. Did the Agency prepare a Cost Benefit Analysis (if Yes, attach to form)

☐ Yes ☒ No

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING, RENUMBERING, RENUMBERING AND AMENDING, AMENDING, REPEALING AND RECREATING AND CREATING RULES

The statement of scope for this rule, WT-11-12, was approved by the Governor on May 29, 2012, published in Register 678 on June 14, 2012, and approved by the Natural Resource Board on June 27, 2012.

The Wisconsin Natural Resources Board proposes an order to **repeal** NR 106.03 (10), and (11), 106.05 (8) note, 106.145 (9) (b) note, 106.32 (2) (b) 2. note and (3) (a) 4. a. note, 106.34, 106.36 (3) note, and (4), 106.37 (1) note, (2) note, (3), and (3) note, 106.38, 106.88 (1) note, (4), and (6), 106.91 note; to **renumber** NR 106.03 (1); to **amend** NR 106.03 (13), and (14), 106.05 (1) (c), 106.06 (3) (c) (intro), 4, 5, and 7 (intro), 106.07 (8), 106.09 (3) (b) (intro.) and 1, 106.115 Table 1 (title), and Table 2 (title), 106.32 (2) (b) (intro.), and 2, (3) (a) 4 .a., 106.36 (3) Table 1 (title), 106.37 (1), 106.55 (6) (a) Table 1 (title), 106.62, 106.75, 106.83 (2) (c), 106.87 (1), 106.91, 212.01, 212.02 (2), 212.03 (intro.), (3), (12), (22), and (24), 212.12 (2) (d), 212.40 (2), (b), and (c), 212.60 (1) (intro.), (b), (d), (e), and (g), 212.70 (1) (a), and (b), 212.70 Table 5m (title), 217.14 (2) and (3); to **repeal and recreate** NR 106.05 (8), 106.06 (3) (b), 106.07 (2), (3), (4), and (5), 106.08, 106.09 (2) (e), and (3) (c), 106.33, 106.37 (2), 106.88 (1), (2), (3), and (5), 106.89, 212.02 (1); and to **create** NR 106.03 (1g), (2m), note, (5m), and (13m), 106.04 (3m), 106.06 (3) (e), and (4) (f), 106.07 (1) (title), (2) note, (3) note, (4) note, (5m), (6) (title), (7) (title), (8) (title), (9) (title), and (10), 106.09 (2) (f), and (3) (c) and (d), 106.11 note, 106.32 (2) (e), 205.03 (9g), 205.065 and 205.066, NR 212 Subchapter I (title), NR 212 Subchapter II (title), NR 212 Subchapter III and (title) relating to WPDES permit implementation, TMDL implementation, and TMDL development and affecting small business.

**WT-11-12**

**Analysis Prepared by the Department of Natural Resources**

**1. Statute Interpreted:** Chapters 227 and 283, Stats.

**2. Statutory Authority:** Sections 227.11, 283.11, 283.13, 283.15, 283.31, 283.35, 283.41, and 283.45, Stats.

**3. Explanation of Agency Authority:**
Chapter 283, Stats., grants authority to the department to establish, administer and maintain a Wisconsin Pollutant Discharge Elimination System (WPDES) Permit Program consistent with the requirements of the federal water pollution control act of 1972, commonly known as the Clean Water Act. More specifically, s. 283.11(1), Stats., authorizes the department to promulgate by rule effluent limitations and standards for any category of point sources established by the U.S. Environmental Protection Agency (EPA) and for which EPA has promulgated effluent limitations and standards. In addition, s. 283.13, Stats., authorizes the department to establish technology-based effluent limitations as well as more stringent water quality-based effluent limitations to comply with any state or federal law, rule or regulation. Section 283.15, Stats., authorizes variances to water quality-based effluent limitations. Section 283.31, Stats., provide authority to issue permits that require compliance with effluent limitations and standards for point source discharges to surface waters. General permits conveying coverage to multiple point sources can be issued pursuant to s. 283.35, Stats. Section 283.45, Stats., grants authority to develop

permit fact sheets to accompany the WPDES permit. The department also has general authority to promulgate rules under s. 227.11 (2) (a), Stats., that interpret the specific statutory authority granted in ch. 283, Stats.

**4. Related Statutes or Rules:**
These rules relate directly to the WPDES permit program that regulates wastewater discharges. Chapters NR 106 and NR 212, Wis. Adm. Code, relate to permit processing and permit issuance procedures. Chapter NR 205, Wis. Adm. Code, contains general provisions applicable to the WPDES permit program. Chapters NR 106 and NR 205, Wis. Adm. Code, are also being updated in rule packages WT-13-12, WT-12-12, and WT-31-10. The following board order complements updates made in these other rule packages.

**5. Plain Language Analysis:**
The purpose of the proposed rule is to ensure that the state's regulations relating to WPDES permitting, total maximum daily load (TMDL) implementation, and TMDL development are consistent with federal regulations. On July 18, 2011, the department received a letter from the EPA identifying 75 issues and potential inconsistencies with Wisconsin's authority to administer its approved WPDES permit program. Modifications to chs. NR 106, NR 205, and NR 212 are necessary to address several issues identified in the EPA letter. Minor clarifications and corrections are also needed in these chapters.

Specifically, the proposed rule revisions perform six overall functions: modifies the procedures used to calculate water quality-based effluent limitations for toxic substances; changes how effluent limitations for toxic substances are expressed and when they are included in WPDES permits; modifies the procedure used for determining when whole effluent toxicity (WET) limitations are required in WPDES permits; creates a framework to develop and implement TMDLs; clarifies and modifies procedures for granting compliance schedules; and other modifications. The proposed changes are briefly described below.

Calculation of Water Quality-Based Effluent Limitations (Issues 2, 28, and 35)

The proposed rule creates a new methodology for calculating acute fish and aquatic life water quality-based effluent limitations for toxic substances to address issue 28 in EPA's July 18, 2011 letter. This change is necessary to conform to 40 CFR 122.44(d)(1)(vii)(A) and to ensure that Wisconsin's permitting program is adequately protecting fish and aquatic life from acute toxicity effects in low dilution situations. Specifically, the rule creates a mass balance approach to calculate acute fish and aquatic life water quality-based effluent limitations in low dilution conditions using 1-day 10-year hydrologically-based low flow data (1Q10).

This rule package also proposes changes to the specific provisions relating to the imposition of ammonia water quality-based effluent limits in permits to address issue 35 in EPA's letter. Under current laws, WPDES permits may not include ammonia limitations when they exceed 20 mg/L in the summer and 40 mg/L in the winter. This provision does not conform to the requirements in 40 CFR 122.44(d) and was determined invalid in MEA v. WDNR, Case No. 12CV3654. This rule revision proposes to delete this provision and base all permitting decisions for ammonia on a reasonable potential analysis in conformance with existing reasonable potential procedures for ammonia in ch. NR 106.

Other proposed changes are included that are clarifying in nature. Specifically, the rulemaking seeks to clarify DNR's ability to:

- Establish effluent limitations on internal waste streams (Issue 2 – 40 CFR 122.45 (h))
- Include mass limitations in addition to concentration based effluent limitations (Issue 2 – 40 CFR 122.44(f))

and secondary values. These adjustments are intended to address part of issues 31, 32, 37 and 40 in EPA's comment letter. These changes will clarify that a compliance schedule must be an enforceable sequence of actions or operations leading to compliance with an effluent limitation, and clarify that compliance schedules can only be granted if it is demonstrated that an existing point source can't comply with a permit limitation upon permit reissuance.

Currently, Wisconsin law allows additional time to be added to an ammonia compliance schedule at ss. NR 16.332(2)(b)(2), NR 106.32(3)(a)4.a, and NR 106.37(2-3), Wis. Adm. Codes, for the purposes of gathering additional data. As currently written, these provisions do not conform to the requirements of 40 CFR 122.47 and were determined invalid in Court Case No. 12CV3654 MEA vs. WDNR. This rule revision proposes to delete portions of these sections so that time cannot be added to a compliance schedule for the purposes of collecting additional data. Revisions are also proposed to clarify that a WPDES permit may be modified if an alternative ammonia limitation is approved by WDNR during the term of the permit or at the time of permit application. These modifications are subject to antidegradation requirements in ch. NR 207, Wis. Adm. Code.

Although compliance schedules cannot be extended for the purposes of data collection in most instances, 40 CFR Part 132, Appendix F, Procedure 9, does allow time to be added to a compliance schedule for the purposes within the Great Lakes basin for limitations based on secondary criteria. Section NR 106.07(8), Wis. Adm. Code, which authorizes an extension in the compliance schedule for secondary values, was clarified that this extension is only available for point sources within the Great Lakes Basin. This change addresses issue number 32 in EPA's letter.

Other (Issues 36, 38, 39 and 43)
Several changes are recommended to clarify EPA's role in the approval of variances to water quality standards and clarifications to variance procedures for chloride and ammonia water quality-based effluent limitations (issues 38, 39 and 43). These changes do not inhibit an individual permittee's ability to request a chloride or ammonia variance, but are solely meant for clarification purposes. This rule also repeals the initial variance procedures for ammonia water quality-based effluent limits as specified in s. NR 106.38, as these procedures are no longer applicable since the date for the initial variance has lapsed. Again, this change does not affect a point source discharger's ability to request an ammonia variance. This rule revision also clarifies that increases in permit limitations that have become effective in a WPDES permit are subject to antidegradation procedures in ch. NR 207, Wis. Adm. Code. The specific rule provisions regarding the application of antidegradation procedures to increased ammonia limits were also deleted to address issue 36 in EPA's comment letter. Other minor clarifications and corrections are also recommended in the proposed revisions.

**6. Summary of, and Comparison with, Existing or Proposed Federal Statutes and Regulations:**
The purpose of this rule package is to conform to existing federal regulations and improve continuity between state and federal requirements. No proposed federal regulations are applicable for this rule package. Specific federal laws that this rule seeks to conform with include:

- 40 CFR 122.44(d) which provides that water quality-based effluent limits (WQBELs) must be derived from and comply with water quality standards and designated uses;
- 40 CFR 122.45 which addresses a variety of issues including the duration over which effluent limitations are to be expressed, internal waste streams, and mass limitations;
- 40 CFR 122.47, which specifies the protocols and restrictions for establishing compliance schedules in WPDES permits for pollutants including ammonia and chloride;

- Express water quality-based effluent limitations for metals as total recoverable (Issue 2- 40 CFR 122.45(c))

Expression and Inclusion of Effluent Limits in WPDES Permits (Issue 2, 30, 34, 40, 41 and 70)

The proposed rule modifies how water quality-based and technology-based effluent limitations are to be expressed in WPDES permits in order to comply with the requirements in 40 CFR 122.45(d) and applicable EPA guidance. Specifically, federal law and guidance requires that weekly average and monthly average limitations be included in WPDES permits for a given pollutant whenever limitations are determined to be necessary for continuous discharges subject to NR 210 - mainly publicly-owned treatment works (POTWs). Daily maximum and monthly average limitations are required in WPDES permits for a given pollutant whenever limitations are determined to be necessary for continuous discharges not subject to NR 210 (e.g. industrial discharges). Changes to s. NR 106.07 are made to address this issue. There is an exception to 40 CFR 122.45(d). The department may choose to not express limits as specified in 40 CFR 122.45(d) if it is impracticable. The department made a demonstration for phosphorus limitations that expression of water quality-based limits as specified in 40 CFR 122.45(d) was impracticable, and EPA approved the state's impracticability demonstration.

This rule package does not change the reasonable potential procedures in s. NR 106.05, Wis. Adm. Code. However, clarification was provided to explicate that any water quality-based effluent limitation, which has the reasonable potential to be exceeded, will be included in the WPDES permit (Issue 40). This rule also clarifies the departments authority to include a water quality-based effluent limitation absent representative effluent data for a pollutant (Issue 70).

Whole Effluent Toxicity (WET) (Issue 2, 10, 42, and 74)

EPA over-promulgated Wisconsin's WET reasonable potential procedures used for discharges to the Great Lakes Basin on December 6, 2000 at 40 CFR 132.6(j). This issue was included in issues 10 and 74 of EPA's July 18th letter. To conform to the requirements of the Great Lakes Initiative (GLI) (40 CFR 132.6 (j), and 40 CFR part 132, Procedure 6 Appendix F, Paragraph D), the proposed rule modifies the reasonable potential process used for determining whether WET limitations are required in WPDES permits. Specifically, the proposed methodology utilizes a reasonable potential multiplication factor to convert the calculated effluent toxicity value to the estimated 95th percentile toxicity value. In addition to these changes, this rulemaking provides clarification to situations where chloride limitations are included in WPDES permits in lieu of WET limitations (Issue 42), and requires that WET permitting decisions be made whenever representative WET data is available (Issue 74). The proposed rule revision also seeks to clarify the averaging period of WET limitations (Issue 2). The WET procedures will apply statewide.

TMDL Development and Implementation (Issue 10)
In 2000, EPA disapproved of Wisconsin's TMDL development program for toxic compounds, and other pollutants subject to GLI regulations, discharged into the Great Lakes Basin and promulgated 40 CFR 132.6(h). To conform to the requirements of 40 CFR 130.7 and the GLI at 40 CFR part 132, Appendix F, the proposed rule revision seeks to create NR 212 subchapter II to describe acceptable TMDL development procedures and to clarify procedures used to implement approved TMDLs in WPDES permits. Specifically, this rule provides general allocation procedures for TMDLs developed in the Great Lakes Basin as well as in other basins in the state, and provides procedures for deriving TMDL-based limitations, and public participation opportunities. These changes seek to address the TMDL component of issue 10 in EPA's comment letter.

Compliance Schedules (Issues 31, 32, 37, and 40)
This rule revision proposes several changes to compliance schedule provisions for chloride, ammonia,

- 40 CFR Part 132, Appendix F, Procedure 9, which authorizes compliance schedule extensions within the Great Lakes Basin;
- 40 CFR, Part 132, Appendix F, Procedure 3, pertaining to TMDLs in the Great Lakes Basin;
- 40 CFR, Part 132, Appendix F, Procedure 5, pertaining to establishing WQBELs in the Great Lakes Basin; and
- 40 CFR, Part 132, Appendix F, Procedure 6, pertaining to whole effluent toxicity in the Great Lakes Basin.

Calculation of Water Quality-Based Effluent Limitations (Issue 28, 35, 36, 40, 42, 43, 70, and 74)
40 CFR 122.44(d)(1)(vii)(A) states that effluent limits must be established using a calculated numeric water quality criterion for the pollutant which will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Under existing Wisconsin law, acute water quality criteria may be exceeded in a stream or river in low stream flow situations. To address this apparent discrepancy, a new method is proposed for calculating water quality-based effluent limitations based on acute toxicity effects to fish and aquatic life. Additionally, adjustments to the limit calculation procedures for chloride and ammonia were made to conform to these requirements. These changes specify that chloride and ammonia limitations will be included in WPDES permits whenever these limitations are determined to be necessary through reasonable potential. The proposed rules also address how WET limitations and chloride limitation interact to meet the requirements of 40 CFR 122.44(d).

Expression and Inclusion of Effluent Limits in WPDES Permits (Issue 2)
40 CFR 122.45(d) stipulates that permit limitations be expressed as weekly average and monthly average limitations for continuous POTW discharges, and maximum daily limitations and monthly average limitations for all other continuous discharges, unless impracticable. Additionally, EPA provides a methodology for calculating and expressing limitations in conformance with 40 CFR 122.45(d) in the "Technical Support Document for Water Quality-based Toxic Control" (March 1991). The proposed rule revisions comply with these requirements by creating a methodology and process for calculating water quality-based effluent limits and expressing all permit limits in Wisconsin. This methodology draws from the Technical Support Document as well as the toxicological data and intent of the water quality criteria to ensure that permit limits are adequately protective of Wisconsin's surface water and designated uses, without being overly restrictive. This rule also maintains the ability to express limitations through other averaging periods if an impracticability demonstration is made. 40 CFR 122.45 also includes requirements for establishing effluent limitations for internal waste streams, mass limitations, and other issues. Revisions are proposed to include these federal requirements.

Whole Effluent Toxicity (Issue 10)
The GLI requires specific reasonable potential procedures be used to determine the need for WET limitations for point source discharges in the Great Lakes Basin at 40 CFR part 132, Procedure 6 of Appendix F. EPA over promulgated Wisconsin's WET reasonable potential procedures in the Great Lakes Basin on December 6, 2000 at 40 CFR 132.6(j) because Wisconsin's existing program does not comply with these requirements. The proposed rule revision modifies the reasonable potential procedures used for WET limitations to address this over promulgation.

TMDL Development and Implementation (Issue 10)
The GLI requires specific procedures for developing and implementing TMDLs in the Great Lakes Basin at 40 CFR part 132, Procedure 3 of Appendix F. TMDL procedures are also specified at 40 CFR 130.7. In 2000, EPA disapproved of Wisconsin's TMDL development program for toxic compounds, and other pollutants regulated in the GLI and discharged into the Great Lakes Basin and consequently promulgated 40 CFR 132.6(h). The proposed rule revision creates a subchapter in NR 212 to address this over promulgation and to conform to the federal requirements in 40 CFR 132.6(h) and 40 CFR 130.7.

Compliance Schedules (Issues 31, 32, 37, and 40)
Section 502(17) of the Clean Water Act (CWA), 33 U.S.C. 1362(17), defines a compliance schedule as an "enforceable sequence of actions or operations leading to compliance with an effluent limitation". 40 CFR 122.47 also establishes requirements for compliance schedules. A demonstration or data collection that is intended to justify a change in an effluent limitation is not an action leading to compliance with a final effluent limitation under the CWA. Therefore, the proposed rule revision recommends changes to the ammonia and chloride compliance schedule procedures to conform to these requirements. 40 CFR Part 132, Appendix F, Procedure 9, does allow time to be added to a compliance schedule for these purposes for dischargers within the Great Lakes basin that have limitations based on secondary criteria. Therefore, revisions are also recommended to the compliance schedule program for secondary values to limit this authority to only discharges in the Great Lakes Basin in conformance with federal law.

Other
A variance is a revision to a water quality standard that must be supported on the basis of one of the factors specified in 40 CFR 131.10(g), and requires EPA review and approval before it can be implemented (40 CFR 131.21(c)). This rule revision proposes to clarify EPA's role in reviewing variances, and also provides clarification on chloride and ammonia variance procedures.

**7. Comparison with Similar Rules in Adjacent States:**
All the other EPA Region 5 states (Illinois, Indiana, Michigan, Minnesota and Ohio) are subject to the EPA regulations. Iowa and portions of the EPA Region 5 states that do not drain to the Great Lakes are not subject to GLI requirements. Although Wisconsin's program is consistent with federal law, it is not directly comparable to the Iowa implementation program, as Wisconsin is subject to these additional federal requirements. A brief comparison of key states is provided below on the six key issues addressed in the proposed rule revision.

Calculation of Water Quality-Based Effluent Limitations
All EPA Region 5 states and Iowa appear to use the final acute value (FAV) and mass balanced approach for calculating water quality-based effluent limitations to protect from acute toxicity effects on fish and aquatic life. Iowa, Indiana, and Ohio use a 1Q10 mass balance based approach for calculating these tyoes of water quality-based effluent limitations. Illinois, Michigan, and Minnesota also use a mass balance based approach for calculating these water quality-based effluent limitations but do not specify the specific stream flow data used in this equation in code. After a cursory review of available guidance, it appears that 7Q10 data are used or alternative flow based on best professional judgment. Additionally, none of these states have a 20 mg/L or 40 mg/L cap for ammonia limitations specified in code. It is noted, however, that Michigan does have specific ammonia limitations codified for categories of point source discharges. Therefore, repealing this provision would make Wisconsin's program consistent with EPA regulations, the other EPA Region 5 states, and Iowa.

Expression and Inclusion of Effluent Limits in WPDES Permits
Michigan, Illinois, Ohio, and Iowa express water quality-based effluent limitations derived from acute toxicity impacts on fish and aquatic life as daily maximum limitations, and water quality-based effluent limitations derived from chronic toxicity as monthly average limitations. Statistical methods are not specified in Ohio or Iowa for converting chronic water quality standards for toxic substances to monthly average permit limitations. Michigan and Illinois, on the other hand, chose to codify portions of EPA's Technical Support Document to convert chronic water quality standards to monthly average limitations. Human health limitations are solely expressed as monthly average limitations in these states.
These states do not provide a codified methodology for creating additional permit limitations if the triggered water quality-based effluent limitations are not sufficient to meet the requirements of 122.45(d). Minnesota and Indiana's approach for expression and inclusion of effluent limitations in permits is

structured identically to 122.45(d). Minnesota does not provide a methodology in code for calculating these limitations. Indiana, on the other hand, chose to codify EPA's recommending methodology in the Technical Support Document. The proposed rule revisions closely mirrors Indiana's approach for calculating and expressing permit limits as this approach reflects the requirements of 122.45(d) and EPA guidance. However, the proposed methodology also considers the averaging period used for deriving the toxicity criteria and, therefore, differs slightly from the Indiana approach.

Whole Effluent Toxicity

Indiana, Michigan, and Ohio's WET reasonable potential procedures were also over promulgated by EPA on September 5, 2000 at 40 CFR 132.6(c). Indiana and Michigan updated their WET reasonable potential procedures to be consistent with the GLI since the over promulgation. Michigan also specifies when chloride or other pollutant limitations can be used in lieu of WET limitations similar to Wisconsin. Other states do not specify this authority in code. It is not clear whether this action has satisfied EPA at this time. Illinois chose to incorporate the requirements of Procedure 5 of Appendix F at 40 CFR 132 by reference. Illinois uses an alternative method for WET data outside of the Great Lakes basin, however. Wisconsin is proposing to apply the same procedure statewide. Iowa does not appear to have specific WET procedures in code. Iowa is not subject to the GLI and is, therefore, not subject to the same federal restrictions as Wisconsin.

TMDL Development and Implementation

TMDL develop and implementation procedures vary among the EPA Region 5 states. Minnesota, for example, does not have any procedures in code for specifying TMDL development or implementation at this time. Their current TMDL program relies solely on guidance. Michigan and Indiana have promulgated general principles and procedures for developing and implementing TMDLs that appear to align with the requirements of the GLI. Indiana's program solely applies to TMDLs within the Great Lakes Basin, and not to discharges outside of the Basin. Indiana does specify general provisions for calculating wasteload allocations in the absence of a TMDL and preliminary wasteload allocations for the entire state, however. Ohio's program incorporates by reference the requirements of 40 CFR 130.7. Additional specificity is provided in Ohio's TMDL procedures, but these do not align directly with the requirements for the GLI. Illinois TMDL program in the Great Lakes Basin is not specific at this time, and was over promulgated by EPA on September 5, 2000 at 40 CFR 132.6(b). Iowa does not appear to have specific TMDL procedures in code. Iowa is not subject to the GLI and is, therefore, not subject to the same federal restrictions as Wisconsin.

Compliance Schedules

All EPA Region 5 states and Iowa specify their authority for granting compliance schedules for toxic substances in code, including ammonia and chloride. This authority aligns with the CWA, but these programs have varying specificity provided in code. For example, Michigan and Illinois have specific measures and time frames specified in code for their compliance schedules. They also provide that a "reopener" clause can be included in a NPDES permit to modify the permit pending new data, but these data collection efforts are not authorized as part of the compliance schedule. Additionally Michigan and Illinois allow time extensions for the purposes of data collection in compliance schedule for water quality-based effluent limitations derived secondary values. Illinois does not limit this extension to only Great Lake discharges, however. Indiana and Minnesota's compliance schedule authority, on the other hand, is more generically stated compared to Michigan and Illinois, and solely defines what a compliance schedule is and what the maximum duration of a compliance schedule may be.

Other

All water quality standard variances must be approved by EPA. Some states including Illinois, Iowa, and Minnesota do not specify this approval authority specifically in code. Other states such as Michigan and Indiana do specify this authority.

**8. Summary of Factual Data and Analytical Methodologies Used and How Any Related Findings Support the Regulatory Approach Chosen:**
The methodology identified in this rule package is based on Clean Water Act and Great Lake Initiative requirements and on EPA guidance including the *Technical Support Document for Water Quality-based Toxics Control* (March 1991). PB91-127415.

**9. Analysis and Supporting Documents Used to Determine the Effect on Small Business or in Preparation of an Economic Impact Report:**
DNR's System for Wastewater Applications, Monitoring and Permits (SWAMP) was used to compile existing WET data by permittee. These data were then analyzed to determine which of these permittees would trigger a chronic or acute WET limitation based on the revised reasonable potential methodology. Quotes from WET laboratories frequently used by point source discharges in Wisconsin were used to provide a range of costs for WET testing and TRE studies. Shipping quotes were also gathered from frequently used shipping companies, which included overnight and weekend shipping rates. Other costs, such as staff time, are site-specific and difficult to approximate. Therefore, a 5% margin of safety was added to the total costs projected to account for other potential costs.

**10. Effect on Small Business (initial regulatory flexibility analysis):**
Of the 126 WPDES permit holders that are believed to be economically and fiscally impacted by the proposed rule revision, 43 dischargers are believed to be small businesses. The potentially impacted businesses include food processors, cheese makers, and other small businesses like metal finishing plants and manufacturers. WET laboratories are typically small business and would likely be positively impacted by the revisions. Costs incurred by these small businesses are the result of increased WET monitoring, and toxicity reduction evolution (TRE) studies. It is estimated that small cheese makers may incur a fiscal impact of $83,000-$109,000, the impact to food processors may range from $51,000-$65,500, and other small businesses may incur a cost between $24,000-$35,000. Flexibility has been built into this rule to help minimize these economic impacts. Specifically, the rule package clarifies what WET data should be used to make WET limitation determinations in WPDES permits. Additionally, this rule provides flexibility on monitoring and reporting requirements for WET.

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**12. Place where comments are to be submitted and deadline for submission:**
Written comments may be submitted at the public hearings, by regular mail, fax or email to:
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Written comments may also be submitted to the Department using the Wisconsin Administrative Rules Internet Web site at http://adminrules.wisconsin.gov.

Hearing dates and the comment submission deadline are to be determined.

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**SECTION 1. NR 106.03 (1) is renumbered NR 106.03 (1r).**

**SECTION 2. NR 106.03 (1g), (2m) and note, and (5m) are created to read:**

**NR 106.03 (1g)** "AMZ" means acute mixing zone concentration based on presence of a zone of initial dilution under s. NR 106.06 (3) (c).

**(2m)** "Deficiency toxicity" means a condition that exists when adverse effects occur to aquatic organisms because concentrations of common ions are too low.

**Note:** Changes in the concentration of ions in surrounding waters can cause organisms to expend too much energy trying to regulate the balance of water and dissolved materials in bodily fluids, and may result in death.

**Note:** Examples of common ions are sodium, calcium, magnesium, potassium, etc.

**(5m)** "IC50" means the point estimate of the concentration of a toxic substance, wastewater effluent or other aqueous mixture that would cause a 50% reduction in a nonlethal biological measurement, such as reproduction or growth, of the exposed test organisms in a given time period.

**SECTION 3. NR 106.03 (10) and (11) are repealed.**

**SECTION 4. NR 106.03 (13) is amended to read:**

**NR 106.03 (13)** "$TU_a$" or "toxic unit acute" means a value that is equal to 100 divided by the LC50 ~~$LC_{50}$~~ except as provided in s. NR 106.08 (6) (d).

**SECTION 5. NR 106.03 (13m) is created to read:**

**NR 106.03 (13m)** "$TU_c$" or "toxic unit chronic" means a value that is equal to 100 divided by the IC25 or the IC50 except as provided in s. NR 106.08 (6) (d).

**SECTION 6. NR 106.03 (14) is amended to read:**

**NR 106.03 (14)** "Whole effluent toxicity" or "WET" means the aggregate toxic effect of an effluent as measured directly by a toxicity test.

**SECTION 7. NR 106.04 (1) is amended to read:**

**NR 106.03 (14)** The department shall establish water ~~Water~~ quality based effluent limitations ~~shall be established~~ whenever categorical effluent limits required under s. 283.13, Stats., are less stringent than necessary to achieve applicable water quality standards specified in chs. NR 102 to 105. Water quality based effluent limitations for a point source shall be specified in the WPDES permit for that point source.

**SECTION 7. NR 106.04 (3m) is created to read:**

**NR 106.04 (3m)** In lieu of imposing limitations at the point of discharge when imposition of limitations at the point source discharge location is impracticable or infeasible, the department may impose water quality-based effluent limitations on an internal waste stream before that waste stream mixes with other waste streams or cooling water streams. Monitoring requirements as specified in s. NR 106.07 (1) shall also be applied to the internal waste streams in these instances.

**SECTION 8. NR 106.05 (1) (c) is amended:**

**NR 106.05 (1) (c)** If the department determines that a limitation based on an aquatic life acute or chronic secondary value should be established in a permit according to the provisions in

this section, a permittee may request an alternative ~~wet~~ WET limit in accordance with s. NR 106.07 (7).

**SECTION 9. NR 106.05 (8) is repealed and recreated to read:**

**NR 106.05 (8)** If representative discharge data are not available for a substance, the department may include water quality-based effluent limitations in a permit if, in the judgment of the department, water quality standards will be exceeded if the discharge of the substance is not limited.

**SECTION 10. NR 106.05 (8) note is repealed.**

**SECTION 11. NR 106.06 (3) (b) is repealed and recreated to read:**

**NR 106.06 (3) (b) (intro)** To assure compliance with par. (a), the department shall calculate the water quality-based effluent limitation for a substance using the following procedures whenever the background concentration of the substance in the receiving water is less than the acute water quality criterion or secondary value:

1. A limitation shall be calculated using the following conservation of mass equation whenever sufficient site-specific data exist:

$$\text{Limitation} = \frac{(WQC)\,(Qs + (1-f)Qe) - (Qs - fQe)\,(Cs)}{Qe}$$

Where:

Limitation = Calculated limitation based on the acute toxicity criterion or secondary acute value (in units of mass per unit of volume).

WQC = The acute toxicity criterion appropriate for the receiving water as specified in chs. NR 102 to 105 or the secondary acute value determined according to ch. NR 105 or as referenced in sub. (1)

Qs = Receiving water design flow (in units of volume per unit time) under par. (bm)

Qe = Effluent flow (in units of volume per unit time) as specified in s. NR 106.06 (4) (d)

f = Fraction of the effluent flow that is withdrawn from the receiving water, and

Cs = Background concentration of the substance (in units of mass per unit volume) as specified in s. NR 106.06 (4) (e).

**[NOTE to LRB: this is the same equation found in NR 106.06 (4) (b) (1) and formatted the same.]**

2. A limitation shall be calculated equal to the final acute value or secondary value as determined in s. NR 105.05 for the respective fish and aquatic life subcategory for which the receiving water is classified.

3. The department shall use the more restrictive calculated effluent limitation derived in subds. 1. and 2. as the water quality-based effluent limitation. If the background concentration of the substance in the receiving water is greater than the acute water quality criterion or secondary value for the substance, then the procedure in sub. (6) shall be used to calculate the limitation.

**SECTION 12. NR 106.06 (3) (bm) is created to read:**

**NR 106.06 (3) (bm)** The value of Qs of the receiving water for calculating effluent limitations in par. (a) based upon the acute fish and aquatic life criteria or secondary values developed according to ch. NR 105 shall be determined on a case-by-case basis. In no case may the Qs exceed the average minimum 1-day flow which occurs once in 10 years (1-day Q10) or if the 1-day Q10 flow data is not available, 80% of the average minimum 7-day flow that occurs once in 10 years (7-day Q10).

**SECTION 13. NR 106.06 (3) (c) (intro), 4., and 5. are amended to read:**

**NR 106.06 (3) (c) (intro)** Except as provided ~~in par. (d)~~ sub. (2), water quality-based effluent limitations as derived in par. (b) may exceed the final acute value or the secondary acute value within a zone of initial dilution provided that the acute toxicity criteria or secondary acute

values are met within a short distance from the point of discharge. A zone of initial dilution shall only be approved if the discharger demonstrates to the department that mixing of the effluent with the receiving water in the zone of initial dilution is rapid and all the following conditions are met:

4. The acute toxicity criteria or secondary acute values ~~must~~ shall be met within 10% of the distance from the edge of the outfall structure to the edge of a mixing zone which may be determined in accordance with s. NR 102.05 (3).

5. The acute toxicity criteria or secondary acute values shall be met within a distance of 50 times the discharge length scale in any direction. The discharge length scale is defined as the square root of the cross-sectional area of any discharge outlet. If a multiport diffuser is used, the requirement ~~must~~ in this subdivision shall be met for each port using the appropriate discharge length scale for that port.

**SECTION 14. NR 106.06 (3) (e) and (4) (f) are created to read:**

**NR 106.06 (3) (e)** The department shall use the methodology in s. NR 106.07 (3) to (5) to express water quality-based effluent limitations derived in this subsection as permit effluent limitations.

**(4)** (f) The department shall use the methodology in s. NR 106.07 (3) to (5) to express water quality-based effluent limitations derived in this section as permit effluent limitations.

**SECTION 15. NR 106.06 (7) (intro.) is amended to read:**

**NR 106.06 (7) (intro.)** Effluent limitations may be established in a permit under this subsection based upon the acute and chronic aquatic life toxicity criteria expressed as dissolved concentrations ~~which~~ that are determined using the procedures specified in ss. NR 105.05 (5) and 105.06 (8). Effluent limitations for metals calculated under this section shall be expressed as

total recoverable in a permit. All of the following shall apply in establishing effluent limitations under this subsection:

**SECTION 16. NR 106.07 (1) (title) is created to read:**

**NR 106.07 (1)** (title) PERMIT MONITORING FREQUENCY.

**SECTION 17. NR 106.07 (2) is repealed and recreated to read:**

**NR 106.07 (2)** GENERAL. Except as provided in subs. (3) and (4), a chemical specific water quality-based effluent limitation that is calculated under this chapter shall be expressed in the permit as both a concentration limitation and a mass limitation unless the pollutant cannot appropriately be expressed by mass or a mass limitation is infeasible because the mass of the pollutant cannot be related to a measure of operation. Water quality-based mass limits for discharges of chlorine are not required in permits. The concentration limitation shall be expressed in units of mg/L or equivalent units. The mass limitation shall be expressed in units of kg/day or equivalent units. All of the following procedures shall be used when calculating mass limitations:

(a) For dischargers subject to ch. NR 210, an acute toxicity based concentration limitation that is derived by the procedure in s. NR 106.06 shall be converted to a mass limitation by using the discharger's maximum effluent flow, expressed as a daily total flow, that is anticipated to occur for 24 continuous hours during the design life of the treatment facility.

(b) For all other dischargers not subject to ch. NR 210, an acute toxicity based concentration limitation that is derived by the procedures in s. NR 106.06 shall be converted to a mass limitation by using the discharger's maximum effluent flow, expressed as a daily total flow, that has occurred for 24 continuous hours and represents normal operations. When calculating a mass limitation, the department may consider a projected increase in effluent flow that will occur when production is increased or modified, or another wastewater source, including stormwater, that is added to an existing wastewater treatment facility. This paragraph does not waive the requirements of ch. NR 207.

(c) An aquatic life chronic, human health, or wildlife-based concentration limitation that is

determined by the procedures in s. NR 106.06 shall be converted to a mass limitation by using the same effluent flow rate that was used in s. NR 106 (4) (d) to calculate the chronic toxicity concentration limitation.

(d) A chronic toxicity-based mass limitation that is determined by the procedures in s. NR 106.11 shall be converted to a concentration limitation by using an effluent flow rate from s. NR 106.06 (4) (d).

**Note:** An example of when a mass limitation is infeasible is water quality-based mass limits for discharges of temperature. Therefore, temperature mass limitations are not required in permits.

**SECTION 18. NR 106.07 (3) is repealed and recreated to read:**

**NR 106.07 (3)** EXPRESSION OF CONCENTRATION LIMITATIONS IN PERMITS FOR CONTINUOUS DISCHARGES SUBJECT TO CH. NR 210. (a) *Applicability.* The procedures for expressing limitations in permits in this subsection apply to continuous discharges subject to ch. NR 210 when there is reasonable potential under s. NR 106.05 to exceed a water quality-based effluent limitation based on fish and aquatic life protection, human health, or wildlife protection that is calculated under s. NR 106.06. This subsection does not apply if another provision in this chapter or another administrative code requires a different time period for expressing limits for a specific pollutant, type of discharge, or parameter, or if the department determines that expression of limitations in accordance with this subsection is impracticable under sub. (10).

**Note:** An example of a different time period for expressing limits for a specific pollutant or parameter is WET limitations as specified in s. NR 106.09.

(b) *Expression of water quality-based effluent limitations based on acute criterion.* If there is reasonable potential under s. NR 106.05 to exceed a water quality-based effluent limitation calculated under s. NR 106.06 for a pollutant that is based on an acute criterion or secondary value that limitation shall be expressed as a daily maximum and included in the WPDES permit.

(c) *Expression of water quality-based effluent limitations based on chronic criterion.* If there is

reasonable potential under s. NR 106.05 to exceed a water quality-based effluent limitation calculated under s. NR 106.06 for a pollutant that is based on a chronic criterion or secondary value that limitation shall be expressed as a weekly average and included in the WPDES permit.

(d) *Expression of water quality-based effluent limitations based on human health or wildlife criterion.* If there is reasonable potential under s. NR 106.05 to exceed a water quality-based effluent limitation calculated under s. NR 106.06 for a pollutant that is based on a human health or wildlife criterion or secondary value that limitation shall be expressed as a monthly average and included in the WPDES permit.

(e) *Additional permit limitations.* Both a weekly average and monthly average permit limitation shall be included in a WPDES permit for a pollutant whenever any water quality-based effluent limitation for that pollutant is determined necessary under s. NR 106.05. A daily maximum limitation shall be included in a WPDES permit in addition to the weekly average and monthly average limitation if the daily maximum limitation is determined necessary under par. (b). The department shall use all of the following procedures to include weekly average and monthly average limitations in WPDES permits:

1. If a daily maximum limitation is the only limitation determined necessary for a pollutant under s. NR 106.05, a weekly average and monthly average limitation shall still be included in the permit and shall be set equal to the daily maximum limitation or the calculated weekly average and monthly average water quality-based effluent limitations, whichever is more restrictive.

2. If a weekly average limitation is determined necessary for a pollutant under s. NR 106.05, but a monthly average limitation is not determined necessary for that pollutant in the permit under s. NR 106.05, a monthly average limitation shall still be included in the permit and shall be set

equal to the weekly average limitation or the monthly average water quality-based effluent limitation calculated under s. NR 106.06, whichever is more restrictive. A daily maximum limitation shall be included if deemed necessary under s. NR 106.05.

3. If a daily maximum and monthly average limitation are determined necessary in a permit for a pollutant under s. NR 106.05, but a weekly average limit is not necessary for that pollutant under s. NR 106.05, a weekly average limitation shall still be included in the permit for the pollutant and shall be set equal to the daily maximum limitation or the weekly average water quality-based effluent limitation calculated under s. NR 106.06, whichever is more restrictive.

4. If a monthly average limitation is the only limitation determined to be necessary for a pollutant under s. NR 106.05, a weekly average limitation shall still be included in the permit and shall be set equal to the weekly average water quality-based effluent limitation calculated under s. NR 106.06, or a weekly average limitation calculated using the following procedure, whichever is more restrictive:

Weekly Average Limitation = (Monthly Average Limitation*MF)

Where:

MF= Multiplication factor as defined in Table 1

CV= The coefficient of variation (CV) as calculated in s. NR 106.07 (5m)

n= the number of samples per month required by WPDES permit

**NR 106.07 (3) (e) 4. Table 1 — Multiplication Factor**

| CV | n=1 | n=2 | n=3 | n=4 | n=8 | n=12 | n=16 | n=20 | n=24 | n=30 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.1 | 1.00 | 1.07 | 1.10 | 1.12 | 1.16 | 1.17 | 1.18 | 1.19 | 1.20 | 1.20 |
| 0.2 | 1.00 | 1.13 | 1.20 | 1.24 | 1.32 | 1.36 | 1.39 | 1.40 | 1.41 | 1.43 |
| 0.3 | 1.00 | 1.19 | 1.29 | 1.36 | 1.49 | 1.56 | 1.60 | 1.63 | 1.65 | 1.67 |
| 0.4 | 1.00 | 1.24 | 1.37 | 1.46 | 1.66 | 1.75 | 1.81 | 1.86 | 1.89 | 1.93 |
| 0.5 | 1.00 | 1.28 | 1.45 | 1.56 | 1.81 | 1.94 | 2.02 | 2.08 | 2.13 | 2.18 |
| 0.6 | 1.00 | 1.31 | 1.51 | 1.64 | 1.95 | 2.12 | 2.23 | 2.30 | 2.36 | 2.43 |
| 0.7 | 1.00 | 1.34 | 1.55 | 1.71 | 2.08 | 2.28 | 2.41 | 2.51 | 2.58 | 2.67 |
| 0.8 | 1.00 | 1.35 | 1.59 | 1.76 | 2.19 | 2.42 | 2.58 | 2.70 | 2.79 | 2.89 |
| 0.9 | 1.00 | 1.36 | 1.61 | 1.80 | 2.27 | 2.54 | 2.73 | 2.86 | 2.97 | 3.09 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.0 | 1.00 | 1.37 | 1.63 | 1.83 | 2.34 | 2.64 | 2.85 | 3.01 | 3.13 | 3.27 |
| 1.1 | 1.00 | 1.37 | 1.63 | 1.84 | 2.39 | 2.72 | 2.95 | 3.13 | 3.27 | 3.43 |
| 1.2 | 1.00 | 1.36 | 1.63 | 1.85 | 2.43 | 2.79 | 3.04 | 3.23 | 3.38 | 3.56 |
| 1.3 | 1.00 | 1.36 | 1.63 | 1.85 | 2.45 | 2.83 | 3.10 | 3.31 | 3.48 | 3.68 |
| 1.4 | 1.00 | 1.35 | 1.62 | 1.84 | 2.46 | 2.86 | 3.15 | 3.37 | 3.55 | 3.77 |
| 1.5 | 1.00 | 1.34 | 1.61 | 1.83 | 2.46 | 2.88 | 3.18 | 3.42 | 3.61 | 3.85 |
| 1.6 | 1.00 | 1.33 | 1.60 | 1.82 | 2.46 | 2.89 | 3.20 | 3.45 | 3.66 | 3.90 |
| 1.7 | 1.00 | 1.32 | 1.58 | 1.80 | 2.45 | 2.88 | 3.21 | 3.47 | 3.69 | 3.95 |
| 1.8 | 1.00 | 1.31 | 1.57 | 1.78 | 2.43 | 2.87 | 3.21 | 3.48 | 3.70 | 3.98 |
| 1.9 | 1.00 | 1.30 | 1.55 | 1.76 | 2.41 | 2.86 | 3.20 | 3.48 | 3.71 | 3.99 |
| 2.0 | 1.00 | 1.29 | 1.54 | 1.74 | 2.38 | 2.84 | 3.19 | 3.47 | 3.71 | 4.00 |

5. Limitations calculated under subds.1. to 4. shall be expressed in terms of concentration unless the department determines that a mass limitation is also necessary to protect fish and aquatic life, human health, or wildlife due to the variability of effluent flow or stream flow or other site-specific factors.

**Note:** This methodology is based on the *Technical Support Document for Water Quality-based Toxics Control* (March 1991). PB91-127415.

**SECTION 19. NR 106.07 (4) is repealed and recreated to read:**

**NR 106.07 (4)** EXPRESSION OF CONCENTRATION LIMITATIONS IN PERMITS FOR CONTINUOUS DISCHARGES NOT SUBJECT TO CH. NR 210. (a) *Applicability.* The procedures for expressing limitations in this subsection apply to continuous discharges that are not subject to ch. NR 210 and when there is reasonable potential under s. NR 106.05 to exceed a water quality-based effluent limitation based on fish and aquatic life protection, human health, or wildlife protection that is calculated under s. NR 106.06. This subsection does not apply if another provision in this chapter or another administrate code chapter requires a different time period for expressing limits that is specific to a pollutant, type of discharge, or other parameter, or if the department determines that expression of limitations in accordance with this subsection is impracticable under sub. (10).

**Note:** An example of a different time period for expressing limits for a specific pollutant or parameter is WET limitations as specified in s. NR 106.09.

(b) *Expression of water quality-based effluent limitations based on acute criterion.* If there is reasonable potential under s. NR 106.05 to exceed a water quality-based effluent limitation calculated under s. NR 106.06 for a pollutant that is based on an acute criterion or secondary value that limitation shall be expressed as a daily maximum and included in the WPDES permit.

(c) *Expression of water quality-based effluent limitations based on chronic criterion.* If there is reasonable potential under s. NR 106.05 to exceed a water quality-based effluent limitation calculated under s. NR 106.06 for a pollutant that is based on a chronic criterion or secondary value that limitation shall be expressed as a weekly average and included in the WPDES permit.

(d) *Expression of water quality-based effluent limitations based on human health or wildlife criterion.* If there is reasonable potential under s. NR 106.05 to exceed a water quality-based effluent limitation calculated under s. NR 106.06 for a pollutant that is based on a human health or wildlife criterion or secondary value that limitation shall be expressed as a monthly average and included in the WPDES permit.

(e) *Additional permit limitations.* Both a daily maximum and monthly average permit limitation shall be included in a WPDES permit for a pollutant whenever any water quality-based effluent limitation for that pollutant is determined necessary under s. NR 106.05. A weekly average limitation shall be included in a WPDES permit in addition to daily maximum and monthly average limitation if the weekly average limit is determined necessary under par. (c). The department shall use all of the following procedures to include daily maximum and monthly average limitations in WPDES permits:

1. If a daily maximum limitation is the only limitation determined necessary for a pollutant under s. NR 106.05, a monthly average limitation shall still be included in the permit and set equal to the daily maximum limitation or the monthly average water quality-based effluent

limitation calculated under s. NR 106.06, whichever is more restrictive.

2. If a weekly average limitation is the only limitation determined necessary for a pollutant under s. NR 106.05 a monthly average limitation shall still be included in the permit and shall be set equal to the weekly average limitation or the monthly average water quality-based effluent limitation calculated under s. NR 106.06, whichever is more restrictive. A daily maximum limitation shall also be included in the WPDES permit and set equal to the daily maximum water quality-based effluent limitation calculated under s. NR 106.06 or a daily maximum limitation calculated using the following procedure, whichever is more restrictive:

Daily Maximum Limitation= WQBELc *DMF

Where:

WQBELc = water quality-based effluent limitation calculated based on chronic criteria under s. NR 106.06.

DMF= Daily Multiplication Factor as defined in Table 2, where

CV= The coefficient of variation (CV) as calculated in s. NR 106.07(5m)

**NR 106.07 (4) (e) 2. Table 2 — Daily Multiplication Factor**

| CV | Multiplying Factor |
|---|---|
| 0.1 | 1.114 |
| 0.2 | 1.235 |
| 0.3 | 1.359 |
| 0.4 | 1.460 |
| 0.5 | 1.557 |
| 0.6 | 1.639 |
| 0.7 | 1.712 |
| 0.8 | 1.764 |
| 0.9 | 1.802 |
| 1.0 | 1.828 |
| 1.1 | 1.842 |
| 1.2 | 1.849 |
| 1.3 | 1.851 |
| 1.4 | 1.843 |

| | |
|---|---|
| 1.5 | 1.830 |
| 1.6 | 1.815 |
| 1.7 | 1.801 |
| 1.8 | 1.781 |
| 1.9 | 1.751 |
| 2.0 | 1.744 |

3. If a monthly average limitation is determined necessary, but a daily maximum limitation is not determined necessary for that pollutant under s. NR 106.05, a daily maximum limitation shall still be included in the permit and shall be set equal to the daily maximum water quality-based effluent limitation calculated under s. NR 106.06 or a daily maximum limitation calculated using the following procedure, whichever is more restrictive:

Daily Maximum Limitation = (Monthly Average Limitation*MF)

Where:

Multiplication Factor= Multiplication Factor as defined in s. NR 106.07 (3) (e) 4. Table 1, where

CV= The coefficient of variation (CV) as calculated in s. NR 106.07 (5m)

n= the number of samples per month required by WPDES permit

4. Limitations calculated under subds. 1. to 3. shall be expressed in terms of concentration unless the department determines that a mass limitation is also necessary to protect fish and aquatic life, human health, or wildlife due to the variability of effluent flow or stream flow or other site-specific factors.

**Note:** This methodology is based on the *Technical Support Document for Water Quality-based Toxics Control* (March 1991). PB91-127415.

**SECTION 20. NR 106.07 (5) is repealed and recreated to read:**

**NR 106.07 (5)** EXPRESSION OF CONCENTRATION LIMITATIONS IN PERMITS FOR

NONCONTINUOUS DISCHARGES. (a) *Applicability.* The procedures for expressing limitations in this subsection apply to seasonal discharges, discharges proportional to stream flow, or other unusual discharge situations that do not meet the definition of a continuous discharge under s. NR 205.03 (9g) when there is reasonable potential under s. NR 106.05 to exceed a water quality-based effluent limitation based on fish and aquatic life protection, human health, or wildlife protection. Water quality-based effluent limitations shall be calculated under s. NR 106.06.

(b) *Acute reasonable potential.* Pursuant to s. NR 106.05, if there is reasonable potential to exceed a water quality-based effluent limitation for a pollutant that is based on an acute criterion or secondary value then the acute concentration limitation calculated under s. NR 106.06 shall be expressed as a daily maximum and included in the permit.

(c) *Chronic and human health or wildlife reasonable potential.* Pursuant to s. NR 106.05, if there is reasonable potential to exceed a water quality-based effluent limitation for a pollutant based on a chronic, a human health, or a wildlife criterion or secondary value, limitations shall be included in the permit and expressed on a case-by-case basis. The department shall consider all of the following factors:1. Frequency and duration of discharge.

2. Total mass of discharge.

3. Maximum flow rate of discharge.

4. Whether the pollutant is subject to a technology based limitation or other limitation expressed by mass, concentration, or other appropriate measure in the WPDES permit.

**SECTION 21. NR 106.07 (5m) is created to read:**

**NR 106.07 (5m)** COEFFICIENT OF VARIATION. (a) The coefficient of variation (CV) shall be calculated as the ratio of the standard deviation of the representative effluent data divided by the arithmetic average of the representative effluent data, except as provided in par. (b).

(b) If there are fewer than 10 representative data points the CV shall be set equal to 0.6.

(c) When calculating the CV in par. (a) a monitoring result less than the limit of detection may be assigned a value of zero. If the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

**SECTION 22. NR 106.07 (6) (title) is created to read:**

**NR 106.07 (6)** (title) MONITORING AND COMPLIANCE WITH LIMITATIONS BELOW THE LEVEL OF DETECTION.

**SECTION 23. NR 106.07 (7) (title) is created to read:**

**NR 106.07 (7)** (title) WHOLE EFFLUENT TOXICITY AS ALTERNATIVE LIMIT.

**SECTION 24. NR 106.07 (8) (title) is created to read:**

**NR 106.07 (8)** (title) SECONDARY VALUES AND STUDIES WITHIN THE GREAT LAKES BASIN.

**SECTION 25. NR 106.07 (8) is amended to read:**

**NR 106.07 (8)** If the effluent limitation based on a secondary value is established in a permit, ~~the permittee~~ a permittee discharging to the Great Lakes basin may request that additional time be added to the compliance schedule, according to s. NR 106.117 (2), for the permittee to conduct studies, other than studies for site-specific criteria under s. NR 105.02 (1), that are needed to propose a revision to the secondary value upon which the effluent limitation is based. During this time, the permittee may provide additional data necessary to either refine the secondary value or calculate a water quality criterion.

**SECTION 26. NR 106.07 (9) (title) is create to read:**

**NR 106.07 (9)** (title) WET WEATHER MASS LIMITATIONS.

**SECTION 28. NR 106.07 (10) is created to read:**

**NR 106.07 (10)** (title) ALTERNATIVE METHODS FOR LIMIT EXPRESSION. The department may use an alternative method from the methodology specified in subs. (3) to (5) to express water quality-based effluent limitations in WPDES permits if the department determines that the methods in subs. (3) to (5) are impracticable and an alternative methodology is necessary and appropriate and adequately protective of the designated uses of the receiving and downstream waters as specified in ch. NR 102.

**SECTION 28. NR 106.08 is repealed and recreated to read:**

**NR 106.08 (1)** GENERAL. The department shall establish whole effluent toxicity testing requirements and limitations whenever necessary to meet applicable water quality standards as specified in chs. NR 102 to 105 as measured by exposure of aquatic organisms to an effluent and specified effluent dilutions. When considering the necessity for whole effluent toxicity testing requirements and limitations, the department shall consider in-stream biosurvey data and data from ambient toxicity analyses, whenever such data are available.

**(2)** DETERMINATION OF NECESSITY. If representative discharge data are available for an effluent being discharged from a point source, whole effluent toxicity testing requirements are necessary when any of the following apply:

(a) Existing aquatic life toxicity test data generated according to standard test protocols indicate a potential for an effluent from a point source discharge to adversely impact the receiving water aquatic life community.

(b) A water quality-based effluent limitation for a toxic substance is determined necessary in s. NR 106.05.

**(3)** REPRESENTATIVE DATA. Toxicity test data available to the department shall be considered

representative when all of those data meet the following conditions:

(a) Data are representative of normal discharge conditions and current effluent quality.

(b) Data were produced by a lab certified or registered under ch. NR 149.

(c) Data were produced from toxicity test procedures specified in the WPDES permit.

(d) Data were produced from toxicity tests that met all applicable quality assurance/quality control requirements specified in the WPDES permit.

**(4)** NO REPRESENTATIVE DATA. If no representative discharge data are available for an effluent being discharged from a point source, whole effluent toxicity testing requirements are necessary if, in the judgment of the department, water quality standards may be exceeded. In such cases, all of the following factors shall be considered:

(a) Any relevant information that is available that indicates a potential for an effluent to impact the receiving water aquatic life community.

(b) Available dilution in the receiving water.

(c) Discharge category and predicted effluent quality.

(d) Proximity to other point source dischargers.

**(5)** OTHER CONSIDERATIONS. Regardless of the results of the analysis conducted under this section, the department may, whenever determined necessary, require whole effluent toxicity testing for a point source discharge. The department may use information submitted under s. 323.60 (5) (c) and (d), Stats., together with other information, in determining when whole effluent toxicity testing is necessary.

**(6)** REASONABLE POTENTIAL TO RECEIVE AN ACUTE OR CHRONIC WHOLE EFFLUENT TOXICITY LIMIT. (a) *General.* Whole effluent toxicity limits are established in a permit according to s. NR 106.09 whenever representative, facility-specific whole effluent toxicity data demonstrate that the effluent is or may be discharged at a level that will cause, have the potential to cause, or contribute to an excursion of a water quality standard. Whole effluent toxicity limits may also be imposed in the absence of facility-specific whole effluent toxicity test data, on a case-by-case

basis, whenever facility-specific or site-specific data or conditions indicate toxicity to aquatic life that is attributable to the discharger.

(b) *Reasonable potential.* 1. If a zone of initial dilution has not been approved by the department, the potential to exceed an acute criterion shall be calculated using the following equation:

(TUa effluent) (B) > 1.0

Where:

TUa effluent= maximum calculated TUa from the most sensitive species in the data set

B= Reasonable potential multiplication factor determined under par. (c)

1.0= Numeric acute WET limitation in acute toxic units (TUa) derived from narrative criterion in s. NR 102.04 (1) (d)

2. If a zone of initial dilution has been approved by the department, the potential to exceed an acute criterion shall be calculated using the following equation:

[(TUa effluent) (B) (AMZ)] > 1.0

Where:

TUa effluent= Maximum calculated TUa from the most sensitive species in the data set

B= Reasonable potential multiplication factor determined under par. (c)

AMZ= Acute mixing zone concentration based on presence of a zone of initial dilution as defined in s. NR 106.03 (1) expressed as a decimal

1.0= Numeric acute WET limitation in acute toxic units (TUa) derived from narrative criterion in s. NR 102.04 (1) (d)

3. The potential to exceed a chronic criterion shall be calculated using the following equation:

[(TUc effluent) (B) (IWC)]> 1.0

Where:

TUc effluent= Maximum calculated TUc from the most sensitive species in the data set

B= Reasonable potential multiplication factor determined under par. (c)

IWC= Instream waste concentration as defined in s. NR 106.03 (6) expressed as a decimal

1.0= Numeric chronic WET limitation in chronic toxic units (TUc) derived from narrative criterion in s. NR 102.04 (4) (d)

(c) *Reasonable potential multiplication factor.* The department shall use the reasonable potential multiplication factor in par. (b) to convert the calculated effluent toxicity value to the estimated 95th percentile toxicity value. The department shall use all of the following methods to select a reasonable potential multiplication factor:

1. When there are less than 10 individual toxicity detects, the multiplication factor shall be taken from Table 4 and based on a coefficient of variation of 0.6.

2. When there are 10 or more individual toxicity detects, the multiplication factor shall be taken from Table 4 and based on coefficient of variation calculated as the standard deviation of the WET test endpoints, IC25, IC50, or LC50, divided by the arithmetic mean of the WET tests.

**NR 106.08 (5) (c) Table 4 — Reasonable Potential Multiplication Factor**

| Coefficient of variation (CV) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of samples (n) | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 |
| 1 | – | – | – | – | – | 6.2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 2 | – | – | – | – | – | 3.8 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | – | – | – | – | – | 3.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 4 | – | – | – | – | – | 2.6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 5 | – | – | – | – | – | 2.3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 6 | – | – | – | – | – | 2.1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 7 | – | – | – | – | – | 2.0 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 8 | – | – | – | – | – | 1.9 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 9 | – | – | – | – | – | 1.8 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 10 | 1.1 | 1.2 | 1.3 | 1.5 | 1.6 | 1.7 | 1.9 | 2.0 | 2.2 | 2.3 | 2.4 | 2.6 | 2.7 | 2.8 | 3.0 | 3.1 | 3.2 | 3.3 | 3.4 | 3.6 |
| 11 | 1.1 | 1.2 | 1.3 | 1.4 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 | 3.2 | 3.3 |
| 12 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 3.0 | 3.0 |
| 13 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 |
| 14 | 1.1 | 1.2 | 1.3 | 1.4 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.3 | 2.4 | 2.5 | 2.6 | 2.6 | 2.7 |
| 15 | 1.1 | 1.2 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.2 | 2.3 | 2.4 | 2.4 | 2.5 | 2.5 |
| 16 | 1.1 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.6 | 1.7 | 1.8 | 1.9 | 1.9 | 2.0 | 2.1 | 2.1 | 2.2 | 2.3 | 2.3 | 2.4 | 2.4 |
| 17 | 1.1 | 1.1 | 1.2 | 1.3 | 1.4 | 1.4 | 1.5 | 1.6 | 1.7 | 1.7 | 1.8 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.2 | 2.2 | 2.3 | 2.3 |
| 18 | 1.1 | 1.1 | 1.2 | 1.3 | 1.3 | 1.4 | 1.5 | 1.6 | 1.6 | 1.7 | 1.7 | 1.8 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.1 | 2.2 | 2.2 |
| 19 | 1.1 | 1.1 | 1.2 | 1.3 | 1.3 | 1.4 | 1.5 | 1.5 | 1.6 | 1.6 | 1.7 | 1.8 | 1.8 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 |
| 20 | 1.1 | 1.1 | 1.2 | 1.2 | 1.3 | 1.4 | 1.4 | 1.5 | 1.5 | 1.6 | 1.6 | 1.7 | 1.7 | 1.8 | 1.8 | 1.9 | 1.9 | 2.0 | 2.0 | 2.0 |
| 30 | 1.0 | 1.1 | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.3 | 1.3 | 1.3 | 1.3 | 1.4 | 1.4 | 1.4 | 1.4 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 40 | 1.0 | 1.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.3 | 1.3 |
| 50 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| 60 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 70 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| 80 | 1.0 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 90 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 100 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 |

(d) *Maximum toxicity values.* The department shall set the TUc effluent and TUa effluent values in par. (b) equal to zero whenever toxicity is not detected or the LC50, IC25, or IC50 equals or exceeds 100% effluent.

**(7)** DATA EXCLUSIONS. The department may exclude data from a WET reasonable potential determination when those data meet any of the following conditions:

(a) Data are not representative under sub. (3).

(b) Positive WET results are caused by deficiency toxicity only.

(c) Positive WET results are caused by groundwater or surface water remediation needed to

correct or prevent an existing surface or groundwater contamination situation or a public health problem.

**SECTION 29. NR 106.09 (2) (e) is repealed and recreated to read:**

**NR 106.09 (2) (e)** Acute whole effluent toxicity limits shall be expressed as 1.0 $TU_a$ unless an AMZ is approved in which case these limits shall be expressed as a value that is 100 divided by the AMZ. Compliance with an acute whole effluent toxicity water quality-based limitation shall be determined by comparing the $TU_a$ endpoint from each toxicity test to the limitation. Pursuant to s. NR 106.08 (6) (d) a calculated LC50 that exceeds 100% is set equal to zero.

**SECTION 30. NR 106.09 (2) (f) is created to read:**

**NR 106.09 (2) (f)** Whole effluent acute toxicity limitations shall be expressed in permits as daily maximum limitations.

**SECTION 31. NR 106.09 (3) (b) (intro) and 1. are amended to read:**

**NR 106.09 (3) (b) (intro.)** To assure compliance with par. (a), an effluent, after dilution with an appropriate allowable quantity of receiving water flow equivalent to that provided by receiving water flows specified in s. ~~NR 106.06(4)(c)~~ NR 106.06 (3) (c) or implied in s. ~~NR 106.06(4)(b)2.~~ NR 106.06 (3) (b) 2., may not cause a significant adverse effect~~, as determined by subds. 1. and 2.,~~ to a test organism population when compared to an appropriate control~~.~~ , as determined by applying all of the following:

1. Using statistical interpretation methods appropriate to the toxicity test protocol, an adverse effect will be determined to be significant if the statistically derived IC25 or IC50, as specified for each species in the whole effluent toxicity test methods required in s. NR 219.04, Table A, from the whole effluent toxicity test, is less than the calculated IWC.

**SECTION 33. NR 106.09 (3) (c) is repealed and recreated to read:**

**NR 106.09 (3) (c)** Chronic whole effluent toxicity limits shall be expressed as a value that is 100 divided by the IWC. Compliance with a chronic whole effluent toxicity water quality-based limitation shall be determined by comparing the monthly average calculated TUc from all toxicity tests conducted during that month to the limitation. Pursuant to s. NR 106.08 (6) (d), a calculated IC25 or IC50 that exceeds 100% is set equal to zero.

**SECTION 34. NR 106.09 (3) (d) is created to read:**

**NR 106.09 (3) (d)** Whole effluent chronic toxicity limitations shall be expressed in permits as monthly average limitations.

**SECTION 35. NR 106.11 (note) is created to read:**

**NR 106.11 Note:** The method of allocating the combined allowable load in to s. NR 106.11 does not have to be based on the effluent flow rates specified in s. NR 106.04 (4) (d).

**SECTION 36. NR 106.115 Table 1 (title) and Table 2 (title) are amended to read:**

**NR 106.115 Table 1** – Toxicity Equivalency ~~Factors~~ Factor for CDDs and CDFs

**NR 106.115 Table 2** – Bioaccumulation Equivalency ~~Factors~~ Factor for CDDs and CDFs

**[NOTE to LRB: title formatting change requested for consistency throughout tables in NR 106]**

**SECTION 37. NR 106.145 (9) (b) note is repealed.**

**SECTION 38. NR 106.32 (2) (b) (intro.) and 2. are amended to read:**

**NR 106.32 (2) (b) (intro.)** To assure compliance with par. (a) and except as provided in ~~par.~~ pars. (c) and (e), water quality-based effluent limitations for ammonia shall equal the final acute value as determined in s. NR 105.05 for the respective fish and aquatic life subcategory for which the receiving water is classified. The water quality-based limitations based on acute toxicity shall be established ~~as follows~~ using all of the following methods:

2. If the permittee can demonstrate to the department through site specific information that the fish present in the receiving water are limited to those included in CW Category 2, CW Category 3, or CW Category 5, as described in ch. NR 105, Table 2C, then effluent limitations shall be established based on the criteria shown in ch. NR 105 Table 2C for the respective CW Category. ~~If the permittee intends to make a site-specific demonstration, the permittee shall notify the department prior to the end of the public comment period for permit reissuance. An additional period of time, not to exceed 6 months, shall be provided in the schedule of compliance under s. NR 106.37 to perform the demonstration.~~ If the department grants approval for an alternative limitation based on CW Category 2, 3, or 5, the department shall ~~propose a modification to the permit that includes~~ include the alternative limit in a modified or reissued permit provided antidegradation requirements in ch. NR 207 have been satisfied.

**SECTION 39. NR 106.32 (2) (b) (2) note is repealed.**

**SECTION 40. NR 106.32 (2) (e) is created to read:**

**NR 106.32 (2) (e)** To assure compliance with par. (a), the department may calculate acute water quality-based effluent limitations using the following procedure if the department concludes that limitations calculated in par. (b) or (c) are not sufficiently protective of fish and aquatic life. The department may include the calculated WQBEL in a WPDES permit if this limitation is more stringent than the limitation calculated in par. (b) or (c):

$$\text{Limitation} = \frac{(WQC)\,(Qs + (1-f)Qe) - (Qs - fQe)\,(Cs)}{Qe}$$

Where:

WQC = The acute ammonia toxicity criterion appropriate for the receiving water as specified in ch. NR 105 and par. (d).

Qs = Receiving water design flow (in units of volume per unit time) as defined in s. NR

106.06 (3) (bm)

Qe = Effluent flow (in units of volume per unit time) as specified in s. NR 106.06 (4) (d).

f = Fraction of the effluent flow that is withdrawn from the receiving water, and

Cs = Background concentration of the substance (in units of mass per unit volume) as specified in s. NR 106.06 (4) (e).

**[NOTE to LRB: this is the same equation found in NR 106.06 (4) (b) (1) and formatted the same.]**

**SECTION 41. NR 106.32 (3) (a) 4. a. is amended to read:**

**NR 106.32 (3) (a) 4. a.** Whenever the department determines that early life stage present ammonia criteria are applicable under this subdivision, the permittee may make a demonstration that the early life stages of burbot are not present at the discharge location and will not be affected by the discharge during the months of January and February. ~~If the permittee intends to perform the demonstration, the permittee shall notify the department prior to the end of the public comment period for permit reissuance. The department shall allow an extended compliance schedule in the permit not to exceed one year for the permittee to provide the demonstration.~~ If the department grants approval for an alternative limitation based on results of this study, the department shall include the alternative limitation in a permit modification or reissuance provided antidegradation requirements in ch. NR 207 have been satisfied.

**SECTION 42. NR 106.32 (3) (a) 4. a. note is repealed.**

**SECTION 43. NR 106.33 is repealed and recreated to read:**

**NR 106.33** (title) **Determination of the necessity for and expression of water quality-based effluent limits for ammonia. (1)** REASONABLE POTENTIAL. (a) For a permitted discharge that is not already subject to an ammonia water quality-based effluent limitation, the procedures specified in s. NR 106.05 shall be used to determine if water quality-based effluent limitations for ammonia are necessary in a reissued permit. When application of the procedures in s. NR 106.05 results in a determination that ammonia effluent limits are not necessary in a permit, the WPDES permit holder shall continue to be operated in a manner that optimizes the removal of ammonia within the design capabilities of the wastewater treatment plant. The

department may require that the permittee monitor ammonia at a frequency established on a case-by-case basis in its discharge permit for the purpose of determining representative discharge levels.

(b) If a permittee is subject to an ammonia limitation in an existing permit, the limitation shall be included in any reissued permit. Ammonia limitations shall be included in the permit if the permitted facility will be providing treatment for ammonia discharges.

**(2)** PERMIT LIMITATIONS FOR CONTINUOUS POTWS. The procedures for expressing limitations in permits in this subsection apply to continuous discharges subject to ch. NR 210 when there is reasonable potential under s. NR 106.05 to exceed an ammonia limitation. Both a weekly average and monthly average permit limitations shall be included in a WPDES permit for ammonia whenever any water quality-based effluent limitation for ammonia is determined necessary under sub. (1). A daily maximum limitation shall be included in WPDES permits in addition to weekly average and monthly average limitation if necessary under sub. (1). The department shall use all of the following procedures to include weekly average and monthly average limitations in WPDES permits:

(a) If a daily maximum limitation is the only ammonia limitation determined necessary under sub. (1), weekly average limitations shall be set equal to the WQBEL based on the 4-day chronic toxicity criteria calculated under s. NR 106.32 (3) or the daily maximum limitation, whichever is more restrictive.

(b) If a weekly average ammonia limitation is determined necessary under sub. (1), and a monthly average limitation is not already determined necessary, monthly average limitations shall be set equal to the WQBEL based on the 30-day chronic toxicity criteria calculated under s. NR 106.32 (3) or the weekly average limitation, whichever is more restrictive, except as provided under par. (c).

(c) The department may on a case-by-case basis use an alternative methodology for calculating monthly average limitations whenever historical flow data or real time data are used to calculate weekly average limitations under s. NR 106.32 (3) (c) 2. and these limitations are determined to be necessary under sub. (1).

(d) If a monthly average limitation is the only ammonia limitation determined to be necessary under sub. (1), weekly average limitations shall be set equal to the WQBEL based on the 4-day

chronic toxicity criteria calculated under s. NR 106.32 (3) or a weekly average limitation calculated using the following procedure, whichever is more restrictive:

Weekly Average Limitation = (Monthly Average Limitation*MF)

Where:

MF= Multiplication factor as defined in s. NR 106.07 (3) (e) (4) Table 1, where

CV= The coefficient of variation (CV) as calculated under s. NR 106.07 (5m)

n= the number of samples per month required by WPDES permit

**(3)** PERMIT LIMITATIONS FOR OTHER CONTINUOUS DISCHARGES. The procedures for expressing limitations in this subsection apply to continuous discharges that are not subject to ch. NR 210 and when there is reasonable potential under s. NR 106.05 to exceed an ammonia limitation. Both a daily maximum and monthly average permit limitation shall be included in a WPDES permit for ammonia whenever any water quality-based effluent limitation for ammonia is determined necessary under s. NR 106.05. A weekly average limitation shall be included in WPDES permits in addition to a daily maximum and monthly average limitation if necessary under sub. (1). The department shall use all of the following procedures to include daily maximum and monthly average limitations in WPDES permits:

(a) If a weekly average limitation is the only ammonia limitation determined necessary under sub. (1), a monthly average limitation shall be set equal to the WQBEL based on the 30-day chronic toxicity criteria or the weekly average limitation, whichever is more restrictive except as provided in par. (c). A daily maximum limitation shall also be included in the WPDES permit and set equal to the daily maximum ammonia WQBEL under NR 106.32 (2) or a daily maximum limitation calculated using the following procedure, whichever is more restrictive:

Daily Maximum Limitation= Weekly Average Limitation *DMF

Where:

DMF= Daily Multiplication Factor as defined in NR 106.07 (4) (e) 2. Table 2, where

CV= The coefficient of variation (CV) as calculated in s. NR 106.07 (5m)

(b) If a daily maximum ammonia limitation is determined necessary under sub. (1), and a monthly average limitation is not already determined necessary, monthly average limitations shall be set equal to the WQBEL based on the 30-day chronic toxicity criteria calculated according to s. NR 106.32 (3) or the daily maximum limitation, whichever is more restrictive, except as provided in sub. (c).

(c) The department may on a case-by-case basis use an alternative methodology for calculating daily maximum or monthly average limitations whenever historical flow data or real time data are used to calculate weekly average limitations under s. NR 106.32 (3) (c) 2. and these limitations are determined to be necessary under sub. (1).

(d) If a monthly average limitation is determined necessary and a daily maximum limitation is not already determined necessary under sub. (1), a daily maximum limitation shall be set equal to the daily maximum ammonia WQBEL under NR 106.32 (2) or a daily maximum limitation calculated using the following procedure, whichever is more restrictive:

Daily Maximum Limitation = (Monthly Average Limitation*MF)

Where:

MF= Multiplication factor as defined in s. NR 106.07 (3) (e) 4. Table 1, where

CV= The coefficient of variation (CV) as calculated in s. NR 106.07 (5m)

n= the number of samples per month required by WPDES permit

**(4)** PERMIT LIMITATIONS FOR NONCONTINUOUS DISCHARGES. The department shall include ammonia water quality-based effluent permit limitations in WPDES permits for seasonal discharges, discharges proportional to stream flow, or other unusual discharge situations that do not meet the definition of a continuous discharge whenever ammonia water quality-based effluent limitations are determined necessary under sub. (1). Ammonia limitations shall be expressed in accordance with s. NR 106.32 (5) unless the department determines on a case-by-case basis that an alternative averaging period is appropriate. The department shall consider all of the following when making a case-by-case determination:

(a) Frequency and duration of discharge.

(b) Total mass of discharge.

(c) Maximum flow rate of discharge.

(d) Whether ammonia is subject to a technology based limitation or other limitation expressed by mass, concentration, or other appropriate measure in the WPDES permit.

**SECTION 44. NR 106.34 is repealed.**

**SECTION 45. NR 106.36 (3) note is repealed.**

**SECTION 46. NR 106.36 (3) Table 1 (title) is amended to read:**

**NR 106.36 (3) Table 1 — Ammonia Multiplier**

**[NOTE to LRB: title formatting change requested for consistency throughout tables in NR 106]**

**SECTION 47. NR 106.36 (4) is repealed.**

**SECTION 48. NR 106.37 (1) is amended to read:**

**NR 106.37 (1)** The department shall determine and specify a reasonable compliance schedule in the WPDES permit if the permittee is unable to meet the ammonia effluent limits determined according to this subchapter at the time of permit reissuance. The department shall establish the term of the compliance schedule on a case-by-case basis ~~and shall consider~~ consistent with the requirements in s. NR 106.117. When establishing a compliance schedule, the department shall consider factors such as necessary planning, complexity of wastewater treatment issues, scope of construction, equipment delivery time, and construction seasons in establishing a schedule. In no circumstance may the date of compliance with the limits extend more than 5 years after the date of permit reissuance~~, unless a variance has been granted pursuant to s. NR 106.38~~.

**SECTION 49. NR 106.37 (1) note is repealed.**

**SECTION 50. NR 106.37 (2) is repealed and recreated to read:**

**NR 106.37 (2)** If the department modifies or reissues the permit to adjust ammonia limitations based on an approval of demonstrations made under either ss. NR 106.32 (2) (b) 2. or 106.32 (3) (a) 4 the department may adjust the compliance schedule if necessary and appropriate.

**SECTION 51. NR 106.37 (2) note is repealed.**

**SECTION 52. NR 106.37 (3) and NR 106.37 (3) note are repealed.**

**SECTION 53. NR 106.38 is repealed.**

**SECTION 54. NR 106.55 (6) (a) Table 1 (title) is amended to read:**

**NR 106.55 (6) (a) Table 1 — Flow Ratio Categories**

**[NOTE to LRB: title formatting change requested for consistency throughout tables in NR 106]**

**SECTION 55. NR 106.62 (intro.) is amended to read:**

**NR 106.62 (intro.)** The permittee shall attain compliance ~~Compliance~~ with the effluent limitations ~~shall be attained~~ as soon as reasonably possible, but no later than the expiration date of the permit. When a permit is issued or reissued with effluent temperature limitations established using the procedures in this subchapter and representative effluent temperature data are available at the time of permit issuance or reissuance, the permit may contain a compliance schedule consistent with the provisions in s. NR 106.117 when either of the following conditions is met:

**SECTION 56. NR 106.75 is amended to read:**

**NR 106.75** Whenever the department issues or modifies a permit with alternative effluent limitations for temperature established using the procedures in this subchapter, the permit may contain a compliance schedule consistent with the provisions in s. NR 106.117 to attain such limitations. The permittee shall achieve compliance with ~~Compliance with~~ the limitations ~~shall be attained~~ as soon as reasonably possible, but no later than the expiration date of the permit.

**SECTION 57. NR 106.83 (2) (c) is amended to read:**

**NR 106.83 (2) (c)** *Department determinations.* The department shall review the application submitted by the permittee. The application shall be approved if the department agrees with the permittee's basis for concluding that the findings ~~in~~ under sub. (2) (a) for a chloride variance are applicable to its discharge. The department shall obtain US EPA approval before a variance is included in a WPDES permit under sub. (2).

**SECTION 58. NR 106.87 (1) is amended to read:**

**NR 106.87 (1)** CALCULATED LIMITATIONS. If water quality-based effluent limitations for chloride are ~~deemed~~ determined to be necessary, those limitations shall be derived under ~~s.~~ ss. NR 106.06 and 106.07, and for the purposes of this subchapter, shall be labeled "calculated limitations".

**SECTION 59. NR 106.88 (1) is repealed and recreated to read:**

**NR 106.88 (1)** CHLORIDE LIMITATIONS IN PERMITS. If chloride water quality-based effluent limitations are deemed to be necessary under s. NR 106.85, the department shall use all of the following procedures to include the calculated limitations in the permit with an appropriate compliance schedule as necessary and appropriate:

(a) Effluent limitations based on an acute criterion shall be expressed in permits as daily maximum limitations; and effluent limitations based on a chronic criterion shall be expressed in permits as weekly average limitations.

(b) Effluent Limitations shall be expressed in a WPDES permit consistent with the protocols in s. NR 106.07 (3) to (5).

(c) Mass limitations calculated under s. NR 106.07 (2) and (9) shall be included in the WPDES permit in addition to concentration based effluent limitations whenever water quality-based effluent limitations are determined to be necessary.

(d) A compliance schedule for a water quality-based effluent for chloride may be granted in a

WPDES permit if necessary and appropriate and shall be consistent with the requirements under s. NR 106.117.

**SECTION 60. NR 106.88 (1) note is repealed.**

**SECTION 61. NR 106.88 (2) and (3) are repealed and recreated to read:**

**NR 106.88 (2)** VARIANCE CONDITIONS. The department may include all of the following conditions in the permit in lieu of the conditions specified in sub. (1) whenever a chloride variance is granted under s. NR 106.83:

(a) Chloride monitoring.

(b) An interim limitation for chloride that is effective on the date of permit issuance.

(c) Tier 1 source reduction.

(d) A target value or a target limitation with an appropriate compliance schedule, which is effective on the last day of the permit.

(e) If appropriate, either tier 2 or tier 3 source reduction if the department believes that any of the additional conditions in the tier 2 or tier 3 source reduction activities are reasonable and practical within the term of the permit.

**(3)** UNITS FOR TARGET VALUES. Interim limitations, target values, and target limitations established under sub. (2) shall be expressed in the permit as a concentration limitation, in units of mg/L or equivalent units.

**SECTION 62. NR 106.88 (4) is repealed.**

**SECTION 63. NR 106.88 (5) is repealed and recreated to read:**

**NR 106.88 (5)** MONITORING. A determination of compliance with interim, target, and calculated limitations and comparison with target values shall be based upon 24-hour composite samples. The department shall determine on a case-by-case basis the monitoring frequency to be required for these limitations.

**SECTION 64. NR 106.88 (6) is repealed.**

**SECTION 65. NR 106.89 is repealed and recreated to read:**

**NR 106.89 Alternative whole effluent toxicity monitoring and limitations for dischargers of chloride. (1)** GENERAL. In addition to interim, target, and calculated water quality-based effluent limitations and target values for chloride, the department may establish whole effluent toxicity testing requirements and limitations under ss. NR 106.08 and 106.09.

**(2)** FINDINGS. The department finds all of the following:

(a) Acute whole effluent toxicity limitations cannot be attained if the effluent concentration of chloride exceeds 2,500 mg/L.

(b) Chronic whole effluent toxicity limitations cannot be attained if the effluent concentration of chloride exceeds 2 times the calculated chronic water quality-based effluent limitation.

(c) Chloride limitations will be used in lieu of WET limitations to attain and maintain narrative criteria in ss. NR 102.04 (1) (d) and 102.04 (4) (d) in the cases when chloride is the sole source of acute or chronic whole effluent toxicity.

**(3)** CHLORIDE LIMITS IN LIEU OF ACUTE WET LIMITS. Chloride limitations shall be included in the WPDES permit in lieu of acute whole effluent toxicity testing requirements and acute whole effluent toxicity limitations until source reduction actions are completed if any of the following apply:

(a) The permittee can demonstrate to the satisfaction of the department that the effluent concentration of chloride exceeds 2,500 mg/L.

(b) The permittee can demonstrate to the satisfaction of the department that the effluent concentration of chloride is less than 2,500 mg/L, but in excess of the calculated acute water

quality-based effluent limitation, and additional data are submitted that demonstrate that chloride is the sole source of acute toxicity.

**(4)** CHLORIDE LIMITS IN LIEU OF CHRONIC WET LIMITS. Chloride limitations shall be included in the WPDES permit in lieu of chronic whole effluent toxicity testing requirements and chronic whole effluent toxicity limitations until source reduction actions are completed if either of the following applies:

(a) The permittee can demonstrate to the satisfaction of the department that the effluent concentration of chloride exceeds 2 times the calculated chronic water quality-based effluent limitation.

(b) The permittee can demonstrate to the satisfaction of the department that the effluent concentration of chloride is less than 2 times the calculated chronic water quality-based effluent limitation, but in excess of the calculated chronic water quality-based effluent limitation, and additional data are submitted which demonstrate that chloride is the sole source of chronic toxicity.

**(5)** DECISION DOCUMENTATION. The department shall specify the decision to include chloride limitations in lieu of whole effluent toxicity limitations in the permit fact sheet.

**(6)** REEVALUATION. The department shall reevaluate the need for whole effluent toxicity and chloride monitoring or limitations upon permit reissuance.

**SECTION 66. NR 106.91 is amended to read:**

**NR 106.91** Publicly owned treatment works ~~which~~ that accept wastewater from a public water system treating water to meet the primary maximum contaminant levels specified in ch. NR 809, if not able to meet the calculated limitation, may apply to the department for a variance from the water quality standard used to derive the limitation following the procedure specified in

this subchapter. The department shall seek US EPA approval before a variance is included in a WPDES permit. Upon approval, the permittee may be given an interim limitation, a target value, a target limitation and appropriate source reduction requirements, ~~pursuant to~~ under s. NR 106.83 in the WPDES permit upon permit reissuance or modification. No calculated limitation, interim limitation, target value, target limitation, or source reduction requirement shall interfere with the attainment of the primary maximum contaminant levels specified in ch. NR 809.

**SECTION 67. NR 106.91 note is repealed.**

**SECTION 68. NR 205.03 (9g) is created to read:**

**NR 205.03 (9g)** "Continuous discharge" means a facility that discharges 24 hours per day on a year-round basis except for temporary shutdowns for maintenance or other similar activities.

**SECTION 69. NR 205.065 and 205.066 are created to read:**

**NR 205.065 Effluent Limitations. (1)** EFFLUENT LIMITATIONS IN PERMITS. The department shall impose permit effluent limitations or effluent standards for discharges of pollutants on the discharge point of the permitted facility except as provided in sub. (2).

**(2)** INTERNAL WASTE STREAMS. The department may impose permit effluent limitations or effluent standards for discharges of pollutants on an internal waste stream when all of the following are true: (a) Imposing effluent limitations or standards at the point of discharge is impractical or infeasible.

(b) The internal waste stream has not mixed with other waste streams or cooling water streams.

(c) The fact sheet under ch. NR 201 states the reasons why it is necessary to impose effluent limitations or standards on an internal waste stream.

**(3)** CALCULATION OF EFFLUENT LIMITATIONS FOR POTWS. For continuous dischargers as

defined in s. NR 205.03 (9g) and subject to ch. NR 210, effluent limitations shall be based on the maximum effluent flow, expressed as a daily average, that is anticipated to occur for 12 continuous months during the design life of the treatment facility unless it is demonstrated to the department that such a design flow rate is not representative of projected flows at the facility.

**(4)** CALCULATION OF EFFLUENT LIMITATIONS FOR OTHER CONTINUOUS DISCHARGES. (a) For all other discharges not subject to ch. NR 210, effluent limitations shall be calculated based on actual representative flow values except as provided in pars. (b) and (c).

(b) For new discharges, production-based effluent limitations shall be estimated using projected production.

(c) If a facility is expanding or decreasing production levels, the department may use an estimated alternative production value to calculate production-based effluent limitations.

**(5)** INTAKE WATER CREDIT. If requested by the permittee in the permit application for issuance or reissuance, technology based effluent limitations shall, for each substance or parameter, be adjusted to reflect the discharger's intake water if all of the following conditions are met: (a) Antidegradation requirements in ch. NR 207 are satisfied, if applicable.

(b) The permittee does not discharge raw water clarifier sludge generated from the treatment of intake water.

(c) The permittee demonstrates that applicable technology based effluent limitation for the pollutant would be met in the absence of the pollutant in the intake water.

(d) The permittee demonstrates that the constituents of the pollutant in the effluent are similar to the constituents of the pollutant in the intake water. The intake water is drawn from the same waterbody as defined in s. NR 106.03 (11m) from which the discharge is made.

**(6)** MAXIMUM INTAKE WATER CREDIT. If intake credit is granted pursuant to sub. (5), that intake

credit cannot exceed the maximum value equal to the influent value, and shall be no greater than the value necessary to comply with the applicable permit effluent limitation.

**(7)** EFFLUENT LIMIT EXPRESSION. Effluent limitations shall be expressed in accordance with this subsection except if the department determines it is impracticable, or if the department determines that different time periods for expressing limitations are needed to ensure compliance with the applicable water quality standard and different time periods are established in another rule provision for a specific pollutant. Water quality-based effluent limitations for toxic pollutants shall be expressed in a permit in accordance with ch. NR 106. Technology and production based effluent limitations shall be expressed in accordance with all of the following:

(a) For continuous dischargers as defined in s. NR 205.03 (9g) and subject to ch. NR 210, limitations shall be expressed as average weekly and average monthly discharge limitations.

(b) For continuous discharges as defined in s. NR 205.03 (9g) and not subject to ch. NR 210, limitations shall be expressed as daily maximum and average monthly discharge limitations.

(c) For seasonal discharges, discharges proportional to stream flow, or other unusual discharge situations that do not meet the definition of a continuous discharge in s. NR 205.03 (9g), limitations shall be expressed on a case-by-case basis. The department shall consider all of the following factors:

1. Frequency and duration of discharge.
2. Total mass of discharge.
3. Maximum flow rate of discharge.
4. Whether the pollutant is subject to a technology based limitation or other limitation expressed by mass, concentration, or other appropriate measure in the WPDES permit.

**(8)** MASS LIMITATIONS. (a) All pollutants limited in permits shall have limitations, standards, or prohibitions expressed in terms of mass except for any of the following situations:

1. Pollutants limited in permits that cannot be appropriately expressed by mass such as pH, chlorine, temperature, radiation, or other pollutants;

2. When applicable standards and limitations are expressed in terms of other units of measurement; or

3. If limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation.

(b) If a mass limit is included in the permit for a pollutant, the pollutant may also be limited in terms of other units of measurement in the permit, and the permit shall require the permittee to comply with both limitations.

**(9)** METALS. All permit effluent limitations, standards, or prohibitions for a metal shall be expressed in terms of total recoverable in a WPDES permit unless any of the following conditions apply:

(a) An applicable effluent standard or limitation has been promulgated and specifies the limitation for the metal in dissolved or valent or total form.

(b) In establishing permit limitations on a case-by-case basis, it is necessary to express the limitation for the metal in the dissolved or valent or total form to carry out the provisions of the federal Clean Water Act or ch. 283, Stats.

(c) All approved analytical methods for the metal inherently measure only the dissolved form of the pollutant.

**NR 205.066 Permit Conditions. (1)** MONITORING. The department shall determine on a case-by-case basis the monitoring frequency to be required for each effluent limitation in a

permit. Monitoring shall occur at the point of discharge or at the internal waste stream if the permit limitations are imposed on the internal waste stream under s. NR 205.065 (2) unless an alternative location is established by the department in the WPDES permit.

**(2)** PRODUCTION LIMIT DOCUMENTATION . If limits are calculated under s. NR 205.065 (4) (b) the permittee shall submit with the DMR the level of production that actually occurred during each month limits are effective.

**(3)** EXCEEDANCE OF PRODUCTION LIMITS. The permittee shall comply with the limitations, standards, and prohibitions calculated under s. NR 205.065 (4) (b) unless the permittee has notified the department in writing of an anticipated exceedance of the estimated alternative design flow used to calculate limits, in which case the permittee may comply with an alternative design flow, not to exceed the production level specified in the notice. Written notifications must be submitted to the department at least two days in advance of the exceedance and shall specify the anticipated level, period during which the permittee expects to operate at the alternate level, and the reasons for the anticipated production level increase. Notice of increased discharge must be submitted to the department for all exceedances not covered in previous notifications.

**SECTION 70. NR 212 Subchapter I (title) is created to read:**

SUBCHAPTER I

GENERAL

**SECTION 71. NR 212.01 is amended to read:**

**NR 212.02 (1) Purpose.** The purpose of this chapter is to establish the procedures, methodologies, and requirements to be used by the department for determining total maximum pollutant loadings and corresponding water quality related effluent limitations in accordance with ss. 283.13 (5), ~~283.15~~ 283.31 (3) (d) 3., and 283.83 (1) (c), Stats. Such restrictions are

established to attain and maintain the designated uses specified in the water quality standards appearing in chs. NR 102, 103, and 104.

**SECTION 72. NR 212 Subchapter II (title) is created to read (insert before NR 212.02):**

## SUBCHAPTER II
## EFFLUENT LIMITATIONS FOR BIOCHEMICAL OXYGEN DEMAND DEVELOPED THROUGH WASTELOAD ALLOCATIONS FOR SPECIFIC STREAM SEGMENTS

**SECTION 73. NR 212.02 (1) is repealed and recreated to read:**

**NR 212.02 (1)** The provisions of this subchapter are applicable to water quality related effluent limitations for biochemical oxygen demand developed through wasteload allocations for the Lower Fox River from milepoints 0-40.0, Upper Wisconsin River from milepoints 171.9-341.4, and Peshtigo River from milepoints 0-12, and established under s. 283.13 (5), Stats.

**SECTION 74. NR 212.02 (2) is amended to read:**

**NR 212.02 (2)** Nothing in this ~~chapter~~ subchapter shall in any way inhibit, override, preclude, or prevent the department from issuing any permit with toxic effluent limits even if such permit limitations would result in more stringent limitations than provided in this ~~chapter~~ subchapter.

**SECTION 75. NR 212.03 (intro.), (3), (12), (22), and (24) are amended to read:**

**NR 212.03 (intro.)** In addition to the definitions and abbreviations in ss. NR 205.03 and 205.04, the following definitions are applicable to terms used in this ~~chapter~~ subchapter:

**(3)** "Conventional pollutant" means those pollutants identified in section 304 (a) (4) of the federal clean water act amendments of 1977. These pollutants are~~;~~ : ~~biological~~ biochemical oxygen demand (BOD), total suspended solids (TSS), pH, fecal coliform, and oil and grease.

**(12)** "New point source", for the purposes of this ~~chapter~~ subchapter, means a point source which commenced operation after January 1, 1980.

**(22)** "~~Waste load~~ Wasteload allocation" means the allocation resulting from the process of distributing or apportioning the total maximum load to each individual point source, nonpoint sources, reserve capacity, and margin of safety.

**(24)** "Water quality related effluent limitation" means a point source effluent limitation designed to meet applicable water quality standards and which is more restrictive than the categorical effluent limitations. For the purposes of this subchapter, water quality related effluent limitations refer to those determined as a result of a ~~waste load~~ wasteload allocation.

**SECTION 76. NR 212.12 (2) (d) is amended to read:**

**NR 212.12 (2) (d)** No bypasses ~~exist~~ occur ~~which~~ that are not ~~authorized~~ approved by the department; and

**SECTION 77. NR 212.40 (2) (intro.), (b), and (c) are amended to read:**

**NR 212.40 (2) (intro.)** ~~Determine~~ The department shall determine baseline loads for each point source subject to the ~~waste load~~ wasteload allocation~~.~~ in accordance with all of the following:

(b) Nonpublicly–owned point sources between milepoints 40.0 and 19.2. The baseline load expressed in pounds per day for each nonpublicly–owned point source shall be calculated as follows:

Baseline Load = (BPT) (Production) (0.85)

Where: BPT = The final best practicable waste treatment effluent limitations for the point source as provided in ~~chs.~~ ch. NR 284 ~~and 285,~~ or ~~217~~ 220, when applicable, expressed in pounds of BOD5 per ton of production.

Production = The maximum weekly off–machine production during 1973 expressed as tons per day.

0.85 = Adjustment factor to approximate daily average off–machine production.

(c) Nonpublicly–owned point sources between milepoints 7.2 and 0.0. The baseline load expressed in pounds per day for each nonpublicly–owned point source shall be calculated as follows:

Baseline Load = (BPT) (Production)

Where: BPT = The final best practicable waste treatment effluent limitations for the point source as provided in chs. NR 284 ~~and 285~~ or ~~217~~ 220, when applicable, expressed in pounds of BOD5 per ton of production.

Production = 1977 average daily off–machine production.

**SECTION 78. NR 212.60 (1), (b), (d), (e), and (g) are amended to read:**

**NR 212.60 (1)** ~~Determine~~ The department shall determine baseline loads for each point source subject to the ~~waste load~~ wasteload allocation~~.~~ in accordance with all of the following:

(b) The baseline load for each nonpublicly–owned point source located between milepoints 205.3 and 171.9 shall be calculated as follows:

Baseline Load = (BPT) (Production)

Where BPT = The final best practicable waste treatment effluent limitations for the point source as provided in ~~chs.~~ ch. NR 284 ~~and 285~~, expressed as pounds of BOD5 per ton of production. If ~~chs.~~ ch. NR 284 ~~and 285 do~~ does not apply, the best practicable waste treatment effluent limitations as determined under ch. NR ~~217~~ 220~~,~~ shall apply.

Production = The annual average off–machine production during 1978 expressed as tons per day.

(d) The baseline load for each nonpublicly–owned point source with best practicable waste treatment effluent limitations of less than 500 pounds per day located between milepoints 271.1 and 240.0 shall be calculated as follows:

Baseline Load = (BPT) (Production)

Where BPT = The final best practicable waste treatment effluent limitations for the point source as provided in ~~chs.~~ ch. NR 284 ~~and 285~~, or ~~217~~ 220, when applicable, expressed as pounds of BOD5 per ton of production.

Production = The maximum weekly off–machine production during 1981 expressed as tons per day.

(e) The baseline load for each nonpublicly–owned point source with best practicable waste treatment effluent limitations of BOD5 equal to or exceeding 500 pounds per day located between milepoints 271.1 and 240.0 shall be calculated as follows:

Baseline Load = (BPT) (Production)

Where BPT = The final best practicable waste treatment effluent limitations for the point source as provided in ~~chs.~~ ch. NR 284 ~~and 285~~or ~~217~~ 220, when applicable, expressed as pounds of BOD5 per ton of production.

Production = The average weekly off–machine production expressed as tons per day from March to December 1973 for point sources located between milepoints 271.0 and 258.5 and the BPT WPDES permit limits for 1978 for point sources located between milepoints 258.4 and 258.2 and the average weekly off–machine production expressed as tons per day during 1974 for point sources located between milepoints 258.19 and 249.0 and the average weekly off–machine production expressed as tons per day during 1973 plus the woodroom allowance for sources located between milepoints 248.9 and 240.0.

(g) The baseline load for each nonpublicly–owned point source located between milepoints 341.4 and 305.9 shall be calculated as follows:

Baseline Load = (BPT) (Production)

Where BPT = The final best practicable waste treatment effluent limitations for the point source as provided in ~~chs.~~ ch. NR 284 ~~and 285~~, expressed as pounds of BOD5 per ton of production. If ~~chs.~~ ch. NR 284 ~~and 285~~ ~~do~~ does not apply, the best practicable waste treatment effluent limitations as determined under ch. NR ~~217~~ 220 shall apply.

Production = The annual average off–machine production during 1978 expressed as tons per day.

**SECTION 79. NR 212.70 (1) (a) and (b) are amended to read:**

**NR 212.70 (1) (a)** The baseline load for each publicly–owned point source located between milepoints 9.6 and 0.0 shall be calculated as follows:

Baseline load = (Q) (8.34) (60) + (BPT) (Production)

Where Q = The year 2000 flow projection of the domestic contribution of the influent to the treatment plant expressed in millions of gallons per day

8.34 = Conversion factor

60 = Concentration of BOD5 expressed in milligrams per liter

BPT = The final best practicable waste treatment effluent limitations for the industrial contribution of the influent to the treatment plant as provided in ~~chs.~~ ch. NR 284 ~~and 285~~expressed as pounds of BOD5 per ton of production. If ~~chs.~~ ch. NR 284 ~~and 285 do~~ does not apply, the best practicable waste treatment effluent limitations as determined under ch. NR ~~217~~ 220 shall apply.

Production = The annual average off–machine production during January 1 to December 1, 1978 expressed as tons per day

(b) The baseline load for each nonpublicly–owned point source located between milepoints 12.0 and 9.7 shall be calculated as follows:

Baseline load = (BPT) (Production)

Where BPT = The final best practicable waste treatment effluent limitations for the point source which is not discharged to a publicly–owned treatment system as provided in ~~chs.~~ ch. NR 284 ~~and 285~~expressed as pounds of BOD5 per ton of production. If ~~chs.~~ ch. NR 284 ~~and 285 do~~ does not apply, the best practicable waste treatment effluent limitations as determined under ch. NR ~~217~~ 220 shall apply.

Production = The annual average off–machine production during January 1 to December 1, 1978 expressed as tons per day.

**SECTION 80. NR 212.70 Table 5m (title) is amended to read:**

LBS PER DAY OF BOD5

(river mile ~~238.9~~ 248.9 to 240.0)

**SECTION 81. NR 212 Subchapter III and (title) are created to read (insert after NR 212.70):**

## SUBCHAPTER III
## DEVELOPMENT OF TOTAL MAXIMUM DAILY LOADS AND EFFLUENT LIMITATIONS DEVELOPED THROUGH WASTELOAD ALLOCATIONS

**NR 212.71 Applicability.** This subchapter establishes the procedures, methodologies, and requirements to be used for determining total maximum daily loads and water quality-based effluent limitations developed through wasteload allocations for pollutants except as provided in Subchapter II.

**NR 212.72 Definitions.** In addition to the definitions and abbreviations in ss. NR 205.03 and 205.04 the following definitions are applicable to the terms of this subchapter:

**(1)** "EPA" means the United States environmental protection agency.

**(2)** "Impaired water" has the meaning given in s. NR 151.002 (16m).

**(3)** "Increased discharge" means any increase in the concentration or mass loading of a pollutant of concern that exceeds an effluent limitation that is in effect in a current WPDES permit.

**(4)** "Load allocations" means the nonpoint source allocation as defined in s. NR 212.03 (14).

**(5)** "Loading capacity" means the greatest amount of loading that a water can receive without violating water quality standards.

**(6)** "Natural background loads" means loads emanating from natural sources, including but not limited to forested and undeveloped lands and from natural processes such as weathering and dissolution, which would exist in the absence of measurable impacts from human activity or influence.

**(7)** "New discharge" means a point source that discharges the pollutant of concern that commenced operation after the TMDL was approved by EPA and was not given a wasteload allocation in the TMDL.

**(8)** "Margin of safety" means a required component of the TMDL that accounts for the uncertainty in the response of the waterbody to loading reductions.

**(9)** "Pollutant of concern" means any pollutant discharged that has an applicable TBEL, a wasteload allocation from a TMDL or watershed analysis, or is identified as needing a WQBEL to meet water quality standards.

**(10)** "TBEL" means technology-based effluent limitation.

**(11)** "TMDL" means total maximum daily load and is the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources, natural background, and a margin of safety. TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measures that relate to a state's water quality standard.

**(12)** "Wasteload allocations" refers to the point source allocation as defined in s. NR 212.03 (22).

**(13)** "WQBEL" means water quality-based effluent limitation.

**NR 212.73 TMDL Development requirements for impaired waters. (1) PURPOSE.** This section establishes the procedure, methodologies, and requirements to be used for developing TMDLs.

**(2)** PRIORITIZATION. The department shall create and maintain an impaired waters list of waters that fail to meet water quality standards and, therefore, require the development of TMDLs or alternative remediation plans. The impaired waters list shall include a priority ranking for the development of a TMDL for all listed waters. The priority ranking shall consider the severity of the pollution, the uses to be made of such waters, and whether implementing existing TBELs and WQBELs in WPDES permits are sufficient to achieve water quality standards. The priority ranking shall identify and assign a high priority to waters targeted for TMDL development within the next two years covered by the impaired waters list submittal to the EPA by April 1 of even-numbered years. Impaired waters addressed by alternative remediation plans may be assigned a low priority for TMDL development on the impaired waters list.

**Note:** The impaired waters listing and priority setting process is specified in the Wisconsin Consolidated Assessment and Listing Methodology (WisCALM).

**Note**: Examples of remediation plans include, but are not limited to, lake protection and restoration plans, remedial action plans, environmental accountability projects, area-wide water quality management plans, adaptive management plans, and nine key element watershed plans.

**(3)** TMDL DEVELOPMENT. (a) The department shall establish TMDLs for impaired waters in accordance with the prioritization in sub. (1). TMDLs shall be established at levels necessary to attain and maintain applicable numeric and narrative water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. TMDLs shall take into account critical conditions for stream flow, loading, and water quality parameters.

(b) TMDLs shall be established to ensure attainment of all designated uses and applicable numeric and narrative water quality standards for the pollutant of concern including applicable numeric and narrative criteria under chs. NR 102 and 105.

(c) TMDLs may be established using a pollutant-by-pollutant or biomonitoring approach. In many cases both techniques may be needed. Site specific information should be used whenever possible.

(d) TMDLs shall include wasteload allocations for point sources and load allocations for nonpoint sources such that the sum of the allocations is not greater than the loading capacity of the water for the pollutants addressed by the TMDL, minus the sum of natural background loads, the reserve capacity and, if specified, an explicit margin of safety. Allocations shall meet the following requirements:

1. Allocations shall be distributed to sources using a baseline loading condition that is defined in the TMDL.

2. If allocations in the TMDL are expressed as a concentration, the TMDL shall also indicate the flows, including effluent flows, assumed in the analyses.

3. If multiple EPA approved TMDLs are prepared for impaired waters, and the TMDLs include allocations for the same pollutant for one or more of the same sources, then the applicable allocations that are protective of both immediate and downstream segments shall be used for TMDL implementation, including WPDES permitting.

4. Pollutant degradation and transport may be considered when developing allocations.

5. Natural background loads may be accounted for in a TMDL through an allocation to a single category or through individual allocations to applicable sources of natural background loads.

6. Nonpoint sources may be accounted for in a TMDL through an allocation to a single category or through individual load allocations to various nonpoint sources.

7. Point source dischargers covered through individual permits shall be assigned individual waste load allocations. Point source dischargers covered through general permits may be accounted for through an allocation to a single category or through individual wasteload allocations.

(e) TMDLs shall include a margin of safety sufficient to account for technical uncertainties in establishing the TMDL and shall describe the manner in which the margin of safety is determined and incorporated into the TMDL. The margin of safety may be provided explicitly by leaving a portion of the loading capacity unallocated, implicitly by using

conservative modeling assumptions to establish wasteload allocations and load allocations, or a combination thereof. If a portion of the loading capacity is left unallocated to provide a margin of safety, the amount left unallocated shall be documented. If conservative modeling assumptions are relied on to provide a margin of safety, the specific assumptions providing the margin of safety shall be described.

(f) A portion of the TMDL may be allocated to a reserve capacity to account for new or increased discharges, or other sources not allocated in the TMDL. When such reserve allocations are not included in a TMDL, any increased loadings of the pollutant for which the TMDL was developed that are due to a new or expanded discharge shall not be allowed unless the TMDL is revised in to include an allocation for the new or expanded discharge or the new or expanded discharge is offset by a reduction of the pollutant in the watershed covered by the TMDL.

**(4)** MONITORING DATA. Monitoring data shall be collected to support the development of the TMDL and track implementation of a TMDL. Monitoring data shall be used for all of the following:

(a) To demonstrate progress towards achieving water quality standards such as quantifying pollutant reductions made through implementation of the TMDL and evaluating the effectiveness of controls being used to implement the TMDL.

(b) To validate the assumptions and scientific analysis used to establish the TMDL or revise the TMDL, if necessary.

**(5)** REASONABLE ASSURANCE. A TMDL, implementation plan for a TMDL, or remediation plan shall provide reasonable assurances that water quality standards will be attained within a reasonable timeframe. Determining the reasonable period of time in which water quality standards will be met is a case-specific determination considering a number of factors including, but not limited to: receiving water characteristics including persistence, behavior, and ubiquity of pollutants of concern, the types of remedial activities necessary, and available regulatory and non-regulatory controls.

**NR 212.74 Developing TMDLs for nearshore and open waters of the Great Lakes.** This section describes requirements for deriving TMDLs for open waters of the Great Lakes,

inland lakes and other waters of the Great Lakes system with no appreciable flow relative to their volumes. This section applies to TMDLs for all pollutants excluding the following: alkalinity, ammonia, bacteria, biochemical oxygen demand, chlorine, color, dissolved oxygen, dissolved solids, pH, phosphorus, salinity, temperature, total and suspended solids, turbidity, and whole effluent toxicity. In addition to the requirements specified in s. NR 212.73, TMDLs in this section shall also meet all of the following:

**(1)** TMDLs shall reflect, when appropriate and when sufficient data are available, contributions to the water column from sediments inside and outside of any applicable mixing zones. TMDLs shall be sufficiently stringent so as to prevent accumulation of the pollutant of concern in sediments to levels injurious to designated or existing uses, human health, wildlife, and aquatic life.

**(2)** TMDLs shall reflect, when appropriate and when sufficient data are available, discharges resulting from wet weather events.

**(3)** TMDLs shall reflect, when appropriate and when sufficient data are available, background concentrations of pollutants stemming from atmospheric deposition, sediment release or resuspension, or as a result of chemical reactions.

**NR 212.75 Developing TMDLs for Great Lakes systems tributaries and connecting channels.** This section describes conditions for deriving TMDLs for tributaries and connecting channels of the Great Lakes system that exhibit appreciable flows relative to their volumes. This section applies to TMDLs for all pollutants excluding the following: alkalinity, ammonia, bacteria, biochemical oxygen demand, chlorine, color, dissolved oxygen, dissolved solids, pH, phosphorus, salinity, temperature, total and suspended solids, turbidity, and whole effluent toxicity. In addition to the requirements specified in s. NR 212.73, TMDLs in this section shall also meet all of the following:

**(1)** TMDLs shall reflect, when appropriate and when sufficient data are available, contributions to the water column from sediments inside and outside of any applicable mixing zones. TMDLs shall be sufficiently stringent so as to prevent accumulation of the pollutant of concern in sediments to levels injurious to designated or existing uses, human health, wildlife,

and aquatic life.

**(2)** TMDLs shall reflect, when appropriate and when sufficient data are available, discharges resulting from wet weather events.

**(3)** TMDLs shall reflect, when appropriate and when sufficient data are available, background concentrations of pollutants stemming from atmospheric deposition, sediment release or resuspension, or as a result of chemical reactions.

**(4)** Design flows shall be used unless data exist to demonstrate that an alternative stream design flow is appropriate for stream-specific and pollutant-specific conditions. For purposes of calculating a TMDL, the stream design flows shall be all of the following:

(a) The 7-day, 10-year stream design flow (7Q10), or the 4-day, 3-year biologically-based stream design flow for chronic aquatic life criteria or values.

(b) The 1-day, 10-year stream design flow (1Q10), for acute aquatic life criteria or values.

(c) The harmonic mean flow for human health criteria or values.

(d) The 90-day, 10-year flow (90Q10) for wildlife criteria.

(e) TMDLs, calculated using dynamic modeling do not need to incorporate the stream design flows specified in pars. (a) to (d) of this procedure.

**(5)** The loading capacity is initially calculated at the farthest downstream location for the impaired reach by multiplying the applicable criterion or target value by the flow condition described in sub. (4). The loading capacity is then compared to the loadings at sites within the basin to assure that applicable numeric criteria or values for a given pollutant are not exceeded at all applicable sites. The lowest load is then selected as the loading capacity to be consistent with the attainment of each applicable numeric criterion or value for a given pollutant.

**NR 212.76 Establishing WQBELs for publicly and privately owned wastewater facilities or treatment works. (1)** WQBEL CALCULATION PROCEDURES. Calculation of

WQBELs derived from TMDL wasteload allocations shall be derived consistent with the wasteload allocation and assumptions of an EPA approved TMDL. The department shall use scientifically defensible methods to calculate these WQBELs. All of the following conditions shall apply when calculating WQBELs derived from TMDL wasteload allocations:

(a) WQBELs shall be expressed as mass limitations unless the pollutant cannot appropriately be expressed by mass or a mass limitation is infeasible because the mass of the pollutant cannot be related to a measure of operation.

(b) When establishing WQBELs in WPDES permits the department shall ensure that substances are not present in amounts that are acutely toxic to animals, plants, or aquatic life in all surface waters including those portions of the mixing zone normally habitable by aquatic life and effluent channels as required by s. NR 102.04 (1).

(c) When establishing WQBELs in WPDES permits the department shall ensure that substances are not exceeding applicable chronic toxicity criteria, wildlife criteria, taste and odor criteria, human threshold criteria, human cancer criteria, and secondary values, as specified in chs. NR 102 to 105, after dilution with an appropriate allowable quantity of receiving water flow unless the conditions specified in s. NR 102.05 (3) require less dilution or no dilution be allowed.

**(2)** WQBEL CALCULATION PROCEDURES IN GREAT LAKE BASIN. In addition to the requirements in sub. (1), WQBELs derived from TMDLs under ss. NR 212.74 and 212.75 shall also meet all of the following:

(a) WQBELs shall be sufficiently stringent to ensure that accumulation of the pollutant of concern cannot occur in sediments at levels injurious to designated or existing uses, human health, wildlife, or aquatic life.

(b) When establishing WQBELs in WPDES permits the department shall assume that the pollutant of concern does not degrade over time unless any the following conditions are met:

1. Scientifically valid field studies or other relevant information demonstrate that degradation of the pollutant is expected to occur under the full range of environmental conditions expected.

2. Scientifically valid field studies or other relevant information address other factors that affect the level of pollutants in the water column including suspension of sediments, chemical speciation, and biological and chemical transformation.

**(3)** MIXING ZONES FOR BIOACCUMULATIVE CHEMICALS OF CONCERN (BCCs). When

calculating WQBELs derived from TMDL wasteload allocations for BCCs the department shall be consistent with and no less stringent than s. NR 106.06 (2).

**(4)** EXPRESSION OF LIMITS. WQBELs derived from TMDL wasteload allocations shall be expressed consistent with the provisions specified in ch. NR 205.065 unless impracticable or an alternative expression of limitations is determined appropriate by the department and is consistent with the assumptions of the TMDL.

**(5)** COMPLIANCE SCHEDULES. Compliance with the WQBELs derived from TMDL wasteload allocations shall be attained as soon as reasonably possible, but no later than the expiration date of the permit unless extended compliance schedules are authorized in ch. NR 217, other administrative rules, or an approved area wide water quality management plan under ch. NR 121. When a permit is issued, reissued, or modified with new WQBELs based on a TMDL established using the procedures in this subchapter, the department may contain a compliance schedule to achieve compliance with the TMDL based limitation if the permitttee's treatment system is unable to immediately comply with the limitation.

**(6)** RELATIONSHIP OF WQBELS DERIVED FROM TMDL WASTELOAD ALLOCATIONS AND OTHER WQBELS. The department may include WQBELs derived from TMDL wasteload allocations in a WPDES permit in addition to, or in lieu of, other WQBELs.

**NR 212.77 Public Participation. (1)** The department shall conduct an informational public hearing and provide an opportunity for the public to comment on a proposed TMDL before the TMDL is submitted to EPA for approval. The minimum time period for written comments shall be 30 days from the date of public notice of a TMDL. The department shall post notice of a proposed TMDL on the department's website.

**(2)** Once a TMDL is approved by EPA, the TMDL is automatically incorporated into areawide water quality management plans, lake management plans, or remedial action plans.

**(3)** The department may not impose a WQBEL based on a TMDL in a WPDES permit under s. NR 212.76 (6), until the TMDL has been approved by EPA.

**(4)** The department shall give public notice and provide an opportunity for comment on a calculated WQBEL that is derived from the EPA approved TMDL during the public notice and comment period provided in ch. NR 203 and ch. 283, Stats.

**SECTION 82. NR 217.14 (2) and (3) are amended to read:**

**NR 217.14 (2)** Concentration effluent limitations calculated under s. NR 217.13 shall be expressed as a monthly average in permits, except for concentrations of less than or equal to 0.3 mg/L for which limitations may be expressed as ~~annual averages~~ six-month averages. If a concentration limitation expressed as ~~an annual average~~ a six-month average is included in a permit, a monthly average concentration limitation equal to three times the water based effluent limitation calculated under s. NR 217.13 shall also be included in the permit.

**(3)** Concentration effluent limitations ~~as~~ calculated under s. NR 217.13 shall be converted into mass effluent limitations using the effluent flow identified in s. NR 217.13 and an appropriate conversion factor, and expressed as a monthly average in the permit, except for concentration based limitations of less than or equal to 0.3 mg/L ~~where~~ for which mass limitations may be expressed as ~~annual averages~~ six-month averages.

**SECTION 78. EFFECTIVE DATE.** This rule takes effect on the first day of the month following publication in the Wisconsin Administrative Register as provided in s. 227.22 (2) (intro.), Stats.

**SECTION 79. BOARD ADOPTION.** This rule was approved and adopted by the State of Wisconsin Natural Resources Board on [DATE].

Dated at Madison, Wisconsin _____.

STATE OF Wisconsin DNR

DEPARTMENT OF NATURAL RESOURCES

BY _____

Cathy Stepp, Secretary

(SEAL)