CR 07-111

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

The State of Wisconsin Natural Resources Board adopts an order to **repeal** NR 102.03(8) to (10), 102.04(4)(b), 102.04(4)(e)1., 102.04(5) to (7), 102.05(4), 102.07 to 102.09 and Ch. NR 209; to **renumber** NR 102.03(1) to (7) and 102.04(4)(e) 2. and 3.; to **renumber and amend** NR 102.04(4)(e); to **amend** NR 102.01(1) to (3), 102.04(title), 102.04(1)(intro.), 102.04(2), 102.04(3)(intro.), 102.04(4)(title), 102.04(4)(a), 102.05(3)(intro.), 102.05(3)(b), (c), (e) and (f) and ch. NR 106 (title); to **create** NR 102 subch. I (title), 102.03(intro.), 102.04(e), 102.04(5) to (9), ch. NR 102 subch. II and ch. NR 106 subchs. V and VI relating to thermal water quality standards and effluent limits.

WT-36-07

Summary Prepared by the Department of Natural Resources

Statutory Authority and Explanation: Sections 227.11(2), 281.15, 283.13, and 283.17, Stats., grant authority to the Department to promulgate rules pertaining to water quality standards and associated water quality-based effluent limitation calculation procedures for inclusion in Wisconsin Pollutant Discharge Elimination System (WPDES) permits, including specific procedures to modify such limitations.

Statutes Interpreted and Explanation: Sections 281.15 and 283.13, Stats., authorizes the Department to establish appropriate thermal water quality standards and associated water quality-based effluent limitation calculation procedures for heated discharges to surface waters of the state. Section 283.17, Stats., provides the Department the authority to establish thermal effluent limitation modification procedures.

Related Statute or Rule: The Department is currently operating in a tenuous manner under existing requirements of ch. NR 102, Wis. Adm. Code, that took effect on October 1, 1973. The situation is tenuous because the Wisconsin Supreme Court declared significant portions of ch. NR 102 invalid (Wisconsin Electric Power Company v. Wisconsin Natural Resources Board, 90 Wis. 2d 656 (1979)), yet the U.S. Environmental Protection Agency (U.S. EPA) requires thermal limits to be included in appropriate WPDES permits to meet federal law and regulations.

Plain Language Rule Analysis: In 1974, U.S. EPA approved Wisconsin's water quality standards (including thermal standards) as required in Public Law 92-500, the "Federal Water Pollution Control Act Amendments of 1972" (later the Clean Water Act). Those standards became effective in 1975 following the normal rule-making process. Subsequently, the Department was sued by several steam-electric power companies on the grounds that the application in permits of the temperature standards set forth in ch. NR 102, Wis. Adm. Code, were more stringent than federal requirements. Section 283.11(2), Stats., prohibits the Department from establishing requirements more stringent than federal regulations unless the requirements are needed to meet water quality standards. The Wisconsin Supreme Court ruled that significant provisions of ch. NR 102 were equivalent to technology-based effluent limitations for the steam-electric power discharge category and overturned the thermal requirements of ch. NR 102. These requirements remain in the Administrative Code as they were originally adopted in 1973.

The effect of the Wisconsin Supreme Court ruling was to severely limit the Department's ability to regulate the amount of heat discharged from power plants and other sources. The decision has made

regulation of all heated discharges to waters of the State confusing and difficult to implement consistently. It is important to note, however, that other provisions in federal and state law allowed facilities to demonstrate that heated discharges, particularly those from power plants, were not adversely affecting aquatic life, thereby removing the necessity to limit the amount of heat from such discharges.

In 1991, U.S. EPA, through their oversight of the WPDES program, requested that the Department implement the thermal standards contained in ch. NR 102 to regulate the discharge of heat from two specific power plants. Following the Wisconsin Supreme Court decision noted above, the Department concluded it did not have the authority to regulate heat in these WPDES permits. Citing 40 CFR 124.57, U.S. EPA proposed to issue the permits under the requirements of the federal National Pollution Discharge Elimination System (NPDES) program. U.S. EPA has chosen not to issue these two permits and the permits remain in effect as they were when they expired in the early 1990s.

In response to U.S. EPA's proposal, the Department requested an opportunity to revise ch. NR 102 to adopt scientifically defensible thermal water quality standards and companion provisions in ch. NR 106 to develop procedures for establishing effluent limitations to meet the thermal water quality standards. An advisory committee was formed in late 1994 to undertake this task. The committee members consisted of several Department staff along with representatives of U.S. EPA-Region 5, academia, municipal government, environmental advocacy groups, and industrial dischargers, including representatives from steam-electric producers, pulp and paper manufacturers, and food producers. The result of this committee's work was to produce a draft rule that received Natural Resource Board approval for public hearing in August 1998. From the time following public hearings on those draft rules until May 2001 progress on finalizing the thermal rules revisions was inhibited by staffing changes associated with reorganization, retirement, and reassignment, as well as the need to address significant internal and external concerns related to the draft rule raised during the comment period.

A Thermal Standards Revisions Advisory Committee was reestablished in the summer of 2001 and included representatives from all of the original stakeholder entities, as well as one representative each from the aquaculture industry and Trout Unlimited. This advisory committee met 15 times between October 2001 and July 2004 and, along with additional Department staff, made significant contributions in the development of these rules. Following additional internal delays and time for Department staff to address remaining problems with the draft rules, the advisory committee met one last time in June 2007 and draft rules were subsequently prepared. This draft included numerous significant changes from the draft rule package presented to the Natural Resources Board in August 1998. Many of the changes were made in response to comments the Department received during and following the public hearings in 1998. In January 2008, the Department held additional public hearings to receive comments on the draft rules prepared following the June 2007 Advisory Committee meeting. In January 2009, the Department held a public informational meeting to receive feedback on changes made in response to comments made by U.S. EPA-Region 5. Changes were made in response to this feedback by stakeholders, including U.S. EPA-Region 5.

Adoption of water quality standards and criteria for temperature and the procedures for establishing effluent temperature limitations in WPDES permits will begin a new era of protecting fish and aquatic life from discharges of heat into waters of the state. These rules will allow the Department to adequately account for the different biological needs of fish and aquatic life over the course of the varying seasons in a year and across different water body classifications, primarily through the application of both acute and sub-lethal monthly criteria.

One effect of the proposed rule that is expected to influence many dischargers of heat is the increase in monitoring frequency for effluent temperature and flow. The purpose of the increased monitoring frequency is to capture data that defines the representative monthly effluent temperatures and effluent

flows for a given facility. To date, monitoring at most facilities has not been sufficient to determine representative effluent temperature. This rule order incorporates monthly standards, whereas past regulation of heated discharges, to the extent it occurred, was implemented annually or seasonally. Some dischargers are currently monitoring at or more frequently than the minimum requirements being proposed and thus will not be affected. However, others have had very limited effluent temperature monitoring requirements to this point. For those permittees with insufficient data, the increased monitoring frequency will last for a minimum of one year of the initial permit cycle, after which additional monitoring may not be required.

The impact of the proposed rule on regulated facilities is varied – ranging from more stringent temperature limits to no limit at all. Additionally, some sources that have had thermal limits may not require one under the proposed rule and some sources will be required to have thermal limits even though they have not had one in the past.

Throughout the rule development process, effort was made to consider the many different types of discharges that could be affected and to avoid permitting thermal discharges that are not adversely impacting aquatic environments. All attempts have been made to assure the proposed rules are environmentally protective, but not unreasonable. Evidence of this are the many options available to dischargers and permittees built into NR 102 and NR 106 that give them opportunities to deviate from the default rule parameters if they feel it prudent to do so and it is justified with data. These options include use of site-specific ambient temperature data, development of site-specific water quality criteria development, allowance for water quality modeling. Other allowances are made for collection of representative data when those data are unavailable, provisions for real-time monitoring and compliance, options to consider variability in discharge, options to address cold shock and rate of temperature change conditions, special effluent limitation procedures for domestic sewage treatment facilities and provision for determining alternative effluent temperature limitations in Subchapter VI.

Actual reporting requirements are expected to remain relatively unchanged with permitees reporting the necessary information via the Discharge Monitoring Report system or via the annual reporting requirements of a general permit, except that monitoring and compliance records will be reported for each month, rather than seasonally or annually. Some permittees will also be required to submit monitoring data with permit applications. Fees associated with ch. NR 101 (Wis. Adm. Code) do not currently apply to discharges of heat.

This rule order revises chs. NR 102 and NR 106, summarized as follows:

Chapter NR 102 - Water Quality Standards for Wisconsin Surface Waters. The existing thermal standards are found in sections NR 102.04, NR 102.05, and NR 102.07 to NR 102.09. This rule order amends several subsections of sections NR 102.04 and NR 102.05, repeals sections NR 102.07 to NR 102.09, and creates a new Subchapter II entitled "Water Quality Standards for Temperature." Subchapter II contains the water quality criteria and ambient temperatures for specific fish and aquatic life use communities, as well as other site-specific temperature-related standards.

Chapter NR 106 - Procedures for Calculating Water Quality Based Effluent Limitations for Toxic and Organoleptic Substances Discharged to Surface Waters. This rule order also amends the title of this rule to "Procedures for Calculating Water Quality Based Effluent Limitations for Point Source Discharges to Surface Waters." There are no procedures to calculate effluent temperature limitations in the existing NR 106. This rule order will create two new subchapters: Subchapter V entitled "Effluent Limitations for Temperature", and Subchapter VI entitled "Alternative Effluent Limitations for Temperature." Subchapter V specifies data requirements, methods for calculating and

determining the necessity for water quality-based effluent limitations, application of and compliance with the limitations in WPDES permits, variance procedures, and other related limitation and permitting issues. The proposed rule takes into account the ambient temperature and flow of a receiving water in the calculation of effluent limitations. The effluent limitation calculation incorporates a mass balance approach, making it equivalent to other codified limitation calculation procedures. The mass balance approach enables a determination of the amount of heat that a receiving water can assimilate without adversely affecting fish and aquatic life. Supplemental limits, including those of 120°F to prevent incidental injury (scalding) to humans, 86°F to protect other limited aquatic life waterbodies, and those to be considered on a site-specific or case-by-case basis, are also included. Subchapter VI specifies procedures for determining alternative effluent limitations for temperature to those established for point source discharges calculated under Subchapter V who demonstrate that such limitations are more stringent than necessary to assure the protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is made. Subchapter VI includes application, compliance schedule, and public notice procedures, and replaces Chapter NR 209, which is repealed by this rule order.

This rule order, which establishes sub-lethal criteria and the application of criteria on a monthly basis presents the possibility that Department staff may have an increase in WPDES permitting workload. However, with the use of appropriate information technology and training, this increase in workload should be relatively minor. Additionally, the rule has been crafted in such a way as to reduce workload where possible through the use of a General Permit. It is anticipated this revised General Permit will make permitting activities more efficient and more consistent without a significant increase in workload.

It is important in this discussion to remember the reason for this rule order. Ever since the Wisconsin Supreme Court ruling made significant portions of the existing thermal rules invalid, the state has not had the clear and consistent authority to regulate the discharge of heat for the protection of fish and aquatic life in waters of the state. In fact, in a March 6, 2009 letter from Ms. Tinka Hyde (Region 5 Water Division Director) to Todd Ambs (WDNR Water Division Administrator), the U.S. EPA has stated that "adopting thermal criteria that comply with the Clean Water Act and protect the waters of the state of Wisconsin is of paramount importance." U.S. EPA noted in that letter that Wisconsin is the only Region 5 state that has not implemented temperature criteria uniformly across the state.

Many of the potential effects of this rule order are simply due to the fact that there has been limited regulation of thermal discharges for 30-plus years. Those who may be affected by these rules have discharged heat to the possible detriment of the quality of state waters and the aquatic life in such waters. However, without these rules, U.S. EPA has the authority to directly regulate discharges of heat under the NPDES permit program, and has indicated intent to do so. This rule order will allow the Department to regulate the discharge of heat in a manner appropriate to Wisconsin's needs and prevent a level of federal involvement that is unwarranted.

Federal Regulatory Analysis: Federal requirements regarding water quality standards and permitting are found in various sections of the Clean Water Act (33 U.S.C. 1251 et seq.), as well as 40 CFR Parts 122, 123, 125, 130, and 131. Additionally, U.S. EPA's current water quality criterion recommendations for temperature are those contained in "Quality Criteria for Water, 1986", which is commonly referred to as the Gold Book. States can adopt the standards in the U.S. EPA guidance, or can develop and adopt alternative standards.

Most state thermal standards, including those in states adjacent to Wisconsin and discussed in the next section, predate the 1986 Gold Book. Thus, most state thermal standards consist of requirements that differ from the current federal guidance. Although U.S. EPA could compel states to adopt thermal

standards consistent with the federal guidance by disapproving the existing state standards and forcing promulgation of the federal guidance, they have not done so to date.

Comparison with Rules in Adjacent States: Illinois, Iowa, Michigan, and Minnesota each require the application of state-specific thermal standards. Although each of the states includes thermal standards language unique to the state, all of the states share, in common, at least 3 of the following 4 primary thermal standards components:

- Natural daily and seasonal temperature fluctuations shall be maintained.
- A general maximum temperature rise at the edge of a mixing zone or temperature above existing natural ambient or listed maximum limit of 3.6 to 5.4°F in streams or rivers (2°F for cold water).
- A general maximum temperature rise at the edge of a mixing zone or temperature above existing natural ambient or listed maximum limit of 3°F in inland lakes.
- Specific monthly maximum temperatures not to be exceeded.

Wisconsin's existing thermal water quality standards include all of the four components listed above. However, each of them was declared invalid under the aforementioned Wisconsin Supreme Court decision. State courts in the adjacent states have not made similar rulings and the standards are used to establish limitations or other requirements in permits. In fact, all but a handful of states in the country currently incorporate some form of the above listed components in their state thermal standards. So, it is the State Supreme Court decision that dictates the development of water quality standards that are significantly different in nature than those of adjacent states.

The likely result of promulgating and implementing the thermal water quality standards in this proposed rule order in comparison with adjacent states is dependent on each specific situation and varies widely from a less restrictive standard to a more restrictive effluent limitation. The situational factors that play a significant role include water body type and classification, month, resident fish species and their spawning cycles, flow and ambient temperature of the water body, and various discharge facility process parameters. One thing is clear is that the thermal standards and implementation rules will be unique, establish certainty and consistency in their application as water quality-based effluent temperature limitations and conform to the decision of the Wisconsin Supreme Court ruling.

Summary of the factual data and analytical methodologies: The proposed thermal water quality criteria and ambient temperatures have been developed using an extensive amount of data. The data came from 721 articles, reports, theses, dissertations, books, personal communications, and other types of publications, the vast majority of which were peer reviewed. The source of the data is from laboratory studies, field research and observation, and modeling, and the majority is based on the effects of temperature on fish species. Except for the limited aquatic life (LAL) category, fresh water fish data was used exclusively to develop criteria because there was insufficient data from other aquatic organisms to develop criteria. Additionally, the criteria developed from fish data was used to conclude that it would also be protective of the aquatic community as a whole (i.e., that fish were reasonable surrogates for all aquatic organisms). Since LAL waters do not contain fish, data from other organisms was used to develop the criterion for LAL waters not classified as wastewater effluent channels or wetlands.

All criteria are developed based on a combination of factors to make them as relevant and specific to Wisconsin waters as possible. The factors used to develop the criteria include:

- Type of water body use or designation;
- Data restricted to only fish species known to exist in Wisconsin;
- Fish species data correspond to specific water body use or designation;

- Criteria are related to ambient water temperatures in Wisconsin water bodies;
- Ambient temperatures are specific to each water body use or designation; and
- Life history activities (gametogenesis, spawning, growth) are considered for the months they are known to occur in Wisconsin.

The development of the proposed thermal water quality criteria and ambient temperatures incorporate a variety of simple to more complex statistical methodologies. The simple analyses included calculating averages and geometric means. The development of acute criteria included regression analyses, analyses of covariance, and additional procedures that are consistent with analyses the Department has used for developing criteria for toxic substances in ch. NR 105. Five factor polynomial regression analyses were used to develop the final sub-lethal criteria for each water body classification.

The proposed effluent limitation calculation procedures incorporate a mass balance equation, making it essentially equivalent to other limit calculation methods currently in rule. The mass balance approach enables the determination of the amount of heat a receiving water can assimilate without adversely affecting fish and aquatic life taking into account the ambient temperature and flow of the waterbody.

Analysis and supporting documents used to determine effect on small business or in preparation of economic impact report: None. A formal analysis was not done to determine the effect on small business because the rule will not directly impact small businesses, as defined in s. 227.114(1), Stats. Preparation of an economic impact report has not been requested.

Effects on small business: There is no known effect on small businesses due to the proposed rule. The regulated facilities are not small businesses.

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SECTION 1. NR 102 subch. I (title) is created to read:

Subchapter I - General

SECTION 2. NR 102.01 (1), (2) and (3) are amended to read:

NR 102.01(1) The purpose of this chapter is to establish, in conjunction with chs. NR 103 to 105, water quality standards for surface waters of the state pursuant to s. ~~281.15(2)(b)~~ 281.15, Stats. This chapter describes the designated use categories for such waters and the water quality criteria necessary to support these uses. This chapter and chs. NR 103 to 105 constitute the water quality standards for the surface waters of Wisconsin.

(2) The long-range goal of Wisconsin water quality standards is to protect the use of water resources for all lawful purposes. Water quality standards shall protect the public interest, which includes the protection of public health and welfare and the present and prospective uses of all waters of the state for public and private water supplies, propagation of fish and other aquatic life and wild and domestic animals, domestic and recreational purposes, and agricultural, commercial, industrial, and other legitimate uses. In all cases where the potential uses are in conflict, water quality standards shall protect the general public interest.

(3) Water quality standards serve as a basis for developing and implementing control strategies to achieve legislative policies and goals. Water quality standards are the basis for deriving water quality based effluent limitations and the limitations shall be determined to attain and maintain uses and criteria, unless more stringent effluent limitations are established to protect downstream waters. Water quality standards also serve as a basis for decisions in other regulatory, permitting or funding activities that impact water quality.

SECTION 3. NR 102.03 (intro.) is created to read:

NR 102.03 (intro.) In this chapter, the following definitions are applicable to terms used:

SECTION 4. NR 102.03(8) to (10) are repealed.

SECTION 5. NR 102.03(1) to (7) are renumbered NR 102.03(2) to (8).

SECTION 6. NR 102.03(1) is created to read:

NR 102.03(1) "Ambient temperature" means the typical existing temperature of a surface water outside the direct influence of any point source discharge, which may include daily and seasonal changes.

SECTION 7. NR 102.04 (title) is amended to read:

NR 102.04 Categories of ~~standards~~ surface water uses and criteria.

SECTION 8. NR 102.04(1) (intro.) is amended to read:

NR 102.04(1) GENERAL. (intro.) To preserve and enhance the quality of waters, ~~standards~~ surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other

activities shall be controlled so that all surface waters including the mixing zone ~~and the effluent channel~~ meet the following conditions at all times and under all flow and water level conditions:

SECTION 9. NR 102.04(2) is amended to read:

NR 102.04(2) REVISED ~~STANDARDS~~USES AND CRITERIA. ~~It should be recognized that these standards will~~ The following uses and criteria may be revised as new information or advancing technology indicate that revisions are in the public interest. Water used for hydropower and commercial shipping depends mainly on quantity, depth and elevation; consequently, no specific quality ~~standards~~ criteria for these uses have been prepared.

SECTION 10. NR 102.04(3) (intro.) is amended to read:

NR 102.04(3) FISH AND OTHER AQUATIC LIFE USES. ~~The department shall classify all~~ All surface waters ~~into~~ shall belong in one of the fish and other aquatic life subcategories described in this subsection. Only those use subcategories identified in pars. (a) to (c) shall be considered suitable for the protection and propagation of a balanced fish and other aquatic life community as provided in the federal water pollution control act amendments of 1972, P.L. 92-500; 33 USC 1251 et seq.

SECTION 11. NR 102.04(4) (title) is amended to read:

NR 102.04(4) ~~STANDARDS~~ CRITERIA FOR FISH AND AQUATIC LIFE.

SECTION 12. NR 102.04(4)(a) is amended to read:

NR 102.04(4)(a) *Dissolved oxygen.* Except as provided in (~~e~~b) and s. NR 104.02(3), the dissolved oxygen content in surface waters may not be lowered to less than 5 mg/L at any time.

SECTION 13. NR 102.04(4)(b) is repealed.

SECTION 14. NR 102.04(4)(e)(title) and (intro.) are renumbered to NR 102.04(4)(b)(title) and (intro.) and amended to read:

NR 102.04(4)(b) ~~*Temperature and dissolved*~~ *Dissolved oxygen for cold waters*. ~~Streams~~ Water bodies classified as trout waters by the department ~~of natural resources~~ (Wisconsin Trout Streams, publication 6-3600 (80)) or as great lakes or cold water communities may not be altered from natural background ~~temperature and~~ dissolved oxygen levels to such an extent that trout populations are adversely affected. Additionally, all of the following conditions shall be met:

SECTION 15. NR 102.04(4)(e)1. is repealed.

SECTION 16. NR 102.04(4)(e)2. and 3. are renumbered to NR 102.04(4)(b)1. and 2.

SECTION 17. NR 102.04(4)(e) is created to read:

NR 102.04(4)(e) *Temperature.* Water quality criteria for temperature shall be determined and applied pursuant to subch. II. Heated effluent shall not cause lethality, inside or outside of the mixing zone, to animal, plant or other aquatic life.

SECTION 18. NR 102.04(5) to (7) are repealed.

SECTION 19. NR 102.04(5) to (9) are created to read:

NR 102.04(5) RECREATIONAL USE. (a) *General*. All surface waters shall be suitable for supporting recreational use and shall meet the criteria specified in sub. (6). A sanitary survey or evaluation, or both to assure protection from fecal contamination is the chief criterion for determining the suitability of a water for recreational use.

(b) *Exceptions*. Whenever the department determines, in accordance with the procedures specified in s. NR 210.06(3), that wastewater disinfection is not required to protect recreational uses, the criteria specified in par. (a) and in chs. NR 103 and 104 do not apply.

(6) CRITERIA FOR RECREATIONAL USE. As bacteriological guidelines, the membrane filter fecal coliform count may not exceed 200 colonies per 100 ml as a geometric mean and may not exceed 400 colonies per 100 ml in more than 10% of all samples during any month. Samples shall be required at least 5 times per month.

(7) PUBLIC HEALTH AND WELFARE USE. (a) *General.* All surface waters shall be suitable for supporting public health and welfare.

(b) *Exceptions.* Whenever the department determines a discharge of heated effluent is not exposed or situated in a manner that may pose a realistic potential for scalding of humans, the criterion specified in sub. (8)(c) does not apply.

(8) CRITERIA FOR PUBLIC HEALTH AND WELFARE USE. (a) *General*. The criteria developed pursuant to ss. NR 105.08 and 105.09 shall be met regardless of whether the surface water is used for public drinking water supply or the applicable fish and aquatic life subcategory.

(b) *Taste and odor criteria*. All surface waters providing public drinking water supplies or classified as cold water or warm water sport fish communities as described in sub. (3) shall meet the taste and odor criteria specified or developed pursuant to s. NR 102.14.

(c) *Temperature criteria*. To protect humans from being scalded, the water temperature of a discharge may not exceed 120°F unless specifically authorized under provisions in subchs. V or VI.

(9) WILDLIFE USE AND CRITERIA. (a) *Use*. All surface waters shall be suitable for supporting wildlife.

(b) *Criteria*. The criteria specified in or developed pursuant to s. NR 105.07 shall be met.

SECTION 20. NR 102.05(3) (intro.) is amended to read:

NR 102.05(3) (intro.) MIXING ZONES. Water quality standards shall be met at every point outside of a mixing zone. The size of the mixing zone ~~cannot be uniformly prescribed, but~~ shall be based on such factors as effluent quality and quantity, available dilution, temperature, current, type of outfall, channel configuration and restrictions to fish movement. For toxic and organoleptic substances with water quality criteria or secondary values specified in or developed pursuant to chs. NR 102 and 105, allowable dilution shall be determined as specified in ch. NR 106 in addition to the requirements specified in this subsection. As a guide to the delineation of a mixing zone, the following shall be taken into consideration:

SECTION 21. NR 102.05(3)(b), (c), (e), and (f) are amended to read:

NR 102.05(3)(b) Providing passageways ~~in rivers~~ for fish and other mobile aquatic organisms.

(c) Where possible, mixing zones being no larger than 25% of the cross–sectional area or volume of flow of ~~the stream~~ a flowing water body and not extending more than 50% of the width.

(e) Mixing zones not exceeding 10% of ~~a~~ an inland lake's total surface area.

(f) Mixing zones not ~~interfering with~~ adversely impacting spawning or nursery areas, migratory routes, nor mouths of tributary streams.

SECTION 22. NR 102.05(4) is repealed.

SECTION 23. NR 102.07 to 102.09 are repealed.

SECTION 24. NR 102 subch. II is created to read:

Subchapter II - Water Quality Standards For Temperature

NR 102.20 Purpose. The purpose of this subchapter is to establish water quality standards for temperature pursuant to s. 281.15(1), Stats. Water quality standards for temperature shall protect fish and other aquatic life from mortality, immobilization, loss of equilibrium, impaired growth, adverse reproductive effects, and other sub-lethal effects.

NR 102.22 Definitions. In this subchapter, the following definitions are applicable to terms used:

(1) "Acute effects" means any effect resulting in death or immobilization. For temperature, the acute criteria of this subchapter are based on Upper Incipient Lethal Temperature (UILT) values that are not representative of immediate lethality.

(2) "cfs" means cubic feet per second, usually pertaining to stream or effluent flow.

(3) "Cold shock" means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavioral or physiological performance and may lead to death.

(4) "Daily maximum temperature" means the highest allowed water temperature for a calendar day, outside a mixing zone allowed in this subchapter.

(5) "Great Lakes" means the open Wisconsin waters of Lake Superior, Lake Michigan, Green Bay and Chequamegon Bay, as well as adjoining open waters that exhibit characteristics of Lake Superior, Lake Michigan, Green Bay or Chequamegon Bay, or in other ways are determined by the department to be equivalent to these waters.

(6) "Maximum weekly average temperature" means the highest allowed arithmetic mean of all daily maximum temperatures during a calendar week, outside mixing zone allowed in this subchapter.

(7) "mgd" means million gallons per day.

(8) "Sub-lethal effects" means effects resulting in inadequate gonad development, gamete production and viability, spawning or growth.

NR 102.23 Categories of standards applicable to temperature. The department shall establish water quality standards for temperature to protect the following:

(1) Public health and welfare uses, as established in s. NR 102.04(7) and (8).

(2) Fish and other aquatic life uses as established in s. NR 102.04(3). For exclusive purpose of the application of water quality standards for temperature, the warm water sport fish and warm water forage fish communities, as defined in s. NR 102.04 (3)(b) and (c), are treated together as warm water communities.

(3) Great Lakes communities as defined in s. NR 102.22(6). This use exists only for the regulation of discharges of heat.

NR 102.24 General water quality criteria for temperature. (1) There may be no temperature changes that may adversely affect aquatic life.

(2) Natural daily and seasonal temperature fluctuations shall be maintained.

NR 102.245 Temperature Criteria for Limited Aquatic Life Communities. (1) For the purposes of temperature criteria, all surface waters classified as diffused surface waters, wetlands and wastewater effluent channels, as defined in s. NR 104.02(1), shall be characterized as limited aquatic life communities.

(2) The department may, as appropriate, characterize other surface waters not identified in sub. (1) as limited aquatic life communities.

(3) The temperature in waters classified as limited aquatic life shall be restricted as follows:

(a) Temperatures at any point in waters classified as wastewater effluent channels may not exceed 120°F.

(b) Temperatures at any point in waters classified as wetlands shall not exceed the standards in ch. NR 103.

(c) Temperatures at any point in waters not identified in pars. (a) or (b) may not exceed 86°F. Additionally, all conditions of ch. NR 103 shall be met.

Note: The department recognizes there are legitimate concerns that not all wetlands and ephemeral streams are the biological equivalents of other limited aquatic life waters, and is in the process of re-evaluating the wetland and ephemeral stream classifications to determine if and when full fish and aqautic life conditions should be applied.

NR 102.25 Ambient temperatures and water quality criteria for the protection of fish and other aquatic life. (1) GENERAL. In the absence of site-specific ambient temperature data or water quality criteria as determine in ss. NR 102.26 or 102.27, respectively, the applicable ambient temperatures, sub-lethal water quality criteria, and acute water quality criteria shall be as specified in subs. (2) to (5). For determinations made in subs. (2) to (5), all of the following conditions shall apply:

(a) The ambient temperature, sub-lethal water quality criterion, and acute water quality criterion

specified for any calendar month shall be applied simultaneously to establish the protection needed for each identified fish and other aquatic life use.

(b) Sub-lethal water quality criteria are to be applied as maximum weekly average temperatures.

(c) Acute water quality criteria are to be applied as daily maximum temperatures.

(d) Water quality criteria for temperature shall be applied in accordance with the mixing zone provisions of s. NR 102.05(3).

(e) Final acute and sub-lethal water quality criteria for temperature specified in or developed pursuant to ss. NR 102.24 to 102.26 shall not be exceeded at any point outside the mixing zone. Additionally, site-specific mixing zone studies may be required when deemed appropriate by the department.

(2) NON-SPECIFIC WATERS. The values listed in Table 2 shall be the applicable ambient temperatures, sub-lethal and acute water quality criteria for temperature for the protection of fish and aquatic life unless other values specified in subs. (3) to (5) are applicable or approved by the department pursuant to ss. NR 102.26 or 102.27.

Table 2
Ambient Temperatures and Water Quality Criteria for Temperature for Non-Specific Waters
(All values are expressed as degrees Fahrenheit)

	Cold[4]			Warm - Large[5]			Warm - Small[6]			LFF[7]		
Month	**Ta[1]**	**SL[2]**	**A[3]**	**Ta**	**SL**	**A**	**Ta**	**SL**	**A**	**Ta**	**SL**	**A**
JAN	35	47	68	33	49	76	33	49	76	37	54	78
FEB	36	47	68	33	50	76	34	50	76	39	54	79
MAR	39	51	69	36	52	76	38	52	77	43	57	80
APR	47	57	70	46	55	79	48	55	79	50	63	81
MAY	56	63	72	60	65	82	58	65	82	59	70	84
JUN	62	67	72	71	75	85	66	76	84	64	77	85
JUL	64	67	73	75	80	86	69	81	85	69	81	86
AUG	63	65	73	74	79	86	67	81	84	68	79	86
SEP	57	60	72	65	72	84	60	73	82	63	73	85
OCT	49	53	70	52	61	80	50	61	80	55	63	83
NOV	41	48	69	39	50	77	40	49	77	46	54	80
DEC	37	47	69	33	49	76	35	49	76	40	54	79

[1] Ta = ambient temperature
[2] SL = sub-lethal criteria
[3] A = acute criteria
[4] Cold = waters with a fish and aquatic life use designation of "cold water community"
[5] Warm - Large = waters with a fish and aquatic life use designation of "warm water sport fish community" or "warm water forage fish community" and unidirectional 7Q10 flows ≥ 200 cfs (129 mgd)
[6] Warm - Small = waters with a fish and aquatic life use designation of "warm sport fish community" or "warm water forage fish community " and unidirectional 7Q10 flows < 200 cfs (129 mgd)
[7] LFF = waters with a fish and aquatic life use designation of "limited forage fish community"

(3) SPECIFIC LARGE RIVERS. The values listed in Table 3 shall be the applicable ambient temperatures, sub-lethal and acute water quality criteria for temperature for the protection of fish and

aquatic life for the identified water segments unless other values are approved by the department pursuant to ss. NR 102.26 or 102.27.

Table 3
Ambient Temperatures and Water Quality Criteria for Temperature for Specific Large Rivers
(All values are expressed as degrees Fahrenheit)

	Mississippi River[4]			Rock River[5]			Upper Wisconsin River[6]			Lower Wisconsin River[7]			Lower Fox River[8]		
Month	**Ta[1]**	**SL[2]**	**A[3]**	**Ta**	**SL**	**A**	**Ta**	**SL**	**A**	**Ta**	**SL**	**A**	**Ta**	**SL**	**A**
JAN	32	49	75	33	49	76	33	49	76	32	49	75	35	49	76
FEB	33	50	76	35	50	76	33	50	76	32	50	75	35	50	76
MAR	36	52	76	38	52	77	35	52	76	37	52	77	38	52	77
APR	47	55	79	49	55	79	44	55	78	48	55	79	50	55	80
MAY	60	65	82	64	65	84	60	65	82	61	65	83	62	65	83
JUN	72	75	85	71	75	85	70	75	85	71	75	85	73	76	85
JUL	76	80	86	74	79	86	75	80	86	75	80	86	77	81	87
AUG	76	79	86	73	79	85	73	79	85	74	79	86	76	80	86
SEP	67	73	84	66	72	84	65	72	84	67	72	84	68	73	85
OCT	54	61	81	54	61	81	51	61	80	53	61	80	53	61	80
NOV	40	50	77	40	50	77	39	50	77	40	50	77	42	50	78
DEC	33	49	76	34	49	76	33	49	76	33	49	76	35	49	76

[1] Ta = ambient temperature
[2] SL = sub-lethal criteria
[3] A = acute criteria
[4] Mississippi River = applies to any portion of Wisconsin's Mississippi River reach
[5] Rock River = applies to waters downstream of Lake Koshkonong
[6] Upper Wisconsin River = applies to waters upstream of Petenwell Dam
[7] Lower Wisconsin River = applies to waters downstream of Petenwell Dam to the confluence with the Mississippi River
[8] Lower Fox River = applies to waters downstream of the Lake Winnebago outlet

(4) INLAND LAKES AND IMPOUNDMENTS. The values listed in Table 4 shall be the applicable ambient temperatures, sub-lethal and acute water quality criteria for temperature for the protection of fish and aquatic life for inland lakes and impoundments unless other values are approved by the department pursuant to ss. NR 102.26 or 102.27.

Table 4
Ambient Temperatures and Water Quality Criteria for Temperature for Inland Lakes and Impoundments
(All values are expressed as degrees Fahrenheit)

	Northern[4]			Southern[5]		
Month	**Ta[1]**	**SL[2]**	**A[3]**	**Ta**	**SL**	**A**
JAN	35	49	76	35	49	77
FEB	34	52	76	39	52	78
MAR	35	55	76	41	55	78
APR	41	60	78	49	60	80
MAY	55	67	81	58	68	82
JUN	67	75	85	70	75	86
JUL	72	79	86	77	80	87

AUG	71	79	86	76	80	87
SEP	63	72	84	67	73	85
OCT	52	61	80	54	61	81
NOV	43	50	78	42	50	78
DEC	35	49	76	35	49	77

[1] Ta = ambient temperature
[2] SL = sub-lethal criteria
[3] A = acute criteria
[4] Northern = applicable for those lakes and impoundments north of State Highway 10
[5] Southern = applicable for those lakes and impoundments south of State Highway 10

(5) GREAT LAKES WATERS. The values listed in Table 5 shall be the applicable ambient temperatures, sub-lethal and acute water quality criteria for the protection of fish and aquatic life for Great Lakes waters identified in s. NR 102.22(5) unless other values are approved by the department pursuant to ss. NR 102.26 or 102.27.

Table 5
Ambient Temperatures and Water Quality Criteria for Temperature for Great Lakes Waters of Wisconsin
(All values are expressed as degrees Fahrenheit)

	Green Bay						Lake Michigan											
	Southern[4]			Northern[5]			Northern[6]			Southern[7]			Lake Superior[8]			Chequamegon Bay[9]		
Month	**Ta[1]**	**SL[2]**	**A[3]**	**Ta**	**SL**	**A**	**Ta**	**SL**	**A**	**Ta**	**SL**	**A**	**Ta**	**SL**	**A**	**Ta**	**SL**	**A**
JAN	35	49	75	35	43	69	34	43	69	35	43	69	35	41	69	35	41	69
FEB	35	52	75	35	47	69	33	47	69	34	46	69	34	46	69	35	46	69
MAR	41	54	77	36	52	70	35	52	69	37	52	70	34	51	69	35	51	69
APR	47	58	79	40	57	71	39	58	70	43	59	70	35	57	69	38	57	69
MAY	56	64	81	48	63	72	44	64	71	48	65	72	41	63	70	50	63	72
JUN	66	70	83	57	68	75	48	69	72	54	70	73	49	69	72	59	69	74
JUL	70	75	83	62	71	77	53	71	73	59	71	74	55	72	73	62	72	75
AUG	70	75	83	64	71	78	56	69	73	63	70	76	57	71	73	64	71	76
SEP	65	70	83	61	66	77	53	64	73	60	64	74	57	64	73	60	66	74
OCT	54	60	80	54	58	74	48	55	72	53	57	73	50	55	72	49	57	72
NOV	39	49	76	44	49	71	42	47	70	45	49	71	43	45	70	39	48	70
DEC	37	46	75	37	44	70	36	44	69	38	44	70	38	42	69	35	43	69

[1] Ta = ambient temperature
[2] SL = sub-lethal criteria
[3] A = acute criteria
[4] Southern Green Bay = waters south of the Brown County line to the Fox River mouth
[5] Northern Green Bay = waters north of the Brown County line to the northernmost point on Washington Island
[6] Northern Lake Michigan = waters north of the Milwaukee River mouth (downtown Milwaukee)
[7] Southern Lake Michigan = waters south of the Milwaukee River mouth (downtown Milwaukee)
[8] Lake Superior = waters in Lake Superior except those in Chequamegon Bay
[9] Chequamegon Bay = waters within the region enclosed by Chequamegon Point and a straight line west to the mainland

NR 102.26 Site-specific ambient temperatures. (1) DEVELOPMENT OF SITE-SPECIFIC AMBIENT TEMPERATURES. An owner or operator of a facility with a discharge subject to regulation under this chapter may submit a request to the department for the determination of a site-specific ambient temperature. The department may approve, disapprove or approve with modifications the request for the site-specific ambient temperature. The request for site-specific ambient temperatures shall include all of the following:

(a) A demonstration that the data used to derive the ambient temperatures in s. NR 102.25 do not apply to the specific water segment or body in question.

(b) Site-specific water temperature that represents the ambient temperature of the site. For purposes of this paragraph, data must be:

1. Collected daily using a continuous recorder or similar device that takes measurements at least hourly, except as follows:

i. Monthly data sets may be missing no more than 10 days of temperature data for the months of December through February,

ii. Monthly data sets may be missing no more than 5 days of temperature data for the months of March through November.

2. Collected for each month in which the request for site-specific ambient temperatures is requested,

3. Collected at any time since October 1987,

4. Collected for at least 2 consecutive years.

(c) Calculated daily average temperatures from the data from par. (b).

(d) Calculated monthly average temperatures from the daily average temperatures in par. (c) for each individual month that data has been collected. Alternatively, calculated monthly average temperatures directly from the data from par. (b) for each individual month.

(e) All individual monthly averages organized by month.

(f) A determination of the monthly site-specific ambient temperatures by calculating the geometric mean of all monthly averages for each given month.

(g) Alternative methods for developing site-specific ambient temperatures, if the department approves the method as representative of ambient temperatures as those in pars. (a) to (d).

(2) USE OF SITE-SPECIFIC AMBIENT TEMPERATURES TO ESTABLISH ACUTE CRITERIA. Once site-specific ambient temperatures have been approved by the department in accordance with sub. (1), the acute water quality criteria listed in Table 6 will be applicable for the protection of fish and other aquatic life.

(3) USE OF SITE-SPECIFIC AMBIENT TEMPERATURES TO ESTABLISH SUB-LETHAL CRITERIA. Once site-specific ambient temperatures have been approved by the department in accordance with sub. (1), the

sub-lethal water quality criteria applicable for the protection of fish and other aquatic life shall be calculated as follows:

(a) Use Table 7 to determine the appropriate sub-lethal criteria for the fish and other aquatic life use.

(b) Modify the sub-lethal criteria as follows:

1. If a sub-lethal criterion from par. (a) is less than the site-specific ambient temperature from sub. (1) for a given month, increase the sub-lethal criterion to be equal with the site-specific ambient temperature.

2. If a sub-lethal criterion from par. (a) is greater than an acute criterion for a given month from sub. (2) decrease the sub-lethal criterion to be equal with the acute criterion.

(c) Perform a fifth order polynomial regression of the 12 monthly sub-lethal criteria resulting from par. (b). Using the resulting equation of the regression, calculate the final sub-lethal criteria for each month by replacing the "x" variables in the equation with a numeric representation for each month, where January "x" = 1, for February "x" = 2, … and for December "x" = 12.

(d) The final sub-lethal criteria from par. (c) shall be used in combination with the site-specific ambient temperatures developed in sub. (1) and the acute criteria determined in sub. (2).

Table 6
Acute Criteria Across All Ambient Temperatures
(All values are expressed as degrees Fahrenheit)

	Inland Waters					Great Lakes Waters					
1 Ta	2 Cold	3 Warm	4 LFF	5 N Lake	6 S Lake	7 SGB	8 NGB	9 NLKMI	10 SLKMI	11 LKSUP	12 CB
32	68	75	77	75	76	74	69	69	69	68	68
33	68	76	77	76	76	74	69	69	69	69	69
34	68	76	77	76	76	75	69	69	69	69	69
35	68	76	77	76	77	75	69	69	69	69	69
36	68	76	78	76	77	75	70	69	69	69	69
37	69	77	78	77	77	75	70	70	70	69	69
38	69	77	78	77	77	76	70	70	70	69	69
39	69	77	79	77	78	76	71	70	70	70	70
40	69	77	79	77	78	76	71	70	70	70	70
41	69	78	79	78	78	77	71	70	70	70	70
42	69	78	79	78	78	77	71	70	70	70	70
43	69	78	80	78	78	77	71	70	70	70	70
44	70	78	80	78	79	78	71	71	71	71	71
45	70	79	80	79	79	78	71	71	71	71	71
46	70	79	80	79	79	78	72	72	72	71	71
47	70	79	81	79	80	79	72	72	72	71	71
48	70	79	81	79	80	79	72	72	72	72	72
49	70	79	81	80	80	79	73	72	72	72	72
50	70	80	81	80	80	79	73	73	73	72	72
51	71	80	82	80	81	80	73	73	73	72	72
52	71	80	82	80	81	80	73	73	73	72	72
53	71	80	82	81	81	80	74	73	73	72	72
54	71	81	82	81	81	80	74	73	73	73	73
55	71	81	83	81	82	81	74	73	73	73	73
56	72	81	83	81	82	81	75	73	73	73	73
57	72	82	83	82	82	81	75	73	73	73	73
58	72	82	83	82	82	81	75	74	74	73	73
59	72	82	84	83	83	81	76	74	74	74	74
60	72	82	84	83	83	82	76	74	74	74	74
61	72	83	84	83	83	82	77	75	75	74	74
62	72	83	84	83	84	82	77	75	75	75	75
63	73	83	85	84	84	82	78	76	76	75	75
64	73	84	85	84	85	82	78	77	77	76	76
65	73	84	85	84	85	83	78	77	77	76	76
66	73	84	85	85	85	83	79	78	78	77	77
67	74	84	86	85	85	83	79	78	78	77	77
68	74	85	86	85	85	83	80	79	79	78	78
69	74	85	86	85	86	83	80	79	79	78	78
70	74	85	86	86	86	83	81	80	80	79	79
71	74	85	87	86	86	84	81	81	81	79	79
72	75	85	87	86	86	84	82	81	81	80	80
73	75	85	87	86	86	84	82	82	82	80	80
74	75	86	87	86	87	84	82	82	82	81	81
75	75	86	88	87	87	85	83	83	83	81	81
76		86	88	87	87	85	83	83	83	82	82
77		87	88	87	87	85	84	84	84	83	83
78		87	88	87	88	86	84	84	84	83	83
79		87	89	88	88	86	84	84	84	83	83
80		87	89	88	88	86	84	84	84	83	83
81		88	89	88	88	86	84	84	84	83	83
82		88	89	88	89	87	84	84	84	84	84
83		88	90	89	89	87	84	84	84	84	84
84		88	90	89	89	88	85	85	85	84	84
85		89	90	89	89	88	85	85	85		
86		89	90	89	90	89					
87		89	91	90	90	89					
88		90	91	90	90	89					
89		90	91	90	91	89					
90		91	91	91	91						
91		91	92	91	92						
92			92		92						

[1] Ta = ambient temperature
[2] Cold = waters with a fish and other aquatic life use designation of "cold water community"
[3] Warm = waters with a fish and other aquatic life use designation of "warm water sport fish community" or "warm water forage fish community"
[4] LFF = waters with a designation of "limited forage fish community"
[5] N Lake = applicable for those lakes north of State Highway 10
[6] S Lake = applicable for those lakes south of State Highway 10
[7] SGB = Green Bay waters south of the Brown County line to the Fox River mouth
[8] NGB = Green Bay waters north of the Brown County line to the northernmost point on Washington Island
[9] NLKMI = Lake Michigan waters north of the Milwaukee River mouth (downtown Milwaukee)
[10] SLKMI = Lake Michigan waters south of the Milwaukee River mouth (downtown Milwaukee)
[11] LKSUP = waters in Lake Superior except those in Chequamegon Bay
[12] CB = Chequamegon Bay waters within the region enclosed by Chequamegon Point and a straight line west to the mainland

Table 7
Raw Monthly Sub-Lethal Criteria for Use In Determining Final Sub-Lethal Criteria with Site-Specific Ambient Temperatures
(All values are expressed as degrees Fahrenheit)

Month	C	W-L	W-S	LFF	NIL	SIL	MR	RR	UWR
January	47	50	50	54	50	50	50	50	50
February	45	50	50	54	50	50	50	50	50
March	53	54	54	54	54	54	54	54	54
April	59	65	65	64	63	64	65	65	65
May	59	70	70	75	70	70	70	70	70
June	67	72	72	75	72	72	72	72	72
July	68	74	74	75	75	74	74	74	74
August	68	78	78	77	77	77	78	78	78
September	52	87	87	92	87	87	87	87	87
October	52	54	54	54	54	54	54	54	54
November	50	50	50	54	50	50	50	50	50
December	46	50	50	54	50	50	50	50	50

Month	LWR	LFR	SGB	NGB	SLM	NLM	LS	CB
January	50	50	50	44	44	44	42	42
February	50	50	50	43	43	43	43	43
March	54	54	54	54	52	54	52	52
April	65	65	60	59	61	60	58	58
May	70	70	66	64	67	65	65	65
June	72	72	70	67	68	67	67	67
July	74	74	70	68	68	68	69	69
August	78	78	71	67	67	67	69	69
September	87	87	83	79	79	79	79	79
October	54	54	50	50	50	50	45	54
November	50	50	47	47	47	47	44	46
December	50	50	47	45	45	45	43	44

C = Cold = waters with a fish and other aquatic life use designation of "cold water community"
W-L = Warm -Large = waters with a fish and other aquatic life use designation of "warm water sport fish community" or "warm water forage fish community" and unidirectional 7Q10 flows ≥ 200 cfs (129 mgd)

W-S = Warm - Small = waters with a fish and other aquatic life use designation of "warm water sport fish community" or "warm water forage fish community" and unidirectional 7Q10 flows < 200 cfs (129 mgd)
LFF = waters with a designation of "limited forage fish community"
NIL = Northern Inland Lakes = applicable for those lakes north of State Highway 10
SIL = Southern Inland Lakes = applicable for those lakes south of State Highway 10
MR = Mississippi River = applies to any portion of Wisconsin's Mississippi River reach
RR = Rock River = applies to waters downstream of Lake Koshkonong
UWR = Upper Wisconsin River = applies to waters upstream of Petenwell Dam
LWR = Lower Wisconsin River = applies to waters downstream of Petenwell Dam to the confluence with the Mississippi River
LFR = Lower Fox River = applies to waters downstream of the Lake Winnebago outlet
SGB = Green Bay waters south of the Brown County line to the Fox River mouth
NGB = Green Bay waters north of the Brown County line to the northernmost point on Washington Island
SLM = Lake Michigan waters south of the Milwaukee River mouth (downtown Milwaukee)
NLM = Lake Michigan waters north of the Milwaukee River mouth (downtown Milwaukee)
LS = Lake Superior = waters in Lake Superior except those in Chequamegon Bay
CB = Chequamegon Bay = waters within the region enclosed by Chequamegon Point and a straight line west to the mainland

NR 102.27 Site-specific water quality criteria. (1) GENERAL. A water quality criterion developed pursuant to this subchapter may be modified by the department for a particular surface water segment or waterbody. The site-specific water quality criterion shall only be applicable to the identified surface water segment or body. The development of a site-specific water quality criterion shall include all of the following:

(a) Information showing data used to derive the water quality criterion do not apply to the specific water segment or body.

(b) Consideration of the guidance provided in Chapter 3.7 of the Water Quality Standards Handbook, Second Edition, U.S. EPA, 8/15/1994.

(c) Information showing the site-specific water quality criterion is consistent with the guidelines provided in sub. (2).

(d) Any additional information necessary to derive site-specific water quality criterion.

Note: Site-specific water quality criteria are subject to U.S. Environmental Protection Agency approval under federal regulations.

(2) SITE-SPECIFIC WATER QUALITY CRITERIA DEVELOPMENT. (a) The department may promulgate site-specific water quality criteria for temperature when it determines that the data used to derive the water quality criteria published in this subchapter do not apply to the specific water segment or body in question. In making the determination, the same approach used to develop the water quality criteria in s. NR 102.25 may be used to develop site-specific water quality criteria by recalculating the water quality criteria based upon the actual species that are associated with the specific site.

(b) Alternative methods for developing site-specific water quality criteria may be used if it is determined that those alternative methods will protect against sub-lethal and acute impacts in the fish and aquatic life community of a specific site.

(c) A water quality criterion developed via alternative methods shall be reviewed by the department and shall be adopted as a rule under this chapter before it can be applied on a site-specific basis.

(3) Any water quality criterion modified for site-specific conditions shall be promulgated by the department and approved by the U.S. Environmental Protection Agency before it is applied on a site-specific basis.

NR 102.28 Cold shock standard. Water temperatures of discharges shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock.

NR 102.29 Rate of temperature change standard. Temperature of a water of the state or a discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

NR 102.30 Variances to water quality standards for temperature. The provisions of ss. 283.15 and 283.17, Stats., are applicable to the water quality standards in this subchapter.

SECTION 25. Chapter NR 106 title is amended to read:

CHAPTER NR 106

PROCEDURES FOR CALCULATING WATER QUALITY BASED EFFLUENT LIMITATIONS FOR ~~TOXIC AND ORGANOLEPTIC SUBSTANCES DISCHARGED~~ POINT SOURCE DISCHARGES TO SURFACE WATERS

SECTION 26. Chapter NR 106, Subch. V is created to read:

Subchapter V – Effluent Limitations for Temperature

NR 106.50 Purpose. The purpose of this subchapter is to specify how the department will calculate water quality-based effluent limitations for temperature under s. 283.13(5), Stats., and to specify how the department will determine when the limitations will be included in Wisconsin pollution discharge elimination system (WPDES) permits. Water quality-based effluent limitations for temperature are necessary to assure attainment and maintenance of surface water quality standards for temperature established in accordance with s. 281.15(1), Stats., and set forth in subch. II of ch. NR 102.

NR 106.51 Applicability. This subchapter applies to point sources that discharge cooling water, non-contact cooling water, or other wastewater to surface waters of the state if the discharge contains an associated heat load or is elevated in temperature relative to the ambient temperature of the receiving water. The procedures for calculation of effluent limitations identified in this subchapter do not apply to storm water discharges. Effluent limitations determined under this subchapter supersede any temperature limitations listed in s. NR 104.06(2)(b).

Note: Section 283.11(2)(b), Stats., states that rules concerning storm water discharges may be no more stringent than the requirements under the federal water pollution control act and regulations adopted under that act. Storm water pollution prevention plans may address thermal issues on a case-by-case basis.

Note: The department will use enforcement discretion whenever there are exceedances of effluent temperature limitations in a WPDES permit for an electric generating facility during an energy emergency warning or when an energy emergency event has been declared under a Federal Energy Regulatory Commission order (Standard EOP-002, North American Electric Reliability Corporation).

NR 106.52 Definitions. In this subchapter, the following definitions are applicable to terms used:

(1) "Ambient temperature" means the typical existing temperature of a surface water outside the direct influence of any point source discharge, which may include daily and seasonal changes.

(2) "cfs" means cubic feet per second, usually pertaining to stream or effluent flow.

(3) "Cold shock" means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavioral or physiological performance and may lead to death.

(4) "Daily maximum effluent temperature" means the highest temperature measured in a calendar day.

(5) "Daily maximum effluent temperature limitation" means the daily maximum effluent temperature limitation established in a permit.

(6) "mgd" means million gallons per day, usually pertaining to stream or effluent flow.

(7) "New facility" means any new point source facility or new point source discharge that commences operation after the effective date of this subchapter …[revisor insert date].

(8) "Seven-day rolling average effluent flow" means the arithmetic average of the effluent flow measured on a particular day and the 6 preceding days within that calendar month.

(9) "Water quality standards" means applicable water quality standards set forth in chs. NR 102–104, or any federally promulgated water quality standards applicable to surface waters of the state.

(10) "Weekly average effluent temperature" means the arithmetic mean of all daily maximum effluent temperature values recorded in a calendar week, Sunday – Saturday.

(11) "Weekly average effluent temperature limitation" means the maximum allowable weekly average temperature determined as the arithmetic mean of all daily maximum effluent temperature values recorded in a calendar week, Sunday – Saturday.

(12) "WPDES" or "WPDES permit" means Wisconsin pollutant discharge elimination system permit issued under ch. 283, Stats., but does not include storm water permits issued under s. 283.35, Stats.

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

NR 106.53 Parameters used to establish water quality-based effluent limitations for temperature. (1) RECEIVING WATER FLOW RATE (Q_s). The value of receiving water flow rate (Q_s) used to determine effluent limitations for discharges to flowing waters shall be as follows:

(a) Q_s shall equal ¼ of the average minimum 7-day flow which occurs once in 10 years (¼ 7-day Q_{10}) or, if sufficient information is available to calculate a biologically based receiving water design flow, ¼ of the flow which prevents an excursion from the applicable water quality criteria using a duration of 4 days and a frequency of less than once every 3 years (¼ 4-day, 3-year biological flow).

(b) Q_s may be reduced from those values calculated in par. (a) wherever natural receiving water flow is significantly altered by flow regulation or other types of water diversion structures.

(c) The discharger shall be allowed to demonstrate, through appropriate and reasonable methods that an adequate passageway for movement of aquatic life exists in the cross-section of the receiving water or that dilution is accomplished rapidly such that the extent of the mixing zone is minimized. In

complex situations, the department may require that the demonstration under this paragraph include water quality modeling or field dispersion studies.

(d) Based upon the results of a demonstration submitted under par. (c), Q_s may be modified from that specified in pars. (a) or (b). A modified Q_s shall be determined on a case-by-case basis and shall be approved in writing by the department. Q_s may not exceed the larger of the 7-day Q_{10} or the 4-day, 3-year biologically based design flow, except when a permit allows the use of real-time data for the determination of water quality based effluent limitations for temperature, as provided in NR 106.54(4).

(e) The value of Q_s may not exceed that of par. (a) if the department determines that the discharge has a potential to jeopardize the continued existence of any endangered or threatened species listed under ch. NR 27 or section 7 of the federal Endangered Species Act, 16 USC 1536.

(2) EFFLUENT FLOW RATE (Q_e). The value of effluent flow rate (Q_e) used to determine effluent temperature limitations shall be as follows:

(a) *Flow Ratios*: For purposes of determining a flow ratio pursuant to s. NR 106.55(6)(a), Q_e shall equal:

1. For discharges subject to ch. NR 210 and which discharge for 24 hours per day on a year−round basis, Q_e shall equal 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.

2. For all other dischargers not subject to ch. NR 210, Q_e shall equal the maximum effluent flow, expressed as a daily average, that has occurred for 12 continuous months and represents normal operations

3. For seasonal discharges, discharges proportional to stream flow, or other unusual discharge, Q_e shall be determined on a case-by-case basis.

(b) *Acute temperature limitation:* For purposes of determining acute temperature limitations pursuant to s. NR 106.55(6)(b), Q_{ea} shall be the highest daily maximum effluent flow rate, expressed as mgd, which has occurred for each calendar month of the year and represents normal operating conditions.

(c) *Sub-lethal temperature limitation*: For purposes of determining sub-lethal temperature limitations pursuant to s. NR 106.55(6)(a), (Q_{esl}) shall be the highest 7-day rolling average effluent flow rate within a calendar month, expressed as mgd, which has occurred for each calendar month of the year and represents normal operating conditions.

(d) *Non-typical effluent flows*: For purposes of determining effluent temperature limitations pursuant to s. NR 106.55(6)(a) and s. NR 106.55(7), Q_{ea} and Q_{esl} may be determined on a case-by-case basis for seasonal discharges, discharges proportional to stream flow, or other unusual discharge situations.

NR 106.54 Representative effluent temperature data. (1) The representative daily maximum effluent temperature is the highest effluent temperature known or expected to occur on any day under normal operating conditions at the time of permit issuance. Representative daily maximum effluent temperature shall be measured at a frequency of not less than once per week whenever a discharge occurs.

(2) The representative weekly average effluent temperature is the highest weekly average effluent temperature known or expected to occur under normal operating conditions at the time of permit issuance.

(3) The department may require a permittee to collect additional data if the department determines that the requirements of subs. (1) and (2) do not provide adequate data to document the operational variability of a discharge.

(4) A permittee may request, at the time of application for a WPDES permit, calculation of effluent temperature limitations to be included in a permit based on real-time data. Any permittee that makes such a request shall provide effluent flow, effluent temperature, receiving water flow, and receiving water temperature at a frequency no less than one result per hour that is representative of normal operating conditions, including variability.

NR 106.55 Determination of water quality-based effluent limitations for temperature in WPDES permits. (1) GENERAL. The department shall determine water quality-based effluent limitations for temperature to attain and maintain water quality standards and criteria specified in or determined according to procedures in subch. II of NR 102.

(2) LIMITATIONS FOR WATERS DESIGNATED AS LIMITED AQUATIC LIFE. The daily maximum effluent temperature limitation shall be 86°F for discharges to surface waters classified as limited aquatic life according to s. NR 104.02(3)(b)1. and as defined in s. NR 104.02(1), except for those classified as wastewater effluent channels and for wetlands regulated under ch. NR 103.

(3) LIMITATIONS FOR WATERS DESIGNATED AS WASTEWATER EFFLUENT CHANNELS. The daily maximum effluent temperature limitation shall be 120°F for discharges to surface waters classified as limited aquatic life wastewater effluent channels according to s. NR 104.02(3)(b)1. and as defined in s. NR 104.02(1)(d).

(4) LIMITATIONS FOR WETLANDS. Effluent temperature limitations shall be established for wetlands on a case-by-case basis to meet the water quality standards provided in ch. NR 103, but in no case shall the effluent temperature limitation be greater than 120°F.

(5) LIMITATIONS FOR DISCHARGES TO STORM SEWERS. (a) *General.* A permittee may request, at time of permit application, an effluent limitation greater than the effluent temperature limitations required under subs. (2) to (4), (6) or (7) if the discharge is to a storm sewer or other storm water conveyance channel. The permittee may request that the higher effluent limitation be greater than 120°F if the permittee is able to demonstrate to the satisfaction of the department that the heated effluent is not discharged in a manner that will cause a potential for scalding of humans. An effluent temperature limitation established under this subsection shall be determined according to the following equation:

$$T_{ss} = T_{dir} + (HLV \times (L/100))$$

Where: T_{ss} = Effluent temperature limitation for discharge to a storm sewer in degrees Fahrenheit

T_{dir} = Effluent temperature limitation determined under subs. (2), (3), (4), (6) or (7) in degrees Farenheit

HLV = Heat loss value assumed to be 0.25 unless an alternative value is determined to be representative of site-specific conditions

L = Length (in feet) of the storm sewer or other storm water conveyance channel between the effluent discharge location and the point at which the storm sewer or storm water conveyance channel discharges to a surface water of the state

(b) *Alternative heat loss value.* An alternative heat loss value (HLV) may be used in the equation in par. (a). The alternative value shall be representative of seasonal influences on heat loss and be based on a comparison of effluent temperature at the location of discharge to the storm sewer or storm water conveyance channel and the point at which the storm sewer or storm water conveyance channel discharges to a surface water of the state.

(c) *Site-specific information.* The department may use available site-specific information to determine an alternative heat loss value or other data demonstrating the amount of heat loss in a storm sewer to establish an effluent temperature limitation for discharges to a storm sewer.

(6) LIMITATIONS FOR RECEIVING WATERS WITH UNIDIRECTIONAL FLOW NOT DESIGNATED AS LIMITED AQUATIC LIFE. Except as provided in subs. (2) to (5), the department shall establish water quality-based effluent limitations to ensure that effluent is not discharged at elevated temperatures that may adversely affect humans or aquatic life at or near the point of discharge for discharges to surface waters with unidirectional flow.

(a) *Flow ratio categories.* Effluent temperature limitations shall be established based upon the designated use of the water and the ratio of streamflow to effluent flow as determined in Table 1 below. Effluent flow shall be equal to the value specified in s. NR 106.53(2)(a).

Table 1
Flow Ratio Categories

Warm Water and Limited Forage Fish Designated Waters	Cold Water Designated Waters	Effluent Temperature Limitation
Qs:Qe ≥ 20:1	Qs:Qe ≥ 30:1	120°F
20:1 > Qs:Qe > 2:1	30:1 > Qs:Qe > 2.5:1	120°F or the sub-lethal WQBEL as calculated in par. (b), whichever is lower
Qs:Qe ≤ 2:1	Qs:Qe ≤ 2.5:1	Sub-lethal and acute WQBELs as calculated in par. (b)

(b) *Calculation of limitations*. The methods described in this paragraph apply to the determination of both acute and sub-lethal effluent temperature limitations. Water quality-based effluent temperature limitations to meet the requirements of this subsection shall be determined using the following procedures:

$$WQBEL = [((WQC - T_a)(Q_s + (1 - f)Q_e)) / Q_e] + T_a$$

Where:

WQBEL = Water quality-based effluent temperature limitation (in degrees Fahrenheit)

WQC = Water quality criteria (in degrees Fahrenheit) as defined in ss. NR 102.25 and 102.27

T_a = Ambient temperature (in degrees Fahrenheit) as determined in ss. NR 102.25 and 102.26

Q_s = Receiving water flow rate equal to ¼ 7-Q_{10} or ¼ 4-day, 3-year biological flow as specified in s. NR 106.53(1)(a) unless an alternative receiving water flow rate has been determined in accordance with s. NR 106.53(1)(b) to (e)

f = Fraction of the effluent flow that is withdrawn from the receiving water, where "*f*" ranges from 0 to 1 and is unitless

Q_e = Effluent flow rate in mgd as specified in s. NR 106.53(2)(b)-(d)

(c) *Limitations for mussel control.* Short-term excursions from the effluent temperature limitation determined in this subsection may occur for the purposes of zebra or other mussel control if approved by the department and authorized in a permit on a case-by-case basis.

(d) *More stringent limitations.* The department shall establish more stringent effluent temperature limitations than those determined under the provisions of this subsection whenever it is demonstrated that the temperature of the discharge may cause or contribute to nonattainment of aquatic life uses and that more stringent limitations are necessary to assure the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife in or on the body of water into which the discharge is made. Effluent temperature limitations under this paragraph shall be established whenever one or more of the mixing zone requirements in s. NR 102.05(3), as they apply to temperature, are not maintained.

(7) LIMITATIONS FOR INLAND LAKES, IMPOUNDMENTS AND GREAT LAKES WATERS. The department shall establish water quality-based effluent limitations to ensure that the effluent is not discharged at elevated temperatures that may adversely affect humans or aquatic life at or near the point of discharge for discharges to surface waters that are inland lakes, impoundments, or Great Lakes waters that do not exhibit unidirectional flow.

(a) *Limitations for mussel control.* Short-term excursions from the effluent temperature limitation determined in this subsection may occur for the purposes of zebra or other mussel control if approved by the department and authorized in a permit on a case-by-case basis.

(b) *Calculation of limitations*. The methods described in this paragraph apply to the determination of both acute and sub-lethal effluent temperature limitations. Water quality-based effluent temperature limitations to meet the requirements of this subsection shall be determined using the following procedures:

$$WQBEL = [(WQC - T_a)/(e^{-a})] + T_a$$

Where:

WQBEL = Water quality-based effluent temperature limitation (in degrees Fahrenheit)

WQC = Water quality criteria (in degrees Fahrenheit) as defined in ss. NR 102.25 to 27

T_a = Ambient temperature (in degrees Fahrenheit) as determined in ss. NR 102.25 to 27

e^{-a} = An empirical factor; "e" is the base of the natural logarithm and the exponent "*a*" is calculated as follows:

$$a = [(A)(54.7 + B(150))] / [(8{,}345{,}000)(Q_e)]$$

Where:

A = Area of mixing zone in square feet, as follows:

Maximum Area Allowed (square feet)		Water Body
31,416	=	inland lake or impoundment off-shore discharge
15,708	=	inland lake or impoundment shore discharge
15,708		Great Lakes harbor discharge
3,141,593	=	Great Lakes off-shore discharge
3,125,000	=	Great Lakes shore discharge

The maximum area of the mixing zone is subject to all applicable portions of s. NR 102.05(3)

B = A coefficient which is a function of T_a as follows:

T_a	B
≤ 59.9	0.405
60-69.9	0.555
70-79.9	0.667
≥ 80	0.990

Q_e = Effluent flow rate in mgd as specified in s. NR 106.53(2)

(8) LIMITATIONS FOR DISCHARGES WITH FLUCTUATING OR VARIABLE EFFLUENT FLOW RATES. A permittee may request flow-related effluent temperature limitations for discharge flows that fluctuate or vary on a frequent basis. Flow-related effluent temperature limitations shall be determined as follows:

(a) At the time of permit application, the permittee shall submit representative minimum and maximum effluent flow data for the interval of variability for which effluent flow-related limitations are requested.

Note: For example, if the interval of variability is for a particular season or time of the year, then maximum and minimum effluent flow data submitted should be for that season.

(b) Effluent temperature limitations shall be determined following the procedures of subs. (6) or (7), as appropriate, using both the minimum and maximum effluent flow rates submitted in par. (a).

(c) Effluent temperature limitations determined in accordance with par. (b) shall be expressed in a permit as a function of effluent flow.

(d) Permits that contain flow-related effluent temperature limitations shall require daily monitoring of effluent temperature during times of discharge.

(9) LIMITATIONS TO PROTECT DOWNSTREAM WATERS. The department may calculate more stringent effluent temperature limitations than those determined under this section whenever more stringent limitations are necessary to attain or maintain water quality standards in downstream or other nearby waters that may be affected by the heated discharge.

(10) LIMITATIONS BASED ON SITE-SPECIFIC MIXING ZONE ANALYSIS. The department may calculate effluent temperature limitations that differ from those determined under this section. A request by the permittee for a site specific mixing zone shall include all of the following:

(a) A mixing zone analysis that details the full extent and condition of the mixing zone.

(b) A demonstration that such effluent temperature limitations meet all mixing zone provisions of s. NR 102.05(3).

(c) A demonstration that such effluent temperature limitations shall attain all aquatic life uses in the body of water into which the discharge is made.

(d) A demonstration that such effluent temperature limitations shall provide a level of protection equivalent to or better than that provided by the temperature water quality criteria in ch. NR 102.

(11) LIMITATIONS BASED ON INSTALLATION OF DIFFUSERS AND OTHER MECHANICAL DEVICES. The department may calculate effluent temperature limitations that differ from those determined under this section whenever the permittee installs diffusers or other mechanical devices used to ensure rapid mixing of effluent and significantly reduces or eliminates the size of the mixing zone. It shall be demonstrated that the resulting mixing zone meets all mixing zone provisions of s. NR 102.05(3), and that the resulting mixing zone will attain all aquatic life uses in the body of water into which the discharge is made and provide a level of protection equivalent to or better than that provided by the temperature water quality criteria in ch. NR 102.

(12) MORE STRINGENT LIMITATIONS. The department shall establish more stringent effluent temperature limitations than those determined under s. NR 106.55(2) to (11) whenever the department determines that the discharge may cause or contribute to non-attainment of s. NR 102.04(4)(e).

(13) LIMITATIONS BASED ON WATER QUALITY MODELS. The department may calculate water quality-based effluent limitations that differ from those specified in this section using water quality modeling submitted pursuant to s. NR 106.58.

NR 106.56 Establishment of water quality-based effluent limitations for temperature in WPDES permits. (1) GENERAL. The department shall use the methods in this section to determine the need to establish water quality-based effluent temperature limitations in a permit.

(2) REASONABLE POTENTIAL TO EXCEED AN ACUTE EFFLUENT LIMITATION. An acute water quality-based effluent limitation for temperature shall be established in a WPDES permit for each month in which the representative daily maximum effluent temperature for that month exceeds the acute water quality-based effluent limitation determined in s. NR 106.55. The representative daily maximum effluent temperature used in this subsection shall be the greater of the following:

(a) The highest recorded representative daily maximum effluent temperature as measured or determined according to s. NR 106.54(1).

(b) The projected 99th percentile of all representative daily maximum effluent temperatures as measured or determined according to s. NR 106.54(1).

(3) REASONABLE POTENTIAL TO EXCEED A SUB-LETHAL EFFLUENT LIMITATION. A sub-lethal water quality-based effluent limitation for temperature shall be established in a WPDES permit for each month in which the representative weekly average effluent temperature for that month exceeds the sub-lethal water quality-based effluent limitation calculated in s. NR 106.55. The representative weekly average effluent temperature used in this subsection shall be the greater of the following:

(a) The highest weekly average effluent temperature for the month as measured or determined according to s. NR 106.54(2).

(b) The projected 99th percentile of all representative weekly average effluent temperatures for the month as measured or determined according to s. NR 106.54(2).

(4) REASONABLE POTENTIAL TO EXCEED A LIMITED AQUATIC LIFE EFFLUENT LIMITATION. A daily maximum effluent temperature limitation of 86°F shall be established in a WPDES permit for each month in which the representative daily maximum effluent temperature exceeds 86°F for discharges to limited aquatic life waters not classified as a wastewater effluent channel according to s. NR 104.02(1), storm sewers or as a wetland regulated under ch. NR 103.

(5) REASONABLE POTENTIAL TO EXCEED A WASTEWATER EFFLUENT CHANNEL EFFLUENT LIMITATION. A daily maximum effluent temperature limitation of 120°F shall be established in a WPDES permit for each month in which the representative daily maximum effluent temperature exceeds 120°F for discharges to a wastewater effluent channel, as classified in s. NR 104.02(1).

(6) REASONABLE POTENTIAL TO EXCEED A STORM SEWER EFFLUENT LIMITATION. A daily maximum effluent temperature limitation greater than 120°F shall be established in a WPDES permit for a discharge to a storm sewer for each month in which the representative daily maximum effluent temperature exceeds the limitation determined according to the procedure in s. NR 106.55(5).

(7) REASONABLE POTENTIAL TO EXCEED A WETLAND EFFLUENT LIMITATION. A daily maximum or weekly average effluent temperature limitation shall be established in a WPDES permit for each month in which the representative daily maximum or weekly average effluent temperature, respectively, exceeds the limits for a discharge to a wetland determined according to the provisions in s. NR 106.55(4).

(8) REASONABLE POTENTIAL TO EXCEED LIMITATIONS FOR THE PROTECTION OF PUBLIC HEALTH AND WELFARE. A daily maximum effluent temperature limitation of 120°F shall be established in a WPDES permit for each month in which the representative daily maximum effluent temperature exceeds 120°F, unless the permittee demonstrates to the satisfaction of the department that the heated effluent is not discharged in a manner that will cause a potential for scalding of humans.

(9) LIMITATIONS TO PROTECT DOWNSTREAM WATERS. Whenever the department determines that more stringent effluent temperature limitations than those established according to subs. (1) through (6) are necessary to attain or maintain water quality standards in downstream or other adjacent waters and the representative daily maximum or weekly average effluent temperatures exceed the limitations, then more stringent effluent temperature limitations shall be established in a WPDES permit.

(10) LIMITATIONS TO PROTECT FOR COLD SHOCK. The department shall determine on a case-by-case basis if any additional conditions are necessary in a WPDES permit to protect against cold shock and in accordance with the standard specified in s. NR 102.28. Provisions under this subsection shall be in addition to the water quality-based effluent temperature limitations determined under this section.

(11) LIMITATIONS TO PROTECT FOR RATE OF TEMPERATURE CHANGE. The department shall determine on a case-by-case basis if any conditions are necessary in a WPDES permit to protect against detrimental health or reproductive effects to fish and aquatic life caused by excessive rates of temperature change.

(12) REPRESENTATIVE DATA UNAVAILABLE. Whenever after the effective date of this rule, …[revisor insert date], the department issues or reissues a permit to a discharger for which representative effluent temperature data as described in s. NR 106.54 is not available, the following requirements shall be included in the issued or reissued permit:

(a) Monitoring to obtain representative effluent temperature as described in s. NR 106.54. Monitoring shall be required for a period of not less than one year. When effluent temperatures in any month are highly variable, monitoring for 2 years may be required. If the facility only operates during certain portions of the year, representative effluent temperature shall be measured during the period of operation.

(b) Water quality-based effluent temperature limitations determined under applicable methods described in s. NR 106.55 and as determined necessary under any applicable provision of this section. Compliance with the limitations shall be attained as soon as reasonably possible, but no later than the expiration date of the permit. The department may modify the permit at any time during the permit term and establish a compliance date to attain effluent temperature limitations sooner than the expiration date of the permit.

(c) If, after the data collection required under par. (a), it is determined that an effluent temperature limitation is not necessary under any applicable provision of this section, the water quality-based effluent temperature limitations in the permit may not be effective. A condition shall be included in the permit that invalidates any effluent temperature limitations and the compliance schedule in the permit. Continued monitoring of effluent temperature may be required.

(13) MONITORING. The department shall establish on a case-by-case basis the monitoring and reporting frequency for temperature in a WPDES permit.

(14) LIMITATIONS IN PERMITS. Effluent temperature limitations of 86°F, 120°F or greater than 120°F determined necessary under subs. (4) to (7) shall be expressed in permits as daily maximum effluent temperature limitations.

(a) Acute effluent temperature limitations determined necessary under this section shall be expressed in permits as daily maximum effluent temperature limitations.

(b) Sub-lethal effluent temperature limitations determined necessary under this section shall be expressed in permits as weekly average effluent temperature limitations.

(c) In all cases, monitoring data collected for purposes of reporting and determining compliance shall be representative effluent temperature data as described in s. NR 106.54.

NR 106.57 Effluent limitations for multiple thermal discharges. Whenever the department determines that more than one thermal discharge may be adversely affecting the water quality of the same receiving water, the provisions of both this subchapter and s. NR 106.11 shall be used to calculate the combined allowable heat load from the discharges necessary to meet the water quality criteria for temperature as specified in ch. NR 102. The resultant allowable thermal load shall be divided among the various discharges using an allocation method based on site-specific considerations. Whenever the department makes a determination under this subsection, the department shall specify the reasonable potential basis for any effluent temperature limitation and shall notify all permittees who may be affecting the water quality of the same receiving water of the determination and any limitations developed under this section. Any modifications to WPDES permits to account for multiple discharges shall include an opportunity for public comment pursuant to ch. 283, Stats.

NR 106.58 Effluent limitations based on water quality models. (1) At the time of permit application, a permittee may submit the results of scientifically defensible technical approaches, such as calibrated models and verified mathematical water quality models developed or adapted for a particular water body, simplified modeling approaches as outlined in "WATER QUALITY ASSESSMENT" (EPA-600/6-82-004), or other dynamic methods to be utilized in developing water quality-based effluent limitations.

(2) Data used to support the analyses conducted under sub. (1) shall be representative of the long-term characteristics of the receiving water and shall be collected in a manner consistent with requirements of ch. NR 219.

(3) The department shall review the results of the analyses conducted under sub. (1) on a case-by-case basis and shall determine the water quality-based effluent limitations necessary to ensure that the applicable water quality standards specified in ch. NR 102 are maintained.

(4) Effluent limitations approved under this section are in lieu of the procedures in ss. NR 106.55(5), (6), and (7), and are not modifications to the water quality criteria specified in ch. NR 102.

NR 106.59 Effluent limitations for temperature for permits issued to publicly or privately owned domestic sewage treatment works. (1) APPLICABILITY. This section applies to specific outfalls from permittees with discharges subject to ch. NR 210.

(2) DEFINITIONS. In this section, the following definitions are applicable to terms used:

(a) "Dissipative cooling" means the cooling effects associated with heat loss to the ambient water, the atmosphere and the surrounding environment.

(b) "Estimated daily maximum effluent temperature" means the highest temperature expected in a calendar day based on an average of effluent temperatures available. Available data may be from at least two other POTWs within a 100 mile radius that utilize similar wastewater treatment technology and have a similar ratio of domestic to industrial waste stream composition, or representative data of the POTW.

(c) "Existing POTW outfall" means any discharge structure that has been included in a WPDES permit issued prior to the effective date of this rule …[revisor insert date], that was used to convey wastewater effluent to a surface water and has not been re-located.

(d) "New POTW discharge" means any point source subject to ch. NR 210 that has not received a WPDES permit from the department prior to the effective date of this rule …[revisor insert date] or a

permitted outfall re-located to a new receiving water after the effective date of this rule …[revisor insert date].

(e) "POTW" means all publicly operated treatment works and privately owned domestic sewage treatment works subject to ch. NR 210.

(f) "Re-located POTW outfall" means any point source outfall structure associated with a previously issued WPDES permit that is moved or constructed after the effective date of this rule …[revisor insert date] to convey wastewater to the same receiving water where fish and other aquatic life are materially exposed to a modified thermal pollutant load.

Note: The department considers an outfall to be re-located when an assemblage of fish and other aquatic life are subjected to a heat load that they were not exposed to previously. In determining whether a change in location is a re-located outfall, the department shall consider the distance of the changed location, the potential for the heat load to adversely impact resident organisms, and whether or not the applicable provisions of s. NR 102.05(3) are satisfied.

(3) ACUTE LIMITATIONS FOR EXISTING POTW OUTFALLS. (a) The department shall establish acute effluent temperature limitations for an existing POTW outfall to surface waters classified as limited aquatic life whenever the representative daily maximum effluent temperature is greater than the applicable water quality criterion specified in s. NR 102.245.

(b) The department shall establish acute effluent temperature limitations for an existing POTW outfall to surface waters classified as cold water, warm water sport fish, warm water forage fish, or limited forage fish whenever the representative daily maximum effluent temperature is greater than the applicable water quality criterion specified in s. NR 102.25 or determined under s. NR 102.27. The applicable acute water quality criterion shall be based on representative ambient temperature of the receiving stream determined as follows:

1. Except as provided in subd. 2., the representative ambient temperature shall be equal to the ambient temperatures in s. NR 102.25 or approved under s. NR 102.26.

2. Where the Q_e of a permitted POTW is significantly greater than the Q_s of the receiving stream immediately upstream of the POTW outfall, the representative ambient temperature may be equal to the daily maximum effluent temperature.

3. The provisions of subd. 2 are not applicable to a permitted POTW with a discharge outfall that shares a mixing zone with an upstream discharger.

(4) SUB-LETHAL LIMITATIONS FOR EXISTING POTW OUTFALLS. Upon request by the POTW at the time of permit application, the department may account for dissipative cooling of a POTW effluent in determining the need for sub-lethal effluent limitations. The department shall establish sub-lethal effluent limitations for an existing POTW outfall whenever the department determines that the effluent has a reasonable potential to cause or contribute to an exceedance of the applicable sub-lethal criterion outside of a small area of mixing and cooling. In determining the need for sub-lethal effluent limitations, the department shall consider the cooling of the effluent through dissipation of heat to the environment to the extent that a POTW provides information to support such determination as set forth below.

(a) The POTW shall provide any of the following information to allow the department to determine whether or not sub-lethal criteria are exceeded outside a small area of mixing and cooling.

1. A written description of the physical characteristics of the receiving water or outfall that encourage rapid dilution, diffusion, dispersion, or dissipation of heat.

2. A written description of the presence or absence of other thermal loads to the receiving stream.

3. The minimum and maximum effluent temperature for each calendar week for each permitted outfall over the past two years.

(b) In addition to the information submitted in par. (a), the POTW shall submit existing information it has collected, generated, reviewed, or received regarding the following site-specific conditions:

1. Information regarding the biological quality of the animal and plant community of the receiving water including, but not limited to, species composition, richness, diversity, density, distribution, age structure, spawning incidence, and presence of any state or federally listed threatened or endangered species.

2. Data concerning the physical characteristics of the receiving water or permitted outfalls that encourage rapid dilution, diffusion, dispersion, andor dissipation of heat.

3. The minimum and maximum temperature of the receiving water upstream of all permitted outfalls for each calendar month over the past two years.

(c) In evaluating the potential for exceedance of sub-lethal criteria outside a small area of mixing and cooling, the department shall consider site-specific information including, but not limited to:

1. The physical characteristics of the receiving water including those related to mixing, turbulence, diffusion, dilution, dispersion, and heat dissipation.

2. The occurrence of other thermal mixing zones and their influence on the dissipative potential of the receiving water.

3. The variability of effluent temperature from the POTW.

4. The expected difference between the ambient receiving water temperature and the representative effluent temperature.

5. The attainment status of the receiving water biological community in response to the discharge of heated effluent.

6. The potential impacts to state or federally listed threatened or endangered species.

Note: The absence of information pertaining to subpars. 1-6, above, shall not preclude a determination that a sub-lethal effluent limitation is not necessary.

(d) In addition to the requirements in pars. (a) and (b), the department reserves the right to request additional information from the POTW to support the request for consideration of dissipative cooling.

(e) If the department determines that a sub-lethal effluent limitation for temperature is not necessary, a specific request for comment on the department's determination shall be included in the public notice for the proposed permit.

(5) ACUTE LIMITATIONS FOR NEW POTW DISCHARGES OR RE-LOCATED POTW OUTFALLS. (a) The department shall establish acute effluent temperature limitations for a new POTW discharge or re-located POTW outfall to a surface water classified as limited aquatic life whenever the estimated daily maximum effluent temperature is greater than the applicable water quality criterion specified in s. NR 102.245.

(b) The department shall establish acute effluent temperature limitations for a new POTW discharge or re-located POTW outfall to a surface water classified as cold water, warm water sport fish, warm water forage fish, or limited forage fish whenever the estimated daily maximum effluent temperature is greater than the applicable water quality criterion specified in s. NR 102.25 or determined under s. NR 102.27. The applicable acute water quality criterion shall be based on the ambient temperatures in s. NR 102.25 or approved under s. NR 102.26.

(6) SUB-LETHAL LIMITATIONS FOR NEW POTW DISCHARGES OR RE-LOCATED POTW OUTFALLS. Upon request by the POTW at the time of permit application, the department may account for dissipative cooling of a POTW effluent in determining the need for sub-lethal effluent limitations. The department shall establish sub-lethal effluent limitations for a new POTW discharge or re-located POTW outfall whenever it is determined that the effluent has a reasonable potential to cause or contribute to an exceedance of the applicable sub-lethal criterion outside of a small area of mixing and cooling. In determining the need for sub-lethal effluent limitations, the department shall consider the cooling of the effluent through dissipation of heat to the environment to the extent that a POTW provides information to support such determination as set forth below:

(a) The POTW shall provide any of the following information to allow the department to determine whether or not the sub-lethal criteria are exceeded outside of a small area of mixing and cooling:

1. A written description of the physical characteristics of the receiving water or outfall that encourage rapid dilution, diffusion, dispersion, and dissipation of heat.

2. A written description of the presence or absence of other thermal loads to the receiving water.

3. The minimum and maximum known effluent temperature for each calendar week for each previously permitted outfall over the past two years.

4. The maximum expected effluent temperature for each calendar month for each new outfall.

(b) In addition to the information submitted in par. (a), the POTW shall submit existing information it has collected, generated, reviewed, or received regarding the following site-specific conditions:

1. Information regarding the biological quality of the animal and plant community of the receiving water including, but not limited to, species composition, richness, diversity, density, distribution, age structure, spawning incidence, and presence of any state or federally listed threatened or endangered species.

2. Data concerning the physical characteristics of the receiving water or permitted or proposed outfalls that encourage rapid dilution, diffusion, dispersion, or dissipation of heat.

3. The minimum and maximum temperatures of the receiving water upstream of all permitted or proposed outfalls for each calendar month over the past two years.

(c) In evaluating the potential for exceedance of sub-lethal criteria outside a small area of mixing and cooling, the department shall consider site-specific information including, but not limited to:

1. The physical characteristics of the receiving water including those related to mixing, turbulence, diffusion, dilution, dispersion, and heat dissipation.

2. The occurrence of other thermal mixing zones and their influence on the dissipative potential of the receiving water.

3. The known or expected variability of effluent temperatures from the POTW.

4. The known or expected difference between the ambient receiving water temperature and the representative effluent temperature.

5. The attainment status of the receiving water biological community in response to the discharge of heated effluent.

6. The potential impacts to state or federally listed threatened or endangered species.

Note: The absence of information pertaining to subpars. 1-6 shall not preclude a determination that a sub-lethal effluent limitation is not necessary.

(d) In addition to the requirements of pars. (a) and (b), the department reserves the right to request additional information from the POTW to support the request for consideration of dissipative cooling.

(e) If the department determines that a sub-lethal effluent limitation is not necessary for a new POTW discharge or a re-located POTW outfall, a specific request for comment on the department's determination shall be included in the public notice for the proposed permit.

(7) MONITORING. WPDES permits issued in accordance with this section that include effluent temperature limitations shall include a requirement to monitor effluent temperatures on a weekly basis.

(8) PERMIT REISSUANCE. (a) A POTW seeking reissuance of a permit in which the department did not include sub-lethal effluent limitations due to recognition of dissipative cooling may request continued consideration of dissipative cooling provided all of the following conditions are met:

1. The request is received at the time of application for the permit reissuance.

2. The POTW certifies, in writing, that there has been no substantive change in the operation of or loadings to the POTW relative to the information provided in the previous permit application under sub. (4) or (6).

3. The POTW submits any new information generated during the current permit term and certifies, in writing, that the new information is consistent with information submitted with the previous permit application under sub. (4) or (6).

(b) If the department determines that the information provided in par. (a) is consistent with the information submitted with a previous permit application and that sub-lethal effluent limitations for

temperature are not necessary, a specific request for comment on the department's determination shall be included in the public notice for the proposed permit.

(c) If the department determines that the information provided in par. (a) is inconsistent with the information submitted with a previous permit application, the department shall establish sub-lethal effluent limitations when there is a reasonable potential for the discharge to cause or contribute to an exceedance of an applicable sub-lethal water quality criterion outside a small area of mixing and cooling.

NR 106.60 Effluent limitations for temperature for discharges from new facilities. Except as provided in subch. VI, new facilities issued a WPDES permit after the effective date of this rule, … [revisor insert date], shall be designed to meet applicable water quality-based effluent temperature limitations, as determined in this subchapter, on the effective date of the WPDES permit. The department may require a permittee to provide diffusers or other such devices to ensure rapid mixing of effluent into the water body receiving the discharge or may require a mixing zone analysis to demonstrate that the proposed mixing zone of the new POTW discharge will meet the mixing zone provisions of s. NR 102.05(3).

NR 106.61 General permit. (1) A general permit issued by the department that contains effluent temperature limitations and monitoring requirements for discharges of non-contact cooling water, non-contact condensate, boiler water blowdown, and boiler bleedoff directly to surface water, to a storm sewer, or for discharges to the land surface, or to groundwater shall include all of the following conditions:

(a) Procedures to determine effluent temperature limitations for individual discharges covered by the general permit in accordance with the provisions of this subchapter. For each facility covered by the general permit, the department shall establish effluent temperature limitations for the facility directly in the general permit or in the general permit discharge authorization letter to the permittee.

(b) Discharges to wetlands shall be allowed if, when granting coverage, the department determines that the requirements of ch. NR 103 are met.

(c) Discharges shall not be allowed if the receiving waterbody is an outstanding resource water or an exceptional resource water, as specified in ss. NR 102.10 and 102.11, respectively.

(d) Discharges to the land surface, to the groundwater or to storm water ponds shall have a daily maximum effluent temperature limitation of 120°F, provided that the discharge does not have a reasonable potential to exceed temperature water quality standards in waters of the state downstream of the discharge location.

(e) Discharges shall not contain wastewater from industrial or commercial processes, other than those authorized in sub. (1).

(f) Discharge does not contain a water treatment additive including biocides. However, the department may approve in writing the use of water treatment additives that are not biocides.

(g) Discharge does not cause a safety hazard due to unsafe ice conditions in winter.

(h) The permittee shall be required to collect representative daily maximum effluent temperatures not less than once per month. Unless specified otherwise by the department when coverage is granted under the general permit, the permittee shall not be required to submit effluent temperature data collected under the monitoring provisions of the general permit issued under this section. Any effluent temperature

data collected shall be retained by the permittee for the duration of the permit or 3 years after this information is collected, whichever is longer and shall be provided to the department upon request.

(2) A general permit issued under this section may include any of the following conditions:

(a) Coverage under the general permit for discharges containing water treatment additives, except for biocides, provided all other requirements of this chapter are met.

(b) Provisions that account for the heat loss that occurs in a discharge to a storm sewer or other storm water conveyance channel assuming the heat loss occurs at a rate of 0.25 degree F per 100 feet of storm sewer or channel length. The effluent temperature limitations determined under this paragraph shall be established when the department grants coverage under this general permit.

(c) Provisions to allow the department to establish more stringent effluent temperature limitations as necessary to attain or maintain water quality standards in downstream or other adjacent waters. The effluent temperature limitations determined under this paragraph shall be established when the department grants coverage under the general permit.

(3) A permittee granted coverage under the general permit authorized under this section shall be required to verify conformance with the conditions in sub. (1) whenever the permit coverage is renewed.

NR 106.62 Compliance schedules. 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 when either of the following conditions is met:

(1) The permittee does not apply for an alternative effluent limitation under the provisions of subch. VI.

(2) The permittee applies for an alternative effluent limitation under the provisions of subch. VI and, after reviewing the data and information provided with the application, the department determines that sufficient information to establish alternative effluent limitations for temperature is not available.

SECTION 27. Chapter 106, Subch, VI is created to read:

Subchapter VI – Alternative Effluent Limitations For Temperature

NR 106.70 Purpose. The purpose of this subchapter is to establish procedures for the determination by the department of alternative effluent limitations for temperature as authorized under s. 283.17, Stats. An alternative effluent limitation for temperature may be established by the department if the owner or operator of a point source demonstrates to the department that a proposed effluent limitation established under subch. V is more stringent than necessary to assure the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife in and on the body of water into which the discharge is made.

NR 106.71 Definitions. The definitions in ss. NR 205.03 and NR 205.04 apply to the terms used in this subchapter. In addition, the following definitions apply to the terms used in this subchapter:

(1) "Alternative effluent limitations for temperature" means effluent temperature limitations for the control of the thermal component of a discharge which are less restrictive than limitations calculated using the procedures specified in subch. V.

(2) "Balanced, indigenous community" or "balanced, indigenous population" means a biotic community typically characterized by diversity, the capacity to sustain itself through cyclic seasonal changes, presence of necessary food chain species, and non–domination of pollution tolerant species. Such a community may include historically non–native species introduced in connection with a program of wildlife management and species whose presence or abundance results from substantial, irreversible environmental modifications. Normally, however, the community may not include species whose presence or abundance is attributable to the introduction of pollutants that will be eliminated by compliance by all sources with effluent limitations and standards effective by July 1, 1983, including modifications thereof in accordance with the provisions of this subchapter; and may not include species whose presence or abundance is attributable to alternative effluent limitations imposed pursuant to this subchapter.

(3) "Existing discharge" means a discharge that is not a new POTW discharge.

(4) "New discharge" means a discharge that is issued a WPDES permit on or after the effective date of this subchapter, …[revisor insert date].

(5) "Relevant evidence" means new or historical biological data, physical monitoring data and engineering or diffusion models.

(6) "Representative, important species" means species which are representative, in terms of their biological needs, of a balanced, indigenous community of shellfish, fish, and wildlife in and on the body of water receiving a thermal discharge.

(7) "Water quality standards" means applicable water quality standards set forth in chs. NR 102–104, or any federally promulgated water quality standards applicable to surface waters of the state.

NR 106.72 Application for alternative effluent limitations for temperature. An application for an alternative effluent limitation may be submitted to the department by an owner or operator of a point source subject to effluent limitations determined under subch. V.

(1) TIMING. The application may be submitted at the time the owner or operator submits an application for issuance or reissuance of a WPDES permit or at any time following the issuance of a permit, subject to the permit modification provisions in s. 283.53, Stats.

(2) NEW DISCHARGE. A permittee may submit an application for alternative effluent limitations for temperature for a new discharge. The application shall include a demonstration that the effluent temperature limitations calculated according to the procedures specified in subch. V are more stringent than necessary to assure the protection and propagation of a balanced, indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge is made. This demonstration shall examine the interaction of the thermal component with other pollutants and the additive effect of other thermal sources. The application shall also contain all of the following:

(a) A description of the alternative effluent limitations for temperature requested.

(b) A description of the methodology the applicant used to support the demonstration.

(c) Biological, hydrological and meteorological data, physical monitoring data, engineering or diffusion models, laboratory studies and other relevant evidence.

(d) The data and results of studies, experiments and other information that support the demonstration that the identified representative, important species will be protected, and that will assure the protection and propagation of a balanced, indigenous community of shellfish, fish and aquatic life in and on the body of the water into which the discharge will be made.

(3) EXISTING DISCHARGE. An existing permittee may submit an application for alternative effluent limitations for temperature for an existing discharge. The application shall include a demonstration that the effluent temperature limitations calculated according to the procedures specified in subch. V are more stringent than necessary to assure the protection and propagation of a balanced, indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge is made. This demonstration shall examine the interaction of the thermal component with other pollutants and the additive effect of other thermal sources. The permittee may request alternative effluent limitations for temperature under either par. (a) or (b).

(a) A permittee may demonstrate that no appreciable harm has resulted from the normal component of the discharge to a balanced, indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge has been made. In determining whether or not prior appreciable harm has occurred, the department shall consider the length of time in which the applicant has been discharging and the nature of the discharge.

(b) A permittee may demonstrate that, despite the occurrence of previous appreciable harm, alternative effluent limitations for temperature will assure the protection and propagation of a balanced, indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge has been made.

(c) In the application under this section, the permittee shall provide all of the following:

1. A description of the alternative effluent limitations for temperature requested.

2. A description of the methodology the applicant used to support the demonstration.

3. Biological, hydrological and meteorological data, physical monitoring data, engineering or diffusion models and laboratory studies and other relevant evidence.

4. The data and results of studies, experiments and other information that support the demonstration that the identified representative, important species will be protected, and that will assure the protection and propagation of a balanced, indigenous community of shellfish, fish, and aquatic life in and on the water to which the discharge has been made.

NR 106.73 Identification of representative, important species. Any applicant for an alternative effluent limitation for temperature shall submit to the department a proposed list of representative important species prior to submitting an application and undertaking a demonstration under s. NR 106.72. The list shall take into account applicable water quality standards. The department may approve, disapprove or approve with modifications the proposed list of representative important species as the department deems appropriate.

NR 106.74 Determination of alternative effluent limitations for temperature. (1) NEW DISCHARGES. Alternative effluent limitations for temperature may be established by the department

for a new discharge if the permittee demonstrates that the discharge, considering the cumulative impact of the thermal discharge together with all other significant impacts on the species affected will assure the protection and propagation of representative, important species and will, in turn, assure the protection and propagation of a balanced, indigenous community of shellfish, fish, and aquatic life in and on the body of receiving water.

(2) EXISTING DISCHARGES. Alternative effluent limitations for temperature may be established by the department for an existing discharge if the permittee has demonstrated either of the following:

(a) No appreciable harm has resulted from the thermal component of the discharge, taking into account the interaction of the component with other pollutants and the additive effect of other thermal discharges, to the representative, important species and a balanced, indigenous community of shellfish, fish, and wildlife in and on the body of water receiving the discharge.

(b) That despite the occurrence of previous appreciable harm, alternative effluent limitations for temperature will assure the protection and propagation of the representative, important species and a balanced, indigenous community of shellfish, fish and wildlife in and on the body of water into receiving the discharge, taking into account the interaction of the thermal component with other pollutants and the additive effect of other thermal discharges.

(**3**) APPRECIABLE HARM. In determining whether appreciable harm has occurred the department shall consider any relevant biological, engineering or other data demonstrating that effluent limitations for temperature calculated using the procedures specified in subch. V are more stringent than necessary to assure the protection and propagation of a balanced, indigenous community of shellfish, fish, and wildlife in and on the body of water receiving the discharge.

(4) EXISTING VARIANCE WATER LIMITATIONS. Alternative effluent limitations for temperature determined under this subchapter shall supersede any temperature limitations listed in par. NR 104.06(2)(b).

(5) ZEBRA MUSSEL CONTROL. Alternative effluent limitations for temperature determined under this subchapter shall be met, except for short-term excursions for zebra or other mussel control, as approved by the department and authorized in a permit on a case-by-case basis.

NR 106.75 Compliance schedules. 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 to attain such limitations. Compliance with the limitations shall be attained as soon as reasonably possible, but no later than the expiration date of the permit.

NR 106.76 Public notice. The public notice of intent to issue, reissue, or modify a permit with alternative effluent limitations established under this subchapter shall contain all of the following:

(1) The effluent temperature limitations that are calculated using the procedures specified in subch. V.

(2) The proposed alternative effluent limitations for temperature.

(3) A statement that the applicant has submitted a demonstration in support of a request for alternative effluent limitations for temperature and that the department is proposing to establish such alternative effluent limitations for temperature or, in the event that at the time of permit issuance,

reissuance or modification there is insufficient information to support alternative effluent limitations for temperature, that the department is proposing to include a compliance schedule in the permit.

(4) A statement that all data submitted by the applicant and a summary of the data are available at the offices of the department for public inspection during office hours.

(5) A statement that any interested person may comment upon the applicant's proposed alternative effluent limitations for temperature.

NR 106.77 Application of the variance process in § 283.15, Stats. Whenever a permittee has been granted alternative effluent limitations for temperature under this chapter, the procedures of s. 283.15, Stats., are not applicable.

SECTION 28. Chapter NR 209 is repealed.

SECTION 29. EFFECTIVE DATE. The rule shall take effect the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2)(intro.), Stats.

SECTION 30. BOARD ADOPTION. The rule was approved and adopted by the State of Wisconsin

Natural Resources Board on January 27, 2010.

Dated at Madison, Wisconsin _____

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
Matthew J. Frank, Secretary

(SEAL)