



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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July 28, 2010

Ms. Vanessa T. Vu, Director  
USEPA Science Advisory Board(1400R)  
Ecological Processes and Effects Committee  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

Subject: Review of Ballast Water Treatment Technologies

Dear Ms. Vu:

The Wisconsin Department of Natural Resources appreciates the opportunity to address the Science Advisory Board as you begin this important task of reviewing the availability and efficacy of ballast water treatment technology. Wisconsin has always voiced its desire to have a strong national discharge standard for ballast water to prevent the introduction of new invasive species into the Great Lakes. The USEPA issued their Vessel General Permit in December 2008 without any discharge standards, however, they required states to certify through the Section 401 process that this permit met all state water quality standards. Absent a national discharge standard, the individual states had to develop their own standards. Within the given time constraints for providing 401 certification, many states chose different standards. Having different standards in the Great Lakes is a particular problem as the vessel owners need to understand multiple state requirements in order to be in compliance while transporting cargo across the Great Lake system.

Wisconsin issued a state ballast water discharge permit, effective February 1, 2010. Our permit has a discharge standard of 100 x IMO for new ocean going vessels effective January 1, 2012 and for existing ocean going vessels effective January 1, 2014. Our permit also requires a feasibility determination by the end of this calendar year as to whether treatment technologies are commercially available to meet this discharge standard and be installed on a vessel by the effective date.

We have been working with the Great Lakes Ballast Water Collaborative to try to bring together the key experts in this area to try to answer the feasibility determination questions for the Wisconsin permit. The Great Lakes Ballast Water Collaborative is an informal working group that resulted from the Great Lakes Regulatory Forum on Ballast Water Action (Forum) held September 24, 2009, in Detroit, Michigan. The Forum brought together for the first time a number of senior executive officers of the U.S. and Canadian-flag commercial Great Lakes fleets, and representatives of U.S. State and Canadian provincial regulatory agencies, as well as U.S. and Canadian federal regulators and leading U.S. and Canadian ballast water researchers, to initiate a direct dialogue on potential voluntary, immediate ballast treatment and/or management measures the Great Lakes shipping industry could take to minimize the spread of AIS. The Forum was hosted by the U.S. St. Lawrence Seaway Development Corp. and the International Joint Commission, and facilitated by Minnesota Sea Grant and the Great Lakes Commission. This group has met three more times in 2010: Toronto in January, Montreal in May, and Duluth in July. I have attached

the participants and the scope of work they are assisting Wisconsin for our vessel discharge general permit.

In August 2009, the US Coast Guard proposed draft ballast water discharge standards with different standards to be implemented in phases. They received hundreds of comments to this proposed standard. To date, this rule has not been finalized, nor has the USCG given any indication when it will be finalized. We are assuming this rule will not be adopted in the next fiscal year. After the USCG standard is adopted, the verification process through the USCG will take at least four years, if the vendors have all their paperwork ready to submit the day the rule is adopted, so we realize that in the US, there will not be a ballast water treatment system approved by the USCG until at least 2016 or later. This is not acceptable for the public to continue to wait this long, for the adoption of a treatment approval process, then to have systems take four years or more to go through this process before the first approval is official. The public has voiced their desire for a strong discharge standard in the public comment period for the Wisconsin General Permit and for the USCG proposed standards. With a conflict in what the ultimate discharge standard will be, the vendors for the treatment technologies are at a significant handicap developing systems without knowing the ultimate discharge standard that will be required. . However, it's our understanding from our ballast water collaborative meetings, treatment system developers are designing systems to kill or remove all the organisms. The inability of verifying treatment performance with biological monitoring is still a significant problem. It also appears that existing information supports that current ballast water treatment technology is capable of significantly exceeding the IMO D2 ballast water discharge standard.

The charge for the SAB is to look at the treatment technologies and review their availability and efficacy of these systems for the USEPA's second round of Vessel General Permit. We strongly encourage the SAB to obtain more land based and shipboard test data from treatment developers and testing facilities, especially in freshwater environments. The need for this data is critical to the Great Lakes system and must be available to make policy decisions on the risk of organisms introduced from vessel discharges. The IMO standard was based on marine waters and is not directly applicable to the freshwaters in the Great Lakes. Again, we support a strong national discharge standard to protect the Great Lakes.

Other states, including: New York, California, Minnesota, and Ohio, have been working with Wisconsin to help make the appropriate discharge standard and the availability of treatment technologies that can be installed on vessels in the US. Wisconsin needs to make our feasibility determination by the end of this calendar year. Any draft reports that the SAB can produce by then would be extremely valuable to our state's decision making process. We urge you to move forward quickly with your charge. Thank you, again, for the opportunity to comment.

Sincerely yours,

Susan Sylvester, Chief  
Permits Section  
Ballast Water Policy Coordinator

## SCOPE OF WORK

May 18, 2010

### Wisconsin Ballast Water Treatment Technology Assessment Report

#### History

On November 18, 2009, WDNR issued a General Permit for vessels discharging ballast water into Lake Michigan, Lake Superior or other waters where a vessel may transit located within the boundaries of Wisconsin. The permit effective date is February 1, 2010.

This general permit requires new built oceangoing vessels to meet the Wisconsin Discharge Standard (IMO x 100) by January 1, 2012. Existing oceangoing vessels must meet this standard by January 1, 2014. As indicated in the Wisconsin General Permit and permit fact sheet, Wisconsin DNR will conduct a treatment feasibility review by the end of 2010.

#### Ballast Water Treatment Technology Assessment Report

The focus of this report is limited to ocean going vessels (salties): new builds only in 2012 and retrofitting existing ocean going vessels in 2014.

Treatment system manufacturers, researchers, and vessels owners covered under the permit are encouraged to submit information to the Department to assist in this treatment feasibility determination.

The treatment feasibility determination must be completed by December 31, 2010. A report to be developed as an internal document will be used to determine whether existing technologies are available to meet the discharge standards. If it is determined that treatment technologies are not commercially available, then the permit will be modified. Several options exist:

- 1) Require IMO standards to be met by the permit timeframe instead of the Wisconsin standard.
- 2) Change the compliance schedule and/or the implementation date.

*Note: If it is deemed that technology exists, but is not commercially available, IMO x 100 standards may remain in the permit and the implementation date may be extended. For Wisconsin's purposes, the assessment of availability will focus on whether systems are available for purchase on the commercial market.*

Wisconsin's General Permit specifically invites interested parties to provide information that will assist in the treatment feasibility determinations (Permit Part 4.1.1.) The Great Lakes Ballast Water Collaborative<sup>1</sup> (Collaborative) has expressed interest in helping Wisconsin achieve this goal in determining the assessments needed for the General Permit. While other states have different discharge standards or time frames for implementation of their standards, Wisconsin is the only state currently conducting a technical feasibility analysis to achieve the IMO x 100 standard. We anticipate that Wisconsin's evaluation will be useful for all other Great Lake States as they move towards implementation of their ballast treatment water standards.

#### Scope of Work

The Department intends to rely on others to approve ballast water treatment systems, such as the US Coast Guard, US EPA, and other applicable organizations. Within the Permit, the burden of responsibility is ultimately on the vessel owners to ensure that vessel discharges comply with the Wisconsin Discharge performance standards for ballast water and applicable water quality laws, permits, and regulations. Therefore, the Wisconsin treatment technology assessment report is structured to assess the availability of ballast water treatment systems to meet Wisconsin's standards. The final assessment report will provide no guarantee that a system will meet Wisconsin's standards, as all vessels operate on different routes under different biological, chemical, and physical conditions that may influence ballast water treatment system operation. Our approvals are not a guarantee of performance; they approve compliance with state codes.

The General Permit lists the criteria the Department will consider in the assessment but does not provide a detailed scope of work or define any terms. Therefore, the Department is charged with interpreting the permit and defining terms and the scope of work prior to preparing the assessment report. The assessment report will be limited to an evaluation of each criterion listed in the General Permit (Part 4.1.1.) based on existing data and information:

- a) Treatment technologies are able to meet the Wisconsin standard in Table A of the General Permit;
- b) The technologies are commercially available;
- c) It is feasible to install the technologies onboard both new and existing vessels, and;
- d) That sufficient time exists to comply with the discharge standard's effective dates.

For each criterion the assessment report will include:

- 1) Overview and description of the criterion;
- 2) Definition of key terms;
- 3) Identification of existing data or information sources;
- 4) Assessment of data/information; and
- 5) Recommendation for Department determination.

The primary review consists of treatment system efficacy and availability. Efficacy, in this context, is defined as the ability of a system to treat ballast water to a level compliant with Wisconsin's performance standards.

The assessment of availability should focus on whether systems are available for purchase on the commercial market. Since Wisconsin does not perform a technical review of treatment systems, but does require systems to have third party approvals from appropriate federal or international organizations or governments, "availability" hinges on approved systems that are available for purchase and installation on a vessel for use in the Great Lakes.

It is anticipated that the Collaborative and other interested parties will provide unique expertise and perspective to assist in the development of the final assessment report. The Department will use the final assessment report to make the decision in the Treatment Feasibility Review. The General Permit Fact Sheet has an outline for the Treatment Feasibility Review (included at the end of this document).

The Department invites the Collaborative to participate in evaluating the technical and scientific information available to help Wisconsin compile its assessment report. The Collaborative can help the Department bring to the table "key" experts to weigh in on the discussion and on the recommendations.

### **System Assessment**

The report shall gather information on ballast water treatment systems. The Collaborative is invited to help to collect information in three key areas: Identification of "available" ballast water treatment systems rated to meet or exceed 100 x IMO; Evaluation of factors affecting the installation of specific ballast water treatment systems on applicable fleets and vessels within the designated time frames; and Review and assessment of current verification capability for treatment systems to comply with a discharge standard of 100 x IMO.

### **Benefits of Approach to Technology Assessment**

We believe that given the available resources and information on treatment system development and operation, support from the Collaborative provides the most productive and cost-effective approach to collecting critical data for our technology assessment. A wide range of information is available in third party testing reports, the scientific literature, government white papers, and even in commercial brochures and advertising materials. Follow-up discussions with Collaborative and technical experts will be incredibly valuable in assessing information pertinent to decisions on implementation of Wisconsin's performance standards. The variety of approaches for verifying system performance may result in having systems that work in salt water environments but not in the freshwater environments, of the Great Lakes. We will need to move forward using the current best available information and data.

### **Next steps**

Wisconsin has committed to finalizing a Treatment Feasibility Determination decision by December 31, 2010, in anticipation of the January 1, 2012 implementation of the performance standards for new built vessels. Wisconsin will participate in the May 18<sup>th</sup> Great Lakes Ballast Water Collaborative meeting in Montreal to bring the process of collecting data and information for its assessment report concerning the efficacy and availability or unavailability of treatment systems that will meet the Wisconsin standard (IMO x 100) by the timelines indicated in the General Permit.

<sup>1</sup>The Great Lakes Ballast Water Collaborative is an informal working group that resulted from the Great Lakes Regulatory Forum on Ballast Water Action (Forum) held September 24, 2009, in Detroit, Michigan. The Forum brought together for the first time a number of senior executive officers of the U.S. and Canadian-flag commercial Great Lakes fleets, and representatives of U.S. State and Canadian provincial regulatory agencies, as well as U.S. and Canadian federal regulators and leading U.S. and Canadian ballast water researchers, to initiate a direct dialogue on potential voluntary, immediate ballast treatment and/or management measures the Great Lakes shipping industry could take to minimize the spread of AIS. The Forum was hosted by the U.S. St. Lawrence Seaway Development Corp. and the International Joint Commission, and facilitated by Minnesota Sea Grant and the Great Lakes Commission.

(From Wisconsin's General Permit Fact Sheet Attachment)  
Treatment Feasibility Review  
Scope of Work

Subsection 4.1.1 of the WPDES general permit requires the Department to make a determination on whether ballast water treatment technologies are available that meet the four criteria in the permit to comply the Wisconsin ballast water discharge standard. To assist the Department in making this important determination, a "Technical Advisory Committee" or TAC may be formed to provide a forum for reviewing technical information on ballast water treatment. The TAC would consist of stake holders as well other interested parties who have technical expertise to offer.

The Department intends to invite those willing to provide technical advice from a cross section of groups to help the Department reach an unbiased decision. The TAC may include some or all of the following:

- Transoceanic shipping interests
- Environmental groups
- Port authorities
- US Environmental Protection Agency
- Great Lakes organizations
- Great Lakes shipping interests
- University academics
- Great Ships Initiative researchers
- US Coast Guard

Once these groups express their availability and interest to participate on a broad based TAC, the Department will conduct TAC conference calls or meetings. The Department intends to hold one or two sessions, but will hold more if necessary to make its determination. Each invited group will be asked to give a presentation and provide any relevant documentation they have in support of their technical knowledge on whether the four criteria below are met.

1. Treated effluent will comply with the Wisconsin Standard in Table A.
2. A compliant treatment system is commercially available.
3. Onboard installation is feasible for existing vessels and new vessels.
4. Sufficient time exists to comply with the discharge standard effective dates.

After the TAC completes its task, the Department will take under advisement all the information received from the TAC. Additional sources of information besides the TAC may also be taken into consideration by the Department. A decision on the treatment feasibility determination will be made by the Department no later than December 31, 2010.