Response to Comments Received on

Proposed Revisions to Chapters NR 102 & NR 106 (Wis. Adm. Code)

Thermal Water Quality Standards & Associated Water Quality-Based Effluent Limitation Calculation Procedures for Discharges to Surface Waters

Public hearings were conducted in January 2008 on the proposed revisions to Chapters NR 102 and NR 106 as they related to the establishment of thermal water quality standards and implementation of those standards in WPDES permits. Those comments were compiled and summarized as noted below. Department staff considered those comments when determining whether additional revisions to the proposed rules were warranted. Responses below indicated whether or not a change was made and provides a general reaction to the noted comment.

Following a series of "general" comments, the remainder of comments and response are organized alphabetically by topic. A list of all parties making comments is provided at the end of this summary.

GENERAL COMMENTS

1. *Comment:* This rule revision effort was undertaken because DNR wants a stricter rule.

Response: This rule-making effort was not undertaken because WDNR wanted a stricter rule. It was done because the Wisconsin Supreme Court made a very unique ruling that invalidated the provisions of Chapter NR 102 (Wis. Adm. Code) that related to the application of thermal water quality standards. Because of the ruling, it was necessary for WDNR to develop new rules in order to be able to issue WPDES permits with valid heat limits to ensure the safety of humans, fish and other aquatic life exposed to the discharge of heated water.

2. *Comment:* Why do we need these rules revisions? We do not see any environmental problems now.

Response: Under extreme circumstances, the common observable effect of discharging hot water would be fish kills. WDNR has not documented a large number of heat-related fish kills over the years. However, it is important to note that the Clean Water Act is not based solely on having dead fish to indicate harm. Instead, it is based on maintaining ecological integrity which requires protection against death or immobilization as well as risk to reproduction and/or growth of aquatic organisms. The rules proposed are designed to meet the goal of providing protection to humans as well as to allow the natural biological functions of fish and other aquatic life communities to occur without risk of adverse impacts to the discharge of heated water. The proposed rules establish clear and consistent standards and processes for addressing existing and future discharges of heated water to meet that goal.

3. *Comment:* DNR perceives itself to be legally obligated to promulgate thermal rules and is proposing rules because USEPA has demanded it, not because of any underlying technical justification.

Response: Heat is a pollutant and can have an adverse effect on aquatic life. To protect surface waters from these impacts, water quality standards for heat are appropriate and necessary. To meet the statutory requirements, WDNR needs to promulgate revised thermal rules to replace the rules struck down by the Wisconsin Supreme Court (see response to general comment "1"). Alternatively, WDNR can allow USEPA to issue permits with temperature limits to appropriate facilities. WDNR would prefer to issue these permits at the State level, rather than rely on EPA to do so. WDNR believes Wisconsin permittees prefer this as well. Through the advisory committee, every effort has been made to assure the proposed rules would be as reasonable in their implementation as possible.

4. *Comment:* The proposed rules do not address how effluent limits will be established for discharges to waters subject to an existing variance under NR 104. Clarify whether dischargers to variance waters can receive alternative effluent limitations.

Response: Language has been added to clarify that waters identified under NR 104.06(2)(b) can receive alternative effluent limitations.

5. *Comment:* Changes to NR 102.04(1) should not be made because rule changes should continually increase protections for waters, not backslide and reduce protections.

Response: The deletion of effluent channel from NR 102.04(1) does not weaken the legal protection of Wisconsin waters. The deletion is intended to remove an inconsistency with ch. NR 102's purpose stated in NR 102.01(1) and the definition of surface waters in NR 102.03(6). The purpose of chapter NR 102 is to regulate 'surface waters.' The definition of surface waters does not include effluent channels since they are not 'naturally flowing streams'.

6. *Comment:* Why are there so many site-specific options in the proposed rules? Why not make it simpler by offering only a set of default conditions?

Response: Site-specific options exist throughout the proposed rules because it is impossible to develop reasonable default conditions in the rules for every discharge scenario and water body type. To a large extent, the provisions for site-specific flexibility mirror those that are available for the regulation of other pollutants in Wisconsin's water quality standards.

7. *Comment:* It's unclear if impoundments should refer to Table 3 or 4 in NR 102.

Response: Water bodies identified as impoundments are those that have a water residence time of greater than or equal to 14 days. Those water bodies are covered under s. NR 102.25(4) and Table 4.

8. *Comment:* The natural avoidance mechanism of fish to sense heat and swim away should be considered.

Response: Water quality criteria are derived assuming worst case scenarios where organisms are assumed not capable of such avoidance reactions. In fact, some aquatic organisms that are to be protected under these rules are not capable of swimming away to avoid heated effluents. However, consideration of natural avoidance may be an element of the analysis presented in each permit issuance or through an AEL demonstration under NR 106, Subchapter VI.

GENERAL – DEFINITIONS & TERMS

9 *Comment:* The term "weekly average temperature" and its definition are confusing and should be clarified.

Response: WDNR believes the definition included in the proposed rule is accurate.

10. *Comment:* The conversion factor for calculating a WQBEL for a lake should be changed from 8,360,000 to 8,345,000.

Response: Comment noted and the change has been made.

11. *Comment:* Amend NR 106.67 to read "shall" specify.

Response: The comment actually refers to NR 106.57. The comment as it applies to NR 106.57 has been made.

12. *Comment:* In NR 102.23(1-5) replace "may" with "shall", as required by the Clean Water Act.

Response: Comment noted and the change has been made.

GENERAL – LEGAL ISSUES

13. *Comment:* DNR must either implement current thermal water quality criteria or must immediately promulgate thermal water quality criteria. Until this is done WPDES permits must not be issued to any dischargers of heated effluent.

Response: Comment noted. This is one of the key reasons why WDNR this rule effort was undertaken.

14. *Comment:* Revised water quality standards (WQS) are not effective for Clean Water Act purposes until they have been approved by U.S. EPA. This includes site-specific criteria.

Response: A "Note" has been added after NR 102.27(1) to document this fact.

15. *Comment:* Changes to use designations are necessary, in particular those under limited aquatic life in NR 104, and the related notion that use attainability analyses (UAAs) need to be conducted to demonstrate that attaining a designated use is infeasible.

Response: WDNR is in the process of developing working guidance to staff for the conduct of UAAs. Furthermore, use designation revisions will be undertaken as staff resources allow over the course of the next three years consistent with the recent prioritization of this effort under WDNR's Triennial Standards Review Process. Any decisions related to changes in use designations – including UAAs – will be subject to public comment, Legislative approval, and federal approval as required by state and federal law.

16. *Comment:* The Wisconsin Supreme Court's WEPCO case ruling was narrow in scope, and thus many of the Department's assumptions related to it are incorrect. In summary, until and unless new or revised thermal water quality standards are promulgated and approved by USEPA the DNR must include discharge limitations in WPDES permits necessary to meet state water quality standards for temperature found at NR 102.04(4)(b)1., 2., and 3.

Response: WDNR Legal Counsel has interpreted the Wisconsin Supreme Court decision to broadly apply to the provisions of NR 102 related to water quality standards for heat. As such, this rule revision effort is intended to avoid the need for selective interpretation and to allow common application of the thermal standards for all applicable discharges of heat.

17. *Comment:* Protection of existing uses requires protection of natural background dissolved oxygen and temperature levels that existed on Nov. 28, 1975; delete the words "or ambient" in NR 102.04(4)(b).

Response: No changes to dissolved oxygen criteria have been proposed as a part of this rule revision. The provisions to maintain natural background concentrations for dissolved oxygen are intact and unchanged. The phrase "or ambient" has been deleted.

ALTERNATIVE EFFLUENT LIMITATIONS (AEL) – CLEAN WATER ACT SECTION 316(a)

18. *Comment:* Subchapter VI is vague and needs clarification/guidance.

Response: WDNR will develop additional guidance relating to implementation of this subchapter. USEPA has also published regulations and guidance for establishing alternative effluent limits under § 316(a) of the federal Clean Water Act.

19. *Comment:* Clarify "relevant evidence" in NR 106.74(1) and (2).

Response: The phrase "relevant information" in these two sections has been changed to read "relevant evidence" as the term is defined in the rule.

20. *Comment:* Clarify "relevant evidence" in NR 106.74(1) and (2).

Response: The phrase "relevant information" in these two sections has been changed to read "relevant evidence" as the term is defined in the rule.

21. *Comment:* Include the same zebra mussel control provisions in Subchapter V within Subchapter VI.

Response: Rule language has been modified to add a provision (NR 106.74(3)) that allows short-term temperature excursions for zebra or other mussel control when alternative limits are established.

22. *Comment:* How will an existing alternative effluent limitation (AEL) be handled/treated?

Response: Under the "relevant evidence" provision associated with the application for an alternative limit, a permittee may submit historical information to demonstrate that a less stringent limit should be included in a permit. Any prior determinations in this regard may be used as part of the application together with any new information. There is no provision in law that an alternative limitation granted under § 283.17, Wis. Stats., continues in subsequent permit terms. Decisions on alternative limits will be required, under NR 106, Subchapter VI, at each permit reissuance.

23. *Comment:* There is no guarantee an AEL will be granted – this should be changed.

Response: An AEL is not simply granted because a request for one is submitted. Granting the alternative limit will be done on a case-specific basis using the evidence presented in the application. Any decision to grant or not grant an alternative limit is subject to review under the provisions of chapter 283, Wis. Stats.

24. *Comment:* Is there a real need to require the submittal of the representative important species (RIS) list with the AEL application?

Response: Yes, the selection of RIS is a component of federal regulations (40 CFR 125, Subpart H) and will be used in determining the alternative limits.

25. *Comment:* An AEL should not be allowed for new discharges/facilities.

Response: State statutes (See § 283.17, Wis. Stats.) do not include provisions which prohibit consideration of an AEL for new dischargers.

26. *Comment:* Subchapter VI fails to comply with mandates requiring a public hearing prior to AEL determination.

Response: The process created in NR 106, Subchapter VI, is consistent with the permitting processes under other provisions of statute and rule and is a more efficient means to establish limitations. Rather than issuing a permit with temperature effluent limitations and then allowing a permittee to petition for establishment of alternative limitations, it is more efficient to have the permittee apply for the alternative limits at time of permit application, thereby avoiding a redundant permitting process. The processes under NR 106, Subchapter VI allow for those who may disagree with the establishment of such alternative limits to petition for a review of the permit under the provisions of § 283.63, Wis. Stats., and also present evidence at the time the permit is public noticed.

27. *Comment:* Assure that NR 106.74 protects existing and potential uses of the receiving waterbody.

Response: Section 283.17, requires that establishment of alternative limits be based on assuring "…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."

AMBIENT TEMPERATURE

28. *Comment:* Ambient temperatures are greater than acute or sub-lethal criteria, or cap limits.

Response: This comment is in reference to actual site temperatures, whereas the proposed rule contains default ambient temperatures that are best estimate monthly temperatures for different water body types

across Wisconsin. Section NR 102.26 establishes a process for developing site-specific ambient temperatures. These values are then used to establish acute and/or sub-lethal criteria which never exceed the ambient value. Parties wishing to have alternative ambient temperatures used to calculate WQBELs may submit those data according to the conditions of the proposed rule. Note: The "cap limits" provision has been removed from the rule.

29. *Comment:* DNR should regularly review/update our ambient temperatures to ensure the default ambient temperatures in NR 102.25 remain representative of the waters of the State.

Response: To the degree feasible, WDNR will use representative continuous temperature data collected routinely by WDNR biologists and select others to update ambient temperatures as appropriate.

30. *Comment:* Ambient temperatures in southern Green Bay have been observed to exceed the proposed acute criteria. Further, several daily maximum and weekly average intake temperatures have been observed above the sub-lethal water quality criterion. If actual ambient temperatures are as high as, or greater than, the criteria, then effects should have been observed – such as massive die-offs of fish and aquatic life. It is logical to conclude that this is due to the ability of aquatic life to acclimate to its surroundings, which is something that must be accounted for when calculating limits.

Response: Ecological problems will not always be as obvious as fish kills – nor are those obvious impacts the sole standard upon which statutory protections are based. It is not known that many organisms can acclimate to some degree to changes in temperature and some of that may occur in Lower Green Bay.

Further and as noted in earlier responses, the proposed water quality criteria are based upon a compilation of data for large population of fish species exposed to heat in laboratory settings. The criteria are believed to be protective of natural communities at the threshold temperatures derived from those analyses. Reliance on more general *statewide* criteria is due in part to the inability of WDNR to establish site-specific criteria for every lake, river, or stream in the state. Similarly, use of default background temperatures to presume ambient water temperature is a function of staff and monitoring resources within WDNR. Where it can be demonstrated that the proposed criteria or ambient temperatures are not appropriate, several options are available to establish a site-specific criterion or to demonstrate that alternative considerations must be made to account for the localized assimilation of heat.

31. *Comment:* The definition of ambient temperature needs to be more protective (include reference to non-point thermal influences).

Response: The calculation of ambient temperatures was based on data collected at a number of sites throughout the state and included both dry periods as well as periods of precipitation and associated runoff. Influences from nonpoint sources were inherently integrated into the derivation of these ambient temperatures. The definition recognizes this and ensures that point sources - including permitted municipal separate storm sewer systems (MS4) – are not considered in establishing ambient temperatures.

CAP LIMITATIONS

32. *Comment:* The "cap limits" in the proposed rules should be removed because they are overly and unnecessarily restrictive, provide virtually no mixing allowance and ignores assimilative capacity, are arbitrary, lack adequate support/justification, and limits or eliminates the usefulness of the water quality-based approach within the rest of the rules. Further, the "cap limits" will require a wide range of unnecessary and significant costs, such as capital, operation, and maintenance costs, significant increased costs in electricity, and increased likelihood of an energy emergency, and substantial upgrades to power lines. Together, it is expected that the "cap limits" will lead to a competitive disadvantage for Wisconsin businesses, and be costly for consumers – and all for an approach that is overly conservative. Finally, much of the flexibility implied in the proposed rule is overstated or nonexistent due to the "cap limits".

Response: For the most part, the "cap limits" have been removed from the proposed rules. For flowing receiving waters, a flow-based matrix has been developed to direct WDNR staff as to which types of limitations may be warranted for WPDES permittees. WDNR believes the flow-based matrix is a much better

alternative than "cap limits" and will reduce the following weakness associated with the "cap limits" approach to regulation:

a) Cap limits are contrary to the strict water quality-based approach WDNR and others worked hard to develop in the rules;
b) Cap limits are overly conservative in many cases;
c) Cap limits will lead to an unnecessary increased workload for both WDNR and the regulated community;
d) Cap limits will lead to unnecessary increased costs for the regulated community; and
e) Cap limits revert to an approach not conceptually different from the one the Wisconsin Supreme Court ruled invalid.

In addition to the flow-based matrix, WDNR has included rule language that allows more stringent limitations to be imposed for any discharge scenario where it there are credible reasons to believe that lethality may occur a mixing zone that would be detrimental to the biological community.

33. *Comment:* Lethal conditions must not exist outside an area of rapid mixing. The "cap limits" ensure the receiving water will be protected from lethal conditions, and will prevent mixing zones from becoming too large.

Response: While "cap limits" could prevent lethal conditions in rare circumstances, WDNR believes they do so in an overly burdensome and unnecessary manner. The calculation methodology for determining effluent temperature limitations to protect against both acute and sub-lethal effects will reduce or eliminate the potential for lethal conditions in a surface water. Furthermore, WDNR has the ability to consider appropriate options on a site-specific basis as needed to provide additional protections. Language has been added in s. NR 102.04(1m) that allows WDNR to address any situation where it is reasonably possible that lethality may occur in a mixing zone. This proposed provision allows WDNR to be more stringent than the flow-based matrix requires on a cases-by-case basis.

34. *Comment:* The "cap limits" will not protect against lethality in winter months.

Response: This comment appears to be based on an incorrect assumption related to the application of the "cap limit" approach. Under the "cap limits" approach, the calculated acute water quality-based effluent limitations (WQBELs) would be used during winter months, not the "cap limits."

35. *Comment:* There is no information indicating/supporting a national effort or need for end-of-pipe "cap limits".

Response: "Cap limits" have been removed from the proposed rule and a flow-based matrix has been included as an alternative. See s. NR 106.55(6).

36. *Comment:* "Cap limits" address concerns that acutely toxic conditions could exist in WQBEL mixing zones.

Response: WDNR believes "cap limits" may be unnecessary in most cases and has proposed an alternative to restrict maximum temperatures where the potential for acutely toxic conditions is most likely. The use of "cap limits" to reduce lethality in a near-field mixing zone is grounded in guidance documents relating to toxic pollutants which act in a very conservative manner when considering their environmental fate. Heat is not a conservative pollutant and dissipation to levels that do not result in acute effects is common under most discharge situations. A new provision under s. NR 102.04(1m) has been included to provide WDNR the authority to impose more stringent limitations than otherwise calculated by rule when it is determined that there is a reasonable chance the lethality due to heated water may occur in a mixing zone.

CRITERIA: ACUTE

37. *Comment:* Temperatures above the acute criterion do not automatically equate to lethality.

Response: Agree. The acute criteria were not based on immediate (or very short-term) death following placement into test chambers. The acute criteria are based upon an Upper Incipient Lethal Temperature (UILT) which is representative of the response of organisms held at constant test temperatures for 0-10 days until 50% mortality in the test population was observed. USEPA's reference to guidance documents stating the need to eliminate or significantly restrict acute mixing zones is based on concerns of immediate or very short-term lethality. The UILT endpoint does not truly represent immediate or very short-term lethality. The *Ultimate* UILT (UUILT) would be the more appropriate endpoint to represent immediate lethality, however there are far fewer UUILT data available making development of sensible instantaneous lethality criteria nearly impossible.

38. *Comment:* Proposed acute criteria fail to adequately protect fish spawning in Wisconsin's waters, and must be revised.

Response: The acute criteria do not adequately protect fish spawning and they are not intended to. Acute criteria are a measure of lethality, not spawning thresholds. The proposed sub-lethal criteria are intended to protect fish spawning and other sub-lethal endpoint.

39. *Comment:* The acute criteria should be calculated using a more biologically protective endpoint than the median UILT which leave 50% of the species vulnerable to mortality.

Response: Three specific responses to this comment can be made. First, the comment is based on an incorrect assumption that the acute criteria are equivalent to the maximum survival temperature, or the highest possible temperature at which a species can survive. Second, there is not likely to be a problem with the acute criteria when considering they are proposed to be applied in combination with sub-lethal criteria, the public health and welfare criterion, and specific mixing zone provisions. Third, an established safety factor was applied to the UILT values as a part of the development of the acute criteria.

CRITERIA: SUB-LETHAL

40. *Comment:* Spawning data [used to develop the sub-lethal criteria] are the maximum temperatures a fish could tolerate and still reproduce.

Response: This statement is not correct. The spawning data used in developing the criteria came from field observations of WDNR fishery biologists and are somewhat anecdotal in nature. They represent the temperatures or highest temperatures at which given fish species were observed spawning. They are not results of specific research designed to determine "maximum" thresholds. They are, however, the best available data for the development of the spawning portion of the sub-lethal criteria. Thus, the spawning criteria do not represent the maximum temperatures fish could tolerate and still reproduce. They provide the best basis for developing truly water quality-based sub-lethal water quality criteria, and are protective since they are used in combination with mixing zones provisions (some that are specific to protect spawning).

41. *Comment:* Sub-lethal criteria are based largely on spawning data.

Response: Three types of data used to develop the sub-lethal criteria:

a) Gametogenesis – the production of eggs and sperm within individual organisms,
b) Spawning – the physical conditions that support the successful laying of fertilized eggs that hatch into viable larvae, and
c) Growth – the growth of larvae to adult life stages suitable for reproduction.

While there were more temperature data directly related to spawning than for gametogenesis and growth, the proposed criteria were based on combining and fitting all three types of data endpoints together in a manner that made ecological sense in Wisconsin. Thus, no one type of data weighed more heavily than another in developing the sub-lethal criteria.

COMPLIANCE WITH LIMITATIONS

42 *Comment:* The compliance schedule proposed in NR 106.62 should be extended from 3 years to 5 years (to be consistent with existing NR 106.117). Three years is an inadequate timeframe to meet compliance; five years is more appropriate.

Response: Federal law requires schedules of compliance to be as short as reasonably possible (See 40 CFR 122.47). Changes were made in the draft rule to recognize that it is possible for a compliance schedule to extend as long as the term of the permit if determined necessary on a case-by-case basis. A similar provision was added in Subchapter VI to allow for a compliance schedule to meet an alternative limitation.

43. *Comment:* Since compliance with a sub-lethal WQBEL is calculated using a 7-day rolling average maximum effluent temperature, compliance with the sub-lethal WQBEL should also be based on the 7-day average Qs and Qe.

Response: There comment appears to reflect a misunderstanding or misreading of the rule. The sub-lethal WQBEL is defined in terms of a calendar week, not a rolling average and the streamflow value is based upon an average over a seven-day period. Effluent flow is defined as the highest value measured for each month. Although the latter value is a conservative estimate, it is offset by the averaging of other values used in the WQBEL calculation or the averaging of the effluent temperatures used in determining compliance.

COOLING TECHNOLOGY

44. *Comment:* Cooling towers would create a public safety hazard due to the proximity of some facilities to major highways or community – due to fogging and icing.

Response: Permittees that believe there are safety risks associated with cooling towers may request a variance under § 283.15, Wis. Stats., for temperature effluent limitations established under Subchapter V if such limitations will cause widespread economic and social impacts. Public safety hazards caused by cooling tower drift may, in specific situations, fall within this variance category. Public concerns over operations involving cooling towers submitted as formal comments during the public participation process associated with the issuance of any WPDES permit must be formally addressed by WDNR. Decisions of this nature would need to consider all site-specific and design-specific factors.

45. *Comment:* Cooling towers are unsightly and disrupt the natural landscape.

Response: It is possible that cooling towers may be the most feasible means to manage heat in some instances. In those cases, the ecological benefits of managing the heated discharges will have to be contrasted against the aesthetics of cooling towers. Any decisions on the inclusion of cooling towers for public utilities will also require approval by the Public Service Commission under Chapter 196, Wis. Stats.

46. *Comment:* Construction and operation of cooling towers would create substantial adverse environmental effects: increase power use and burden on energy grid, emit unwanted odors or aerosol bacteria, increase noise pollution, water evaporation, increase use of chemicals, and increase land consumption and conversion of wetlands and other protected lands.

Response: See responses to Comments #42 and #43.

COOLING WATER INTAKE – CLEAN WATER ACT SECTION 316(b)

47. *Comment:* In order to better understand the cooling water intake structure compliance options, the DNR should coordinate finalization of the thermal rules with U.S. EPA's 316(b) rules.

Response: Although there is a connection between thermal rules and cooling water intake structure regulations, WDNR believes the impacts are sufficiently different such that separate rules can apply. In addition, these connections can often be addressed under the AEL provisions of NR 106, Subchapter VI.

DEFAULT CONDITIONS

48. *Comment:* The default conditions in the proposed rules, especially those related to the "cap" limits, force an alternative effluent limit (AEL) to be conducted. Also, the AEL process is burdensome.

Response: Two responses are appropriate: 1) While the AEL process may be burdensome compared to no limitations for temperature in permits (as has been the case in Wisconsin since 1975), the AEL approach is the formal process implemented across the country under the authorities of Section 316(a) of the federal Clean Water Act. In fact, it is the standard approach used by power plants nationally. Many Wisconsin companies conducted such studies in the 1970s, concluding, in most instances, that heated discharges were not adversely affecting aquatic life. The proposed rules will require updated studies to demonstrate if the historical conclusions are still valid. 2) The proposed rule includes a variety of site-specific options that are alternatives to, and often less burdensome than, the AEL approach. There is no indication that any other state has the types of built-in site-specific options proposed in these rules, which provide for more flexible water quality-based regulatory approaches.

49. *Comment:* Why are the default standards and resulting effluent limits for limited aquatic life (LAL) waters similar to or more stringent than those for other waters?

Response: LAL waters are usually small and do not have the flow and assimilative capacity to accept discharges without an adverse affect on the aquatic life in those waters. Additionally, the comment infers that LAL waters are of a lower quality and should not need to receive the same level of protection as cold waters or warm waters. This is part of a long-standing misconception that cold waters = high quality, warm waters = medium quality, and limited forage fish (LFF) and LAL waters = low quality. Instead, each of these types of waters is only capable of supporting a certain type of natural community of fish and other aquatic life. Where sufficient natural flow is available and the water temperatures are cold, a cold water fish community is expected. Generally speaking, a community of non-fish organisms may be expected to dominate those water bodies where natural flows are low and not supported by springs, water temperatures are naturally warmer, and habitat is limited due to natural features. Those types of water bodies may be appropriately classified as a *limited aquatic life* community and the organisms that occupy it also are subject to the protections of the proposed rule. In some cases, the organisms expected to be found in a *limited aquatic life* community are less tolerant to heat than some fish species found in other community types.

DOWNSTREAM WATER PROTECTION

50. *Comment:* As per CWA, ensure that water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.

Response: This provision is contained in the rule at NR 102.01(3) and at several locations in NR 106 as reflected in prior responses to comments.

51. *Comment:* Ensure that any discharge via a wastewater effluent channel is protective of downstream waters/uses. The draft rule does not clearly require this determination to be made.

Response: WDNR believes this comment is addressed by the language proposed for s. NR 106.56(9).

EMERGENCY OPERATIONS & ELECTRICAL RELIABILITY

52. *Comment:* A FERC operating emergency plan must include plans to seek removal of environmental constraints that would prevent a power plant from being able to provide maximum generating capacity during an energy emergency. The proposed rules would have the effect of limiting power plant output during peak electrical demand periods – loss of generating capacity during peak demands presents a hazard to the public. Recommended language was submitted for NR 102 that permits temporary exceedance of thermal discharge limitations in order to prevent collapse of the electrical transmission and distribution system during

and energy emergency as declared by MISO. Additionally, any energy emergency provisions should be extended to Subchapter VI.

Response: WDNR understands that nature of the request, but does not believe it is appropriate to include the proposed language in the proposed rule and most definitely not in Chapter NR 102. Instead, a "Note" has also been included in s. NR 106.51 that states WDNR will use its enforcement discretion in regards to permit obligations whenever an "energy emergency" is declared under the provisions of the Energy Policy Act of 2005 and/or orders issued by the Federal Energy Regulatory Commission.

53. *Comment:* Revise the rules to achieve the mutually compatible goals of ecological protection and electrical reliability.

Response: WDNR believes the newly proposed revisions will be ecologically protective and not prohibit sufficient electrical reliability.

ECONOMIC IMPACT

54. *Comment:* The proposed rules will lead to a competitive disadvantage for Wisconsin businesses with businesses in neighboring states and/or within the global marketplace. Many commenters provided examples of how the rules would create competitive disadvantages. Most of these comments were focused on how "overly conservative" "cap limits" would cause this. However, other commenters simply noted that the rules, generally, would cause competitive disadvantages, and that because of these disadvantages the rules should be significantly revised.

Response: As noted in the response to #1, the Wisconsin Supreme Court ruled against the application of Wisconsin's current rules found in Chapter NR 102. Those rules were nearly identical to the rules currently used by many other states, including those surrounding Wisconsin. As a result of that ruling, WDNR must revise the rule package to address the Court's concerns and that requires a very different approach than that used by the other states. In addition, USEPA has provided additional interpretations of mixing zone guidance as it applies to heat and that influenced several provisions in the proposed rule package. In response to concerns over the "overly stringent" nature of the proposed rules, WDNR worked cooperatively with USEPA to ensure that federal expectations are considered while attempting to be as reasonable as possible in the expectations for heat management by permitted dischargers. WDNR believes the approach recommended in this proposed rule package is more flexible than the draft rule package taken out to public hearings. WDNR also believes that the revisions do require more deliberate heat management for those situations that warrant it while providing greater flexibility where heat management is not as critical.

ENERGY CONSUMPTION

55. *Comment:* The proposed rules themselves create an overall environmental impact, or at the very least provide no overall environmental benefit. The rules promote increased use of electricity and increased carbon footprint, and is counterproductive by increasing overall energy consumption and reducing energy efficiency. Additionally, the rules would have detrimental impacts on watersheds, conflict with requirements elsewhere in state and federal law to minimize intake flows and reduce related biological impacts, and promote increased use/loss of water. These issues in turn contradict the Governor's environmental priorities, namely the Task Force on Global Warming, the Great Lakes Water Compact, and the Midwestern Governors Association's Midwestern Greenhouse Gas Reduction Accord.

Response: Although WDNR believes these comments are primarily related to the "cap limits", there are sufficient opportunities within the rules to weigh all these factors as compared to the thermal impacts. WDNR expect some scenarios where including cooling technologies or systems will have real environmental benefit.

GENERAL PERMIT CONDITIONS

56. *Comment:* Numerous comments and suggestions were made regarding the general permit section of the NR 106. Each of the comments is addressed individually below.

Response: Based on several comments received related to general permits, substantial changes have been made to the rule to incorporate many of the suggested changes and to establish more clearly defined requirements for inclusion in a general permit. The intent of these changes is to allow for the establishment of some of the more specific requirements of the proposed rule under the general permit, such as allowing WDNR to include site specific provisions for these discharges when granting coverage under the general permit.

57. *Comment:* Remove the condition regarding ice conditions [NR 106.61(1)(h)] – there is no basis for it.

Response: The paragraph is removed from the proposed rule.

57 *Comment:* Include language allowing a permittee to demonstrate that a general permit (GP) is not needed.

Response: WDNR cannot, by rule, exempt discharges from coverage under the WPDES program. However, WDNR believes the approach in the final rule order addresses this concern.

60. *Comment:* Do not allow a GP for discharges to cold waters.

Response: WDNR believes that most cold water streams are protected under the outstanding resource water and exceptional resource water classifications. Additionally, WDNR believes the approach in the final rule order addresses this concern.

61. *Comment:* Add language in NR 106.61(1)(c)11 that assures attainment or maintenance of downstream or adjacent water quality standards.

Response: WDNR believes this comment is address by the language proposed for s. NR 106.56(9).

62. *Comment:* Add a paragraph that assures a discharger to a waterbody listed on the 303(d) list because of temperature cannot receive a general permit.

Response: The determination of permit coverage for waters on the 303(d) list will be made on a case-specific basis using rules and guidance covering this program activity.

63. *Comment:* Amend NR 106.61(1)(g) to prohibit a GP to discharges containing process wastewaters or pollutants – or to ensure WQSs for all pollutants are met.

Response: The section of the draft rule that address general permits has been modified and includes a provision that prevents such permits from being issued to discharges containing process waters.

64. *Comment:* Amend NR 106.61 to require reporting of monitoring data at least once per year, as federally required.

Response: Federal rules allow an exception to annual reporting if the permit requires reporting of noncompliance. This latter requirement is a condition of all WPDES permits. The rule requires collection of representative effluent temperatures, but submittal of this data is an optional requirement made at the time GP coverage is granted by WDNR. If not submitted, the data must be available to WDNR at any time.

HUMAN HEALTH PROTECTION

65. *Comment:* The Public Health and Welfare criterion of 120° F exceeds other codes and standards developed for this purpose.

Response: Other standards for human health protection assume continuous exposure to heated water from appurtenances (i.e., hot tubs, plumbing fixtures) designed expressly for immersion or skin contact. Exposure to wastewater discharged from an outfall into a river or lake or to the land surface would likely be rare and when it did occur would be incidental. The proposed criterion would protect against scalding in the rare instance when human contact with wastewater at the end of an outfall pipe would occur.

LIMITED AQUATIC LIFE USE DESIGNATION

66. *Comment:* A UAA must be conducted as per the CWA to demonstrate that attainment of fishable/swimmable use is infeasible. Our broad use of limited aquatic life (LAL) for this purpose is not acceptable.

Response: This rule revision effort does not address the manner in which use designations are assigned and approved. Furthermore, the original scoping statement did not include any provisions authorizing WDNR to address such matters. Under the scoping statement requirements of Chapter 227, Wis. Stats, WDNR will seek permission to revise NR 102 in the future to modify procedures used to change use designations, including those affected by federal Use Attainability Analysis requirements.

67. *Comment:* Amend NR 102.24(3) to remove blanket designation of wetlands and diffused waters as "limited" and apply LAL only to those waters with limited potential to support a balanced and diverse aquatic community based on a UAA.

Response: See response to Comment #66

MIXING ZONES

68. *Comment:* USEPA's mixing zone guidance is just that – guidance, not law. The guidance is primarily, if not exclusively, aimed at substances that are conservative. Heat is not conservative; it dissipates rapidly. For this reason, application of existing mixing zone guidance is inappropriate for use with thermal discharges.

Response: WDNR agrees in principle and has removed the "cap limits" based in large part on interpretations of USEPA's mixing zone guidance. In lieu of "cap limits," provisions have been added to NR 102.04(1m) which provides WDNR the authority to impose effluent limitations to prevent lethality in a mixing zone if there are is reason to believe the calculated limitations are not adequately protective.

69. *Comment:* There is no clarification on how the 7Q10 will be calculated.

Response: The 7Q10 flow is a standard, commonly calculated flow rate. WDNR relies on the United States Geological Survey (USGS) for the calculation of 7Q10 values for water bodies in Wisconsin.

70. *Comment:* There is no discussion regarding how the Qs:Qe of 100:1 was determined regarding the cap limit. How was this determined?

Response: The 100:1 provision was removed from the proposed rule, together with the "cap limits." An alternative flow-based matrix in s. NR 106.55(6) has been proposed in response. The actual Qs:Qe ratios proposed are based on a comparison of projected effluent limitations using default input data to stream flow. Using this approach, it was determined that all discharges to warm water with a Qs:Qe ratio of greater than or equal to 20:1 would only be subject to an effluent limitation of 120^{o}F. Similarly, discharges to cold water communities with a Qs:Qe ratio of 30:1 or better did not need a more stringent limitation than 120^{o}F. On the opposite end of the temperature/flow spectrum, both an acute and a sub-lethal limitation would be required because of very limited dilution and capacity for the receiving water to dissipate heat. The Qs:Qe threshold for inclusion of both acute and sub-lethal limits was determined to be 2:1 and 2.5:1 for warm and cold water communities, respectively.

71. *Comment:* In-place thermal dispersion via site-specific mixing zones and diffusers are much better than single point discharges, and will result in little, if any, adverse impact to either mobile or sessile aquatic organisms. The proposed rules do not provide an exemption for any of these site-specific outfall configurations.

Response: While the proposed rules do not provide an exemption, they do allow facilities that have or would install diffusers or other similar mechanical devices to utilize one of the site-specific options available (see NR 106.55(11)).

72. *Comment:* There is no evidence the historic 10% mixing zone rule for lakes has contributed to biological impairment due to thermal discharges – thus keep using the historic 10% mixing zone rule for lakes rather than set sizes in NR 106.55(7)(b) AND/OR remove the size restrictions in NR 106.55(7)(b), as they are very conservative. Great Lakes mixing zone size limits are not supported by the mixing zone requirements of NR 102.05(3).

Response: Several points need to be made in response. First, it is important to note that NR 102.05(3) (referred to in the comment) provides a list of conditions that are to be "a guide to the delineation of a mixing zone … [that] shall be taken into consideration." Thus, these conditions are not "requirements" to be followed in all circumstances. Second, the rule provision at NR 102.05(3)(e) pertains only to inland lakes, not the Great Lakes. Third, the proposed rules include the option to establish a site-specific mixing zone based on a mixing zone study. Finally, the response to general comment "2" applies to part of the comment. No changes were made to the proposed language.

73. *Comment:* The proposed mixing zone is very conservative – it does not consider heat loss to both the atmosphere and to adjacent waters simultaneously.

Response: It is true the mixing zone considerations for heat loss are conservative. The primary reason for this is that the limit calculation is a two-dimensional model. The advisory committee considered this issue numerous times and was open to alternatives that were more "realistic." However, no alternatives were offered that would better serve as a default or starting point for application in the rule. While some permittees will have the data, funding, and desire to use modeling to calculate their limits, most will not. WDNR cannot conduct site-specific modeling as a default approach to setting mixing zone dimensions, especially since it will not be that critical for most dischargers. Furthermore, this is a large part of the reason numerous site-specific options were made available as alternatives to the default conditions, including the use of site-specific models to calculate site-specific limits.

74. *Comment:* USEPA's mixing zone concerns seem to be surfacing in isolation, without regard for practical realities of discharges or the interaction of other regulatory elements.

Response: See response to Comment #32.

75. *Comment:* Any alterations to a mixing zone must be established in NR 102.05(3), not NR 106.53(3)(c). Qs should not be altered (as allowed in NR 106.53) to accommodate requested alternative mixing zones. DNR must not improperly alter mixing zones by imposing less stringent limits in permit based on fabricated Qs.

Response: NR 102.05(3) (referred to in the comment) provides a list of conditions that are to be "a guide to the delineation of a mixing zone … [that] shall be taken into consideration." Thus, these conditions are not "requirements" to be followed in all circumstances. Further, NR 102.05(3) are guideline considerations to be considered for all scenarios, whereas NR 106.53(3)(c) provides specific direction to those considering a site-specific approach to dealing with thermal discharges. WDNR allows site-specific considerations (such as stream flow and mixing zones) within the proposed rules, and feels strongly these do not equate to "fabricated" Qs values. In fact, site-specific considerations – when appropriate and representative data are available – can yield more realistic regulatory limitations.

76. *Comment:* The amount of Qs needed to achieve the acute and sub-lethal criteria is relatively small, thus additional restrictions on mixing zones are not warranted.

Response: The proposed Qs:Qe ratio approach in the revised rules package acknowledges this point and focuses increased regulation in scenarios expected to need it. Removal of the "cap limits" also addresses this comment.

77. *Comment:* Modify NR 106.55(6)(b) and (d) to specifically allow the use of 4Q3 flows.

Response: This option is allowed under the proposed rule.

78. *Comment:* The use of Qs values determined on an individual monthly basis should be allowed.

79. *Response:* This option is allowed under the proposed rule.

80. *Comment:* Allow the use of full Qs when discharges are to side channels of the main river OR allow use of the main river Qs, rather than the Qs of the side channel. We urge the Department to allow the full ¼ 7Q10 of the river in situations like this. For example, a facility has three outfalls, including one that discharges to a side channel of the Wisconsin River. Shortly downstream of the outfalls, the side channel rejoins the main channel. Under these unique circumstances, it is unclear exactly how the 7Q10 of the Wisconsin River should be calculated. The practical effect of this scenario is that use of anything other than the full Wisconsin River 7Q10 flow will force this facility to construct a cooling tower.

Response: There are two responses to this comment. First, WDNR does propose to use the ¼ 7Q10 as a default, not the full 7Q10. Second, this example is exactly why the proposed rules include numerous site-specific options. As stated in the comment, this is a "unique" scenario, and thus, by definition, is not a "default" scenario. If it can be demonstrated that something other than a ¼ 7Q10 can be used in the side channel and still be protective of aquatic life in both the side channel and the main river, then it can be considered for approval by the permit drafter. Site-specific mixing zone studies or modeling approaches are examples of tools that can be used in this demonstration. Any decision to construct a cooling tower would not be prudent until the allowable Qs were determined based upon site specific data.

81. *Comment:* Using ¼ 7Q10 for Qs is conservative. What is the basis for this? Was there any scientific consensus or reasoning to support it?

Response: The selection of ¼ 7Q10 is linked to the guidelines used to establish mixing zones in s. NR 102.05(3). Along with a goal of limiting mixing zones to as small an area as practicable and providing passage for aquatic organisms, there is a provision that encourages the use of 25% of the cross-sectional area or volume of flow. This guidance has been used as a starting point for using a fraction of the 7Q10 flow values for many years. If a permittee believes this value is too restrictive, there are several options available to seek relief by providing WDNR with site-specific data to be considered in the selection of the Qs value.

82. *Comment:* Allow permittees to use Qs data from USGS rather than installing their own gauges.

Response: This is already allowed for in the proposed rule. Flow values provided to WDNR directly from USGS are commonly used as the primary value for the derivation of effluent limits. Nothing in this rule proposes an alternative approach.

83. *Comment:* Would a site-specific mixing zone require promulgation? Clarify.

Response: Promulgation of a rule revision is not required to utilize the site-specific mixing zone options within a WPDES permit. Approval by WDNR would be noted in a letter to the requestor and the site-specific allowances would be considered in the determination of applicable effluent limitations. However, this decision must be concluded prior to permit issuance since it is reviewable under the public comment provisions of the WPDES permit program.

84. *Comment:* Revise NR 106.55(7)(b) to allow for mixing zones (in particular those in inland lakes) to be calculated on a case-by-case basis using NR 102.05(3).

Response: This is already allowed under NR 106.55(7)(b) – a site-specific mixing zone can be substituted for the listed default mixing zone areas for any inland lake or impoundment or Great Lake water.

85. *Comment:* Clarify that thermal standards are to be applied at the edge of an appropriate mixing zone.

Response: This statement is made in NR 102.05(3)(intro.).

PUBLICLY OWNED TREATMENT WORKS (POTWS)

86. *Comment:* There is no analysis or support for the POTW variance findings provided.

Response: NR 106.59 has been substantially revised from that proposed. An attachment contains supporting document for the provision in the rule order.

87. *Comment:* Use monitoring of a subset of facilities to determine if POTWs need to be included in the rule.

Response: WDNR has produced further documentation to support its proposed action for temperature limitations for POTWs. This document contains information on effluent temperatures and potential impacts of POTW heat discharges on surface waters.

88. *Comment:* Several different, but related suggestions are provided. If 2-years of data demonstrates the effluent limit is not necessary, then continued effluent temperature monitoring should not be required. NR 106.59(6) should be amended to require every point source to monitor effluent temperature to be incompliance with state law that requires every permit holder to establish and maintain records of the volume of each discharged pollutant, and to regularly report this information to DNR. NR 106.56(10)(b) should be amended to limit monitoring to a period of not longer than one year, and to require data collection at least twice per week.

Response: There is very little current information on effluent temperature for many discharges in the state. WDNR believes there is a great amount of variability between dischargers and also significant variability in daily, weekly or seasonal temperature values for some dischargers. Because of this uncertainty, WDNR believes that this rule should be flexible so that case-specific decisions can be made concerning monitoring frequency and length of time to monitor so as to identify any such variability. Permittees and other interested parties may dispute proposed monitoring requirements when permits are issued, or may request permit modifications to change the monitoring requirements. Lastly, current thermistor technology allows for the collection of temperature data at relatively low cost with little effort.

89. *Comment:* Several different, but related suggestions are provided and include the following:

- All the POTW variance findings apply with equal force to new facilities – there is no evidence that the cost for implementing thermal cooling is any less expensive or burdensome for new facilities.
- A POTW variance applicable to both new and existing facilities provides needed flexibility to help maintain watershed integrity (avoid rerouting of water across watersheds) and options for addressing water quantity issues through the beneficial reuse of treated wastewater.
- "Existing POTWs" should expressly include all POTWs that have WPDES permits on the effective date of the rule, no matter, if after that date, outfalls are added or relocated, or if plant upgrades or relocations are undertaken.
- "New facilities" should be expressly limited to only include POTWs that first acquire a WPDES permit after the effective date of the revised rules.
- Any effort to impose "cap limits" should only be applied to new facilities.
- DNR cannot expand the POTW variance to new facilities.
- Amend NR 106.60 to require compliance with WQBELs at new facilities on the effective date of the permit – do not allow an AEL for new facilities.

Response: WDNR believes the rule provisions, as they apply to POTWs, are appropriate and can be implemented effectively. This part of the rule has been substantially modified from that proposed originally. Changes in outfall locations for existing POTWs, as well as outfalls for new facilities, can, in most instances, be sited in places that will allow the facility to meet effluent temperature limitations determined by the rule. Additionally, such proposed discharges may make a demonstration under NR 106, Subchapter VI for an AEL. Further, under the provisions of § 283.15, Wis. Stats., a permittee may request a variance from the

water quality based effluent temperature limitations determined under Subchapter V. There are no statutory restrictions on the eligibility of new dischargers for AELs.

90. *Comment:* The original intent was to exclude (publically owned treatment works) POTWs completely from the rules. We recommend a return to this position. POTWs should be exempt instead of having to apply for the exemption.

Response: While it is true that the original intent of this rule effort was to exempt POTWs from temperature limits, both Department and USEPA legal counsel advised that such an exemption is not allowed. The final rule order establishes a process for determining whether effluent temperature limitations for POTWs are necessary and under what conditions such limitations will be included in WPDES permits.

91. *Comment:* Imposing thermal limits on POTWs will result in net environmental loss.

Response: The decision to include procedures for determining if or when effluent limitations are necessary for POTWs is in response to legal counsel guidance that the potential for all discharges to achieve water quality standards must be considered.

92. *Comment:* End-of-pipe wastewater cooling technology for the reduction of heat is expensive for everyone, not just POTWs or privately owned domestic treatment works (PODSTWs). If regard to the cost of installation of cooling water technology is being given to POTWs, then the same deference must be given to all WPDES permittees.

Response: While the costs associated with wastewater cooling technology for the reduction of heat may be significant in particular instances for any entity, WDNR does not agree that all industries should be treated the same as the POTWs and PODSTWs. POTWs and PODSTWs do not add heat to the water that is treated and discharged. Further, the effluent temperatures from POTWs and PODSTWs are consistent and at a low enough level that they generally do not cause harm to the biological community and any heat in the effluent is quickly dissipated. Finally, industrial sources have greater ability to control heat additions to wastewater discharges through reuse, diversion or segregation of specific waste streams, and other in-plant actions.

93. *Comment:* A wide variety of comments were provided regarding effluent limitations for temperature for existing POTWs and PODSTWs, including:

- The variance provisions do not go far enough to avoid the impacts identified in the findings.
- The variance should apply to both new and existing facilities.
- "Existing POTWs" should expressly include all POTWs that have WPDES permits on the effective date of the rule, no matter, if after that date, outfalls are added or relocated, or if plant upgrades or relocations are undertaken.
- Variance provisions need to assure a variance will be received if appropriate actions are taken. Currently the rule does not guarantee this. Greater certainty is needed for proper facility planning.
- Consider instituting monitoring of a subset of facilities for a given period of time to demonstrate actual impact from POTWs, and then revise rules is a need is identified.
- Support continued enforcement to assure a discharge does not exceed 120 F.
- Numerous revisions to the language of NR 106.59 are needed.
- Provide data to support the findings. Absent further justification the broad justifications provided in the proposed rule fail to demonstrate that more stringent controls will result in a widespread economic and social impact. Further, what types of cooling approaches were considered, and what "significant adverse environmental impacts" will be caused?
- Revise NR 106.59(4) to ensure existing uses are protected through effluent limits. The proposed broad variance fails to comply with the CWA. Permits that implement a variance must include limits for the variance parameter that reflect the effluent quality achievable at the time the variance is granted in order to protect existing uses of the waters effected by the variance. The current draft would reissue permits without effluent temperature limitations. Without quantifying the current discharge level in permits it is impossible to determine whether a facility is making reasonable progress towards attaining the designated uses or complying with anti-degradation requirements.

- The only finding remotely related to the thermal water quality standards variance for POTWs is the "substantial and widespread economic and social impact".
- As per the U.S. EPA WQ Standards Handbook, DNR must ensure that reasonable progress is being made toward meeting the standards.
- As per USEPA's requirements for approving a water quality variance, amend proposed language to ensure that only one facility on a receiving water segment may operate pursuant to a water quality variance.
- Amend proposed language to prohibit a discharger operating pursuant to a water quality variance from operating pursuant to a variance for any other pollutant.
- As per State law, amend proposed language to limit the term of a variance to 3 years and to require the facility to demonstrate anew its need for the variance.
- As per State law, amend NR 106.59(6) to require effluent monitoring. Without this DNR cannot ensure that reasonable progress is being made toward attaining the water quality standard.
- Amend the variance to ensure existing uses as of Nov. 28, 1975 are protected.
- Do not expand the thermal water quality variance provision to new POTWs.

Response: WDNR has developed additional information in an Attachment to support and explain this provision of the rule. Furthermore, because permits are reissued every 5 years, there can be a review of POTW discharges to determine if the discharge is having a substantial adverse impact to warrant effluent temperature limitations. The section of the rule relating to POTWs has been substantially modified.

RATE-OF-CHANGE

94. *Comment:* Guidance is needed regarding the rate of temperature change.

Response: Guidance regarding the implementation of the rate of temperature change and cold shock standards will be provided once rules are promulgated. This will be included within an Implementation Guide.

REAL-TIME LIMITS

95. *Comment:* Modify NR 106.53(1)(d) to allow for the use of the real-time option.

Response: This paragraph of the proposed rule has been modified to allow use of real-time flow data to establish effluent temperature limitations for specific dischargers.

96. *Comment:* There is confusion regarding how actual ambient temperatures would be used in real-time permitting scenarios.

Response: Guidance on the use of real-time limits will be provided by WDNR following adoption of the rule. Compliance with effluent limitation based on real-time monitoring will most likely require inclusion of flow/temperature tables within a WPDES permit similar to the provisions of NR 212 as they address the discharge of BOD.

97. *Comment:* Real-time data used to calculate a WQBEL should be based on daily data rather than hourly data to be consistent with the process for calculating default WQBELs.

Response: A major benefit and point of using real-time permitting is to enable real-time adjustments in operation, as needed. Daily monitoring does not meet this objective. These were outcomes of advisory committee discussions. Additional guidance on determining compliance and associated reporting requirements will be available following adoption of the propose rules.

98. *Comment:* Change NR 106.53(1)(d) to include an exception for those using a real-time approach.

Response: The proposed rule has been modified to respond to this comment.

REPRESENTATIVE DATA

99. *Comment:* A variety of comments related to the issue of representative data not being available, including:

- NR 106.56(10(b) would delay making the reasonable potential determination until 2 years of data is collected, and to delay compliance with any necessary WQBELs another 3 years, effectively allowing noncompliance for 5 years. This fails to comply with state and federal law requiring WQBELs based on zero or one data point.
- NR 106.56(10) provides little incentive for permittees with WQBELs less than the cap limit to collect data and comply with true limits.
- Amend NR 106.56(10)(a) to require compliance with daily maximum effluent limits equal to the acute criteria associated with monthly default ambient temperatures.
- Amend NR 106.56(10)(b) to limit monitoring to a period of not greater than one year from the time of issuance/reissuance, and to require data collection at least twice per week.
- Amend NR 106.56(10)(c) to require compliance with necessary WQBELs no later than 3 years after permit issuance/reissuance.

Response: The rule has been revised to reduce the time period for collection of representative data to one year, or a season for dischargers that operate seasonally. The default "cap limits" have been removed and limits are determined using the procedures in NR 106.55. Compliance schedules to meet effluent temperature limitations, if determined necessary, will vary substantially. Permittees that are able to achieve limitations with minor actions may do so quickly; those that require major capital improvements will require a longer compliance schedule. A provision is added to allow a permit modification to establish a different compliance schedule.

STORM WATER

100. *Comment:* Clarify that proposed thermal standards are not intended to affect storm water discharges.

Response: WDNR does not propose to use the procedures identified in the proposed rule to address storm water discharges. Further, while federal law authorizes the regulation of heat as a pollutant for storm water discharges, there currently are no federal permits containing those provisions. For WDNR were to address heat in a storm water discharge, it would need to be done on a case-by-case basis considering all of the relevant facts associated with a specific discharge situation.

WETLANDS

101. *Comment:* Amend NR 102.24(3)(b) to ensure the 86°F criterion be met in all wetlands. Ensure a daily max effluent limit of not greater than 86°F is included in permits.

Response: Permit limitations for discharges to wetlands will be determined on a case-by-case basis (see NR 106.56(7)). WDNR believes this is an appropriate approach to protect wetlands since they are very site-specific.

TROUT STREAM PROTECTION

102. *Comment:* Changes to NR 102.4(4)(e)1. regarding artificial temperature changes in natural trout reproduction streams should not be made.

Response: The proposed criteria were developed to protect natural reproduction, including gametogenesis, spawning, and growth of trout species.

ZEBRA MUSSEL CONTROL

103. *Comment:* Include the zebra mussel control provisions of NR 106.55(6)(a) and (7)(a) in subchapter VI.

Response: Comment noted and the change has been made.

NAME AND ORGANIZATION OF COMMENTERS

Allens, Inc. - Laura Mushinski
Alliant Energy Company (Wisconsin Power & Light Company) - Kathleen Lipp
Anderson & Kent, S.C. - Abigail Potts
CH2M HILL - Mark Mittag
CH2M HILL - Nancy Schultz
Clean Water Action Council - Rebecca Katers
Dairyland Power Cooperative - Michael Peters
DeWitt Ross & Stevens S.C. - Timm Speerschneider
Dominion Resources Services, Inc. - Pamela Faggert
Domtar Paper Company, LLC - Nekoosa and Port Edwards - David Ulrich
Domtar Paper Company, LLC - Rothschild - Terry Charles
FPL Energy Point Beach LLC - Robert Garvin
Friends of Milwaukee's Rivers - Cheryl Nenn
Friends of Milwaukee's Rivers - Lynn Broaddus
Georgia-Pacific Corporation - Jacqueline Powell
Green Bay Metropolitan Sewerage District - John Kennedy
Lodi Canning Company, Inc. - Ken Baars
Lodi Canning Company, Inc. - Bob Goeres
Madison Gas and Electric Company - Michael Ricciardi
Madison Metropolitan Sewerage District - Jon Schellpfeffer
Manitowoc Public Utilities - Nilaksh Kothari
McCain Foods USA, Inc. - Patrick Smith
Midwest Environmental Advocates - Karen Schapiro
Midwest Food Processors Association, Inc. - Nickolas George, Jr.
New Page Corporation - Linda Somers
Packaging Corporation of America - John Piotrowski
River Alliance of Wisconsin - Denny Caneff
SCA Tissue North America, LLC - Michael Dillon
Sierra Club - John Muir Chapter - Eric Uram
Thilmany, LLC - Thomas Jayne
Trega Foods - Mike Sipple
Trout Unlimited, Wisconsin State Chapter - Bill Pielsticker
United States Environmental Protection Agency - Tinka Hyde
Wausau Paper Corporation - Patrick Medvecz
Wausau Paper Corporation - Brokaw - Dan Trettin
Wausau Paper Corporation – Mosinee & Rhinelander - Al Davis
Wisconsin Electric Power Company - WE Energies - Kristine Krause
Wisconsin Environment - Dan Kohler
Wisconsin Industrial Energy Group - Todd Stuart
Wisconsin Manufacturers & Commerce - Scott Manley
Wisconsin Paper Council - Edward Wilusz
Wisconsin Public Service Corporation - Howard Giesler
Wisconsin Section - Central States WEA - Bill Marten
Wisconsin Section - Central States WEA - Jane Carlson
Wisconsin Utilities Association - Bill Skewes
Xcel Energy (NSP-W) - Patrick Flowers