

Ballast Water Discharge General Permit Modification
WPDES WI-0063835-01-1
Summary of Public Comments and Department Responses

A. Standards more stringent than the International Maritime Organization (IMO) standard are necessary for better protection and to drive technology.

Wisconsin supports the concept that enacting into law stringent performance standards will drive the development of technology. Many companies around the world are actively working on treatment systems, and the uncertainty of a standard can have a negative effect on innovation and investment. While it would be beneficial to enforce a high treatment standard to allow development of commercially available treatment systems, existing science and technology are dictating that the Wisconsin treatment standard be lowered. Wisconsin agrees that treatment performance standards more stringent than the IMO standard may be necessary. However, the Wisconsin Ballast Water Treatment Feasibility Determination report (Feasibility Determination), released December 21, 2010 by the Wisconsin Department of Natural Resources (Department) determined that a standard 100 times more restrictive than the IMO standard is not currently achievable, despite the fact that the more stringent standard was proposed by the US representatives at the IMO convention in 2004, and also by the House of Representatives in the US Coast Guard (USCG) Authorization Bill H.R. 2830 in 2008.

The Department recognizes the IMO standard needs to serve as an interim minimum level until treatment systems capable of a higher standard are commercially available. As per the treatment feasibility determination requirement in Subsection 4.1.1 of the permit, the less stringent IMO standard will become the required standard with the permit modification because the Department has determined that the treatment technology required for more stringent standards is not yet commercially available.

B. The IMO standard should be immediately implemented.

Early and immediate implementation of the IMO standard is desired. With the issuance of the permit modification, the IMO standard will be the required standard, to be effective for new vessels beginning in 2012 and in 2014 for existing vessels. Upfront time must be allotted for installation of treatment systems.

C. It is not technically feasible or economically beneficial to provide treatment 100 times the IMO standard; thus, the Wisconsin standard cannot be met.

A wide range of opinions and current research exists on whether there are ballast water treatment systems available, and what level of treatment can reliably be achieved. Ballast water technology and the feasibility of onboard treatment are rapidly evolving fields. There has been some evidence that technology exists for compliance with performance standards more stringent than the IMO standard. For this reason, the Department asked the Great Lakes Ballast Water Collaborative (Collaborative) to examine the commercial availability of treatment systems, and confirmed the Collaborative's findings in its Feasibility Determination. The Collaborative is a diverse group of experts made up of scientists, researchers, non-governmental organizations, vendors, naval architects, shipping industry representatives and federal, state and province regulators. As a result of the Feasibility Determination, which concludes that it is not yet technically feasible to provide treatment to 100 times the IMO standard, the Department will modify the permit to reflect this finding. Therefore, the IMO standard will be required in the modified permit.

The initial treatment standard Wisconsin chose as the starting point (Wisconsin standard) was 100 times the IMO performance standard, which is also what the US delegation to the 2004 IMO convention supported, as well as the standard in the USCG Authorization Bill H.R. 2830, and is option 4 in the August 28, 2009 USCG proposed rule. The permit modification is reducing the standard from 100 times the IMO standard (Wisconsin standard) to the IMO standard.

The US Environmental Protection Agency (EPA) Vessel General Permit (VGP) relies on ballast water Best Management Practices (BMPs) to minimize pollutant discharges. The VGP fact sheet (December 18, 2009) stated that reliable treatment systems approved for use on vessels are not currently available. EPA would not require treatment unless there are treatment systems approved by the USCG.

California and New York have ballast water treatment standards of 1000 times IMO. However, California has recently re-evaluated their assessment that existing treatment systems can meet the stringent standards and is now more in concurrence with the research and findings reported by the Collaborative.

While treatment beyond the IMO standard appears promising, some treatment feasibility questions remain because of unknowns about cost effectiveness, commercial availability, practicability, compliance demonstration and effectiveness in freshwater ecosystems. Any treatment system would also need to receive approval from the USCG to be installed on vessels; thus standards inconsistent with the USCG may conflict with the approval process. Insurance companies will not insure US vessels without USCG type approval. Thus, type approval is necessary before a treatment system can be installed on board.

The USCG Draft Programmatic Environmental Impact Statement (April 2008) evaluated the cost-benefit analysis of achieving various ballast water discharge standards. The benefits of treating ballast water, including prevention of economic and environmental problems from new aquatic invasive species (AIS), exceed the costs for treatment to the IMO standard. It is unknown what the costs of treatment to standards more stringent than the IMO standard are because these technologies are still evolving.

D. Treatment on Great Lakes vessels (also called “Lakers”) is not technically or economically possible.

The Department is aware of the issues with retrofitting the large and older Great Lakes vessels with ballast water treatment systems, and they are substantially different from the oceangoing vessels (also called “Salties”). Many of the Great Lakes vessels have a ballast water capacity three times that of the largest oceangoing vessels (15 million vs. 5 million gallons). In addition, the ballast tanks are in various configurations, often with several tanks that may not be interconnected, which require multiple treatment connections.

Because of these differences, the requirements applicable to Great Lakes vessels in Subsection 4.1.3 of the permit state that Great Lakes vessels are not subject to the treatment discharge standards. The Department is exempting them from the numeric standards for treatment of ballast water for the first term of this permit; however, the exemption will be reconsidered in the next permit reissuance to take into account advancement in treatment technologies that could change this decision. Progress is being made in this area of research and development.

E. Existing ballast water management practices and inspections have had success and should be continued.

The ballast water exchange (BWE) and saltwater flushing management practices were implemented with some success, but always with the understanding this was only an interim measure. The range of these ballast water management practices in their effectiveness in preventing the introduction of non-indigenous species varies. One study suggests that it is 80% to 99% effective, while other studies indicate an effectiveness rate as low as 50%. Some saltwater-tolerant species may survive BWE or saltwater flushing. Treatment of ballast water is necessary to better assure that viable non-indigenous species are not discharged.

The Department is adding the requirement for all oceangoing vessels to continue the practice of mid-ocean BWE or saltwater flushing, in addition to onboard ballast water treatment, in an effort to effectively prevent the introduction of non-indigenous species, especially from freshwater ports.

F. BWE is not any more effective as part of a dual treatment process.

Recently published research conducted primarily by Dr. Sarah Bailey, of the Great Lakes Institute for Environmental Research at the University of Windsor, suggests that utilizing BWE combined with ballast water treatment systems produces effective control and better protection against the introduction of harmful aquatic organisms and pathogens than treatment alone provides. The Department's decision is to require BWE, thereby increasing effective prevention as part of a dual treatment process.

G. The 2012 and 2014 compliance dates are unrealistic.

The 2012 compliance date for new vessels is aggressive, and based on comments, compliance with this date may be difficult to achieve. The argument is that it may prevent oceangoing vessels from using Wisconsin ports, creating a competitive disadvantage. The 2014 date, it is argued, is also an aggressive date that may be difficult to achieve. The Department will closely monitor research progress and advances in technology as the compliance timelines approach. As requested, the Department will maintain an open dialogue with the shipping and scientific communities and will determine whether adjusting the timeline becomes necessary.

The Department believes it is important to push the implementation date for the ballast water standards before the 2016 date in the IMO schedule. Wisconsin chose the year 2014 as the implementation date for existing oceangoing vessels. A major oceangoing shipping company indicated the 2014 date could be achievable. Technology continues to progress. The Department will be evaluating the achievability of this date as it approaches.

H. The compliance date of 2014 should remain.

At this time, the Department is planning to keep the 2014 implementation date for the requirement of existing vessels to install ballast water treatment systems on board. This will require some upfront costs, but it is important that the treatment systems get on board as soon as possible in order to prevent the introduction of non-indigenous species to the Great Lakes.

I. The science-based approach used by the Department in its Feasibility Determination study is appropriate.

Through its Feasibility Determination findings, the Department has established science-based environmental standards compatible with international regulations and requirements. The Collaborative was instrumental in making this determination.

J. Vessels only in transit should not be required to obtain permit coverage.

There were several comments received about the change to the requirement in Section 5.1 of the general permit stating that vessels must have permit coverage before *entering* Wisconsin waters (versus the existing language requiring permit coverage before *discharging into* Wisconsin waters). It is true that this change has no direct connection or relationship to the Feasibility Determination. It is simply a correction being made to convey the intent of this portion of the permit. In Subsection 1.3 of the general permit, the language clearly states “vessels that *enter* Wisconsin waters” (emphasis added). While the Department recognizes the complaint and sentiment that ships passing through Wisconsin waters have little potential for a discharge and, therefore, that there is no reason to require a vessel to obtain the permit, the Department believes that there still is significant risk. In order to uphold the charge to protect the waters of Wisconsin, this change will be made to correct the oversight that occurred in the original version of the general permit.

K. The Department must adopt water quality based effluent limitations on ballast water discharges.

It is the belief and interpretation of some concerned stakeholders that without numerous water quality based effluent limitations (WQBELs) to protect Wisconsin's designated and existing uses against the introduction, establishment and spread of non-indigenous species that are discharged with ballast water, applicable water quality standards will not be met or have a reasonable potential of not being met. However, a lack of water quality standards for non-indigenous and aquatic invasive species (AIS) does not prevent the Department from issuing coverage under a permit with a discharge standard that is technology based. The Department generally expects that compliance with other conditions in this permit, including the authorized discharges and sections 4.1.2, 4.1.3, 4.2.1, and 4.2.2 will control discharges as necessary to meet applicable water quality standards.

The Department initially indicated the permit limitations were WQBELs. After reconsideration, the Department agreed that these limits should be characterized as technology-based effluent limits instead of WQBELs. The Department has made the appropriate findings that the limits in the permit represent the best practicable control technology currently available for the treatment of ballast water given the current rate of development of new technology. The Department relied on the Collaborative to help it review available technology and contribute to its Feasibility Determination. Additionally, the permit does not authorize discharges that would violate or contribute to a violation of a water quality standard.

L. It is critical to maintain native species biodiversity in the Great Lakes and protect the ecohealth of the region.

The Department agrees that it is critical to preserve the health of the ecosystem and maintain the delicate balance within the environment. Furthermore, the Department recognizes that the lakes provide fresh water, food and economic sustenance for people and wildlife. Understandably, people who care deeply about the region; about water quality; and about the health of fish, wildlife and humans are concerned about the negative impact of zebra mussels and other AIS on the Great Lakes. From the Department's perspective, it is important to do this through the application of sound environmental science, which came to the conclusion that at this time, the technology is not available to meet more stringent standards.

M. Preventing further damage to the Great Lakes is a high priority.

Much general concern about erosion of the natural environment, particularly the state's waters, was expressed. The Department acknowledges these concerns and is working to protect the health of the Great Lakes. The Department recognizes the desire to stop AIS from establishing in the Great Lakes. While this is a huge task, and ballast water is not the only vector for introducing

non-indigenous species to the Great Lakes region, research is indicating that the dual-step process of mid-ocean BWE or saltwater flushing, combined with ballast water treatment is highly effective in reducing introductions of non-indigenous species to the Great Lakes region. Additionally, several suggestions were made for voluntary BMPs as a way of preventing further damage. Partly through the work and expertise of the Collaborative, several shipping companies are making great strides at voluntarily adopting BMPs that can reduce the threat of AIS to the Great Lakes at a minimal cost to the industry. These efforts are a step toward protecting the Great Lakes. The Department will continue to work with its permittees to achieve better compliance through innovative and effective BMPs.

N. Uniform requirements for ballast water discharges at the federal/bi-national level are necessary.

Action at the federal and bi-national levels to regulate ballast water is a very common theme among the comments received, and is one with which the Department strongly agrees. Issuance of the EPA VGP was an important step in this direction. However, that permit does not contain numeric ballast water treatment performance standards that Wisconsin and other Great Lakes states believe are necessary. The Department is encouraged by the settlement entered into by EPA and various environmental groups on March 4, 2011 which will result in standards being set at the national level.

On August 28, 2009, proposed ballast water discharge standards were published in the Federal Register that would establish national standards administered by the USCG. The rule would establish a two-phase approach. Phase one consists of the IMO D-2 performance standard and schedule, and phase two establishes a more stringent standard, depending on a practicability review on the availability of treatment technology and testing protocols.

Furthermore, environmental regulatory agencies in Canada have been developing their own set of rules and regulations for managing ballast water discharge. The Department urges the continuance of international discussions between Canada and the US in an effort to establish a bi-national standard for ballast water discharge which would most appropriately fit the needs of the Great Lakes region as well as the shipping community that operates within the region.

Wisconsin agrees with the need for a national/bi-national standard that would provide uniform regulation of ballast water. The proposed USCG rules are promising. An expected publication date is currently set for April, 2011. However, it will still take several years to fully implement the USCG rules. In the absence of such an established national or bi-national standard, the Department continues to implement the requirements of its own permit with a modified ballast water discharge standard equal to that of the IMO standard.

O. The current patchwork of regulatory requirements is ineffective and not conducive to continued good economics for the Great Lakes region; ultimately, states should not be regulating shipping activities.

The Department agrees that it is best to avoid different requirements between states. This situation was created because of the absence of a national or bi-national ballast water discharge standard that would be in the best interests of the Great Lakes eco-community. In addition, states may have slightly different water quality concerns and regulations based on their site-specific conditions. This becomes evident in the state water quality certifications under §401 of the Clean Water Act (CWA), where states have the authority to add their state requirements where the EPA VGP is not protective enough.

P. After a federal and/or international standard is achieved, state permitting will no longer be needed.

There is wide support for addressing the regulation of ballast water through (US) federal regulations that ideally are based on internationally adopted standards. The Department is aware of this concern. As the CWA is currently drafted, there is no preemption issue with respect to Wisconsin regulating ballast water under its independent state authority. There is the potential that federal legislation will be passed that will cover the discharges of ballast water and would preempt the state from regulating this activity. Wisconsin prefers a federal approach but is not waiting for a federal solution to this issue. When federal legislation is passed, the Department will reevaluate its ballast water discharge general permit program, as indicated in the note under Subsection 1.2 of the permit.

Q. Focus on BMPs to protect the Great Lakes from AIS in ballast water.

There were many comments about using voluntary BMPs as a means of protecting the Great Lakes from AIS in ballast water. The Department is in agreement with this effort, and, as discussed in Item M above, promotes the use of BMPs, both voluntary and required, in order to achieve better protection.

R. Great Lakes vessels are not responsible for AIS and should be exempt.

For the first permit term, Great Lakes vessels are exempt from the numeric ballast water treatment standards that apply to oceangoing vessels. The Department is aware that vessels that only transit the Great Lakes are not responsible for the introduction of AIS. However, Great Lakes vessels may have the potential to spread AIS within the Great Lakes. With the next reissuance of the permit, the Department will re-evaluate the need for ballast water treatment standards for Great Lakes vessels. Implementation of ballast water BMPs as described in Subsection 4.13 will help reduce the risk of spreading AIS. Efforts by Great Lakes vessels to relocate their ballast water intakes to avoid disturbing sediment that then enters their ballast tanks is an excellent effort to minimize spreading AIS associated with sediment.

S. Great Lakes vessels spread AIS and need ballast water treatment (and regulation) like oceangoing vessels.

Some stakeholders feel strongly that Great Lakes vessels need to be held to the same discharge standard as oceangoing vessels. The US and Canadian fleet of vessels that remain in the Great Lakes, while not directly introducing AIS to the Great Lakes system, have the potential to move large volumes of ballast water between ports within the Great Lakes. It is the Department's understanding that larger volumes of water are found in Great Lakes vessels. The Great Lakes vessels' ballast tank configurations differ significantly from oceangoing vessels, which makes ballast water treatment different and more difficult. The Department supports an exemption from treatment for existing Great Lakes vessels but may reconsider this exemption in a future permit. Any newly constructed Great Lakes vessels are not exempt because a treatment system can be installed in a newly constructed vessel during its design, making treatment feasible.

It is justifiable to exclude existing Great Lakes vessels from having to treat ballast water because they are still subject to the additional requirements for implementing ballast water BMPs in the EPA VGP and must follow the requirements for ballast water and sediment management plans in Subsection 4.3 of the permit. In addition, Subsection 3.2 of the permit prohibits the discharge of sediment from cleaning out ballast tanks. Eliminating the sediment discharge from Great Lakes vessels should reduce a potential source of non-indigenous species.

The US fleet of Great Lakes vessels, consisting of about 60 older vessels (several are 50 years old or more), could be decommissioned in the near future because of age. The Canadian Great Lakes

vessels have already committed to replacing their older vessels. Over time, treatment systems will be installed on Great Lakes vessels.

T. There is a need to expand or clarify the definition of “Great Lakes Vessels” in the permit.

There is a request to include in the definition or understanding of *Great Lakes Vessels* that they are vessels operating primarily in the Great Lakes and Saint Lawrence Seaway System that do not voyage beyond the US or Canadian Exclusive Economic Zone (EEZ). The Department will conduct further research but is not planning to make this extension to the definition of *Great Lakes Vessels* at this time.

U. AIS have caused environmental harm and huge economic damage.

The damages caused by AIS are well documented, with severe economic and/or ecological influences in the Great Lakes. According to the US Geological Survey, the most problematic AIS include: alewife, common carp, Eurasian ruffe, Eurasian water milfoil, purple loosestrife, zebra mussel, quagga mussel, rainbow smelt, round goby, rusty crayfish, sea lamprey, spiny waterflea, and fishhook waterflea. AIS introductions have caused the extinction of native species and the alteration of the food web. Zebra and quagga mussels have caused large economic problems because they foul water intakes of large industrial facilities and power plants.

The National Academy of Sciences (NAS) 2008 report on “Great Lakes Shipping, Trade, and Aquatic Invasive Species”, and the April 2008 USCG Environmental Impact Statement prepared for the proposed USCG ballast water discharge standard, contain detailed economic information. The financial benefits from oceangoing shipping, while significant, are small compared to the great cost of damage caused by AIS introduction to the Great Lakes environment and the economy it supports, including the fishing industry, recreation, water supplies, and property value.

Wisconsin is moving forward with implementation of a permit with strong ballast water discharge standards and an accelerated implementation schedule two years ahead of the IMO standard. The Department agrees that new AIS introductions and the spread of existing AIS must be prevented. In its November 2008 publication, “Predicting Future Introductions of Nonindigenous Species to the Great Lakes,” EPA identified 58 species as having a moderate to high potential of spreading, potentially causing severe ecological impacts to the Great Lakes region. The report emphasized that early detection is critical in managing the spread of non-indigenous species. The Department is in concurrence and urges efforts be focused on these potential new AIS threats.

V. Wisconsin should continue its regulation of ballast water if the USCG regulations are not appropriately stringent.

When the USCG rules are promulgated, the Department will review both the federal requirements and Wisconsin’s ballast water discharge general permit requirements to determine the appropriate course of action for the future. The Department is charged with protecting the waters of Wisconsin and must have a guarantee that the federal rules will be adequate for Wisconsin’s level of protection.

W. It is important to reduce or eliminate ballast water discharge.

Due to the logistics of the shipping industry, to eliminate ballast water discharge entirely is not practical, even within a restricted area, such as the Great Lakes. However, restrictions are placed on the levels of pollutants (or non-indigenous species) that may be discharged in Wisconsin waters as well as throughout the Great Lakes. This is a greater level of protection that has not always existed in the Great Lakes.

X. Ballast water of oceangoing vessels is the primary source of AIS and needs regulation.

The point of emphasis in the Wisconsin permit is oceangoing vessels because their ballast water is the primary vector for the introduction of non-indigenous species since the opening of the St. Lawrence Seaway to oceangoing vessels in 1959. According to the NAS 2008 report on “Great Lakes Shipping, Trade, and Aquatic Invasive Species”, ships’ ballast water may account for as much as 65% or 70% of the documented inventory of AIS in the Great Lakes. Europe is the source of 94% of the non-indigenous species.

The regulation of oceangoing ballast water with strong discharge standards for the number of surviving viable organisms, combined with the requirement of BWE or saltwater flushing, is expected to have a significant effect on preventing the introduction of new non-indigenous species. However, it will not prevent all further introductions of all non-indigenous species or diseases because there are several other vectors as well.

Y. Close the Saint Lawrence Seaway and Great Lakes to oceangoing vessels.

Closure of the Saint Lawrence Seaway to oceangoing vessels has been suggested as a remedy to AIS introduction. As mentioned in Item M, there are other vectors for the introduction of AIS, so even closing the St. Lawrence Seaway is not a future guarantee that all AIS introductions will be eliminated.

The NAS evaluated closure in its “Great Lakes Shipping, Trade, and Aquatic Invasive Species” 2008 report, and stated that because of economic, environmental, political, and legal unknowns, closure is a high-risk strategy and impractical. Closure would require legislation by both the US and Canada, and legal and political issues could take many years to resolve, if at all. The seaway provides important access to transoceanic shipping and global trade. Shifting seaway cargo to other modes of transportation could have other adverse environmental impacts, and it could significantly increase costs to move cargo into the region. As it stands, shipping arguably remains the most cost-effective and environmentally friendly mode of transportation of cargo available.

Z. Compliance with Wisconsin’s antidegradation policy must be achieved.

An antidegradation review for the issuance of this general permit modification has not been performed because it is not applicable in situations for existing dischargers that have not previously been permitted. The Department is in agreement with the EPA fact sheet for the VGP that states vessels covered should not be considered a new or increased point source discharge, which is what typically triggers an antidegradation review.