



## Minnesota Pollution Control Agency

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**DRAFT:** May 7, 2012

Ms. Tinka G. Hyde, Director  
Water Division  
U.S. Environmental Protection Agency -Region 5  
77 West Jackson Boulevard (W-15J)  
Chicago, Illinois 60604-3507

Dear Ms. Hyde:

As requested in your letter dated November 16, 2011, the Minnesota Pollution Control Agency (MPCA) has examined the U.S. Environmental Protection Agency's (EPA) proposed 2013 National Pollutant Discharge Elimination System (NPDES) general permit for Commercial and Large Recreational Vessels (VGP2) and Small Vessel General Permit (sVGP) to determine whether it can certify the permits under Section 401 of the Clean Water Act (CWA). The MPCA bases its certification upon an evaluation of the information provided in the proposed permit, technical fact sheet, other materials contained in Docket ID Nos. EPA-HQ-OW-2011-0141 and EPA-HQ-OW-2011-0150, and consultation with other Great Lakes States. This letter is submitted by the MPCA under authority of Section 401 of the CWA (33 USC 1251 et seq.), Minn. Stat. chs. 115 and 116, and Minn. R. 7001.1400 through 7001.1470.

The State of Minnesota takes its responsibility to protect Lake Superior very seriously. We support the spirit and practice of eliminating pollutant discharges to Lake Superior, including pollutant discharges from vessels. The United Nations, the International Joint Commission (IJC), the Great Lakes states, the U.S. government, Canadian provinces and federal governments agree that Lake Superior's fragility and protection are a global priority. The IJC called on the governments to designate "Lake Superior" as a demonstration zone for the zero discharge concept in 1990. Since answering that call, the states and federal governments have invested millions of dollars and thousands of staff hours to develop policies and practices to protect this Lake.

Minnesota was one of the original signatories to the 1991 Lake Superior Binational Program. It was also one of the first states to adopt the Great Lakes Compact, the Great Lakes Initiative and to regulate ballast water discharges. The state has supported its U.S. and Canadian partners in their effort to restore degraded areas and to designate and permanently protect islands, bays, and open water areas of Lake Superior. Our Canadian partners recently designated 3,861 square miles of Lake Superior as Marine Conservation Area. Isle Royale, a national park off Minnesota's coast, has also been designated a United Nation's Biosphere Reserve, adding further credence to the notion that Lake Superior is unique and internationally significant.

The MPCA and the Minnesota Department of Natural Resources (MDNR) have worked closely in assessing the proposed federal permit. We agree that invasive species are a serious problem for Minnesota and this permit presents an opportunity to address this threat to our waters. While the primary focus of the federal permit is vessels that travel in salt water, the vast majority of ballast water discharged in Minnesota comes from vessels that travel in fresh water. To adequately protect Minnesota waters from ballast water discharged from both fresh and saltwater vessels, MPCA has included additional regulatory requirements to supplement the proposed federal permit. These requirements will further protect Minnesota waters.

The VGP2, as proposed by EPA in November 2011, is applicable for all vessel discharges from all commercial and large recreational vessels, as defined in the permit, that take place within all waters of the State. Minnesota certifies there is a reasonable assurance that discharges from vessels covered by the VGP2 for discharges incidental to the normal operation of commercial and non-commercial vessels greater than or equal to 79 feet in length, and the NPDES Small Vessel General Permit (sVGP2), will comply with the applicable provisions of 33 U.S.C §§ 1311, 1312, 1313, 1316, 1317, and 1341 (CWA §§ 301, 302, 303, 306, 307, and 401), and that Permittees and their activities will not contravene applicable limitations, standards and other appropriate requirements of State law, provided the following conditions set forth in this Certification are met.

#### **Small Vessel General Permit Certification Conditions**

The conditions in the draft sVGP cannot be made less stringent without violating water quality standards and other requirements of State law. See 40 CFR § 124.53 (e)(3). The MPCA has not identified any additional conditions that are needed to meet the requirements of either the CWA or Minnesota Rules, provided the conditions of the final sVGP are at least as stringent as the conditions of the draft sVGP.

The Permittee shall report all instances of non-compliance with this certification as soon as possible, and in no case longer than 30 days of the discovery of the noncompliance (Minn. R.7001.0150, Subp.2[K][L]).

#### **Vessel General Permit Certification Conditions**

The MPCA conditionally grants water quality certification for the EPA VGP2 subject to compliance with the conditions identified below. A summary of the basis for these conditions is also provided below.

1. Compliance with Minnesota SDS permit for ballast water;

##### **Requirement**

The applicability of International Maritime Organization (IMO) D-2 ballast water discharge standards for vessels in the draft VGP2 must not relieve any person from the duty to obtain and comply with the existing Minnesota ballast water general permit MNG300000, or subsequent modifications of that permit issued by the MPCA. Obtaining coverage under the VGP2 does not release any person from the duty to obtain a permit required by state law. Vessels covered by the EPA's VGP2 must obtain any permits required by the state of Minnesota for vessel discharges and comply with all requirements in the applicable permit at the time of compliance review.

##### **Summary of the Basis**

Minnesota law prohibits discharges without a permit. Minn. Stat. § 115.07 provides:

##### **115.07 VIOLATIONS AND PROHIBITIONS.**

Subdivision 1. Obtain permit. (a) Except as provided in paragraph (b), it is unlawful for any person to construct, install, or operate a disposal system, or any part thereof, until plans and specifications for the disposal system have been submitted to the agency, unless the agency waives submission of the plans and specifications and a written permit for the disposal system is granted by the agency.

Minnesota has adopted a General State Disposal System (SDS) permit for ballast water discharges. The MPCA's current ballast water discharge general permit MNG300000, which is scheduled to be reviewed and reissued in 2013, requires vessels meeting the permit's applicability criteria to comply with the following biological performance standards and implementation schedule:

a. Table A Biological Performance Standards for Ballast Water Treatment Technology

Parameter	Limit	Limit Type	Sample Type
Organisms >50um in minimum dimension	<10 viable /m <sup>3</sup>	Daily average	Composite
Organisms 10-50 um in minimum dimension	<10 viable / ml	Daily average	Composite
Escherichia coliform	<250 cfu / 100 ml	Daily average	Composite
Intestinal enterococci	<100 cfu / 100 ml	Daily average	Composite

- b. For vessels constructed prior to January 1, 2012, and meeting the applicability criteria in the permit, treatment shall be installed and operational to meet the performance standards for organisms included in Table A by January 1, 2016.
- c. For vessels constructed after January 1, 2012, and meeting the applicability criteria in the permit, treatment shall be installed and operational to meet the performance standards for organisms included in Table A prior to commencement of vessel operation in the Minnesota waters of Lake Superior.

The Minnesota SDS Vessel General Permit (MNG300000) currently requires the schedule above. During the drafting of the MNG300000 permit reissuance, the implementation schedule, as well as other permit conditions, may be modified.

2. Numeric Water Quality Based Effluent Limitation (WQBEL) Determination for Ballast Water Discharges

Requirement

No additional requirements at this time.

Summary of the Basis

After careful review of the available data and studies completed to further define the threshold at which point the introduction of nonnative species impacts the quality of Waters of the State, MPCA is unable to conclusively determine a numeric standard which would definitively protect water quality and an unaltered species composition of the ecosystem. MPCA is very interested in the development of data via ongoing monitoring which could be used to inform the process of establishing a water quality standard in the future. MPCA encourages vessel owners to pursue the most efficient treatment systems possible to avoid the potential need to upgrade systems in the future when a numeric standard may be adopted.

3. Requirement to conduct oceanic Ballast Water Exchange/Flush for voyages originating within the Exclusive Economic Zone (EEZ regardless of ballast treatment prior to discharge in Minnesota waters)

#### Requirement

The operator of any vessel covered under the VGP2 whose voyage originates from within the EEZ<sup>1</sup> and which enters Minnesota waters shall not discharge ballast unless the following conditions are met: the vessel has conducted a ballast water exchange or flushing at least 50 nautical miles from any shore, and in water at least 200 meters in depth, while in oceanic waters, resulting in a salinity level of at least 30 parts per thousand (ppt) in ballast water prior to the time the vessel enters state waters. This requirement is imposed regardless of whether the vessel is equipped with a ballast water treatment system in accordance with Section 2.2.3.5 of the draft VGP2.

All vessels entering Minnesota waters must maintain the ability to measure salinity levels in each tank onboard the vessel so that salinities of at least 30 ppt can be ensured.

*This requirement does not apply to:*

- a. Vessels that operate exclusively in the Great Lakes;
- b. Vessels that either have no ballast tanks or that carry only permanent ballast water, all of which is in sealed tanks that are not subject to discharge;
- c. Vessels that carry only potable water that meets the requirements of section 2.2.3.5.1.3 of the draft VGP2 in their ballast tanks; or
- d. Vessels of the National Defense Reserve Fleet that are scheduled to be disposed of through scrapping or sinking.

This requirement does not apply if the master of the vessel determines that compliance with this condition would threaten the safety or stability of the vessel, its crew, or its passengers because of adverse weather, equipment failure, or any other relevant condition. If a vessel is unable to conduct ballast water exchange or flushing due to serious safety concerns as specified above, the operator of any vessel with ballast on board shall inform the MPCA and DNR prior to discharging ballast in state waters to allow a determination of whether the discharge of the ballast presents a "high risk" as described below. No ballast shall be discharged that does not meet the conditions in this part if the MPCA determines that the ballast is "high risk" and that additional treatment is necessary to protect aquatic resources.

#### Summary of the Basis

This requirement adds no new condition or deadline for ballast water treatment. The requirements and deadlines for ballast water treatment are those specified in the draft VGP2, Section 2.2.3.5, Table 6, and the Minnesota Ballast Water General Permit. However, in addition to meeting those requirements, this state requirement requires vessel operators to continue performing exchange or flushing in addition to operating the mandated treatment system.

Minn. Stat. § 115.03, subd. 1 (e) provides that the MPCA has the following duty:

- (e) to adopt, issue, reissue, modify, deny, or revoke, enter into or enforce reasonable orders, permits, variances, standards, rules, schedules of compliance,

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<sup>1</sup> "Exclusive Economic Zone" (EEZ) means the area established by Presidential Proclamation Number 5030, dated March 10, 1983 (48 FR 10605, 3 CFR, 1983 Comp., p. 22) which extends from the base line of the territorial sea of the United States seaward 200 miles, and the equivalent zone of Canada. [source: 33 C.F.R. 151.2025]

and stipulation agreements, under such conditions as it may prescribe, in order to prevent, control or abate water pollution, or for the installation or operation of disposal systems or parts thereof, or for other equipment and facilities:

(1) requiring the discontinuance of the discharge of sewage, industrial waste or other wastes into any waters of the state resulting in pollution in excess of the applicable pollution standard established under this chapter;

(2) prohibiting or directing the abatement of any discharge of sewage, industrial waste, or other wastes, into any waters of the state or the deposit thereof or the discharge into any municipal disposal system where the same is likely to get into any waters of the state in violation of this chapter and, with respect to the pollution of waters of the state, chapter 116, or standards or rules promulgated or permits issued pursuant thereto, and specifying the schedule of compliance within which such prohibition or abatement must be accomplished; . . .

The MPCA has adopted the following narrative standard to protect the aquatic habitat of the state:

7050.0150 DETERMINATION OF WATER QUALITY, BIOLOGICAL AND PHYSICAL CONDITIONS, AND COMPLIANCE WITH STANDARDS.

Subpart 1. Policy and scope. The intent of the state is to protect and maintain surface waters in a condition which allows for the maintenance of all existing beneficial uses. The condition of a surface water body is determined by its physical, chemical, and biological qualities. The agency shall determine an exceedance of water quality standards or an impaired condition based on pollution of the waters of the state from point and nonpoint sources that has resulted in degradation of the physical, chemical, or biological qualities of the water body to the extent that attainable or previously existing beneficial uses are actually or potentially lost.

The narrative water quality standards in subpart 3 prescribe the qualities or properties of surface waters that are necessary for the protection of designated public uses and benefits. If the narrative standards in this part are exceeded, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to the designated uses of the waters of the state.

Subparts 5 to 7 list factors the commissioner will use to determine if surface waters are in compliance with applicable narrative standards in subpart 3. Determination of compliance with the narrative standards will be made for individual water bodies on a case-by-case basis.

Subp. 2. Other standards preserved. The requirements of this part are in addition to the application of other narrative or numeric water quality standards in this chapter. If the

requirements of this part conflict with any other narrative or numeric standard in this chapter, the more stringent standard applies.

Subp. 3. Narrative standards. For all Class 2 waters, the aquatic habitat, which includes the waters of the state and stream bed, shall not be degraded in any material manner, there shall be no material increase in undesirable slime growths or aquatic plants, including algae, nor shall there be any significant increase in harmful pesticide or other residues in the waters, sediments, and aquatic flora and fauna; the normal fishery and lower aquatic biota upon which it is dependent and the use thereof shall not be seriously impaired or endangered, the species composition shall not be altered materially, and the propagation or migration of the fish and other biota normally present shall not be prevented or hindered by the discharge of any sewage, industrial waste, or other wastes to the waters.

#### 7050.0210 GENERAL STANDARDS FOR WATERS OF THE STATE.

Subpart 1. [Repealed, 32 SR 1699]

Subp. 2. Nuisance conditions prohibited. No sewage, industrial waste, or other wastes shall be discharged from either point or nonpoint sources into any waters of the state so as to cause any nuisance conditions, such as the presence of significant amounts of floating solids, scum, visible oil film, excessive suspended solids, material discoloration, obnoxious odors, gas ebullition, deleterious sludge deposits, undesirable slimes or fungus growths, aquatic habitat degradation, excessive growths of aquatic plants, or other offensive or harmful effects.

In addition to these laws, Minnesota has adopted Minn. Stat. § 84D.06, which prohibits persons from introducing an unlisted nonnative aquatic plant or wild animal species without notice to the Commission of the Minnesota Department of Natural Resources:

#### 84D.06 UNLISTED NONNATIVE SPECIES.

Subdivision 1. Process. A person may not introduce an unlisted nonnative aquatic plant or wild animal species unless:

- (1) the person has notified the commissioner in a manner and form prescribed by the commissioner;
- (2) the commissioner has made the classification determination required in subdivision 2 and designated the species as appropriate; and
- (3) the introduction is allowed under the applicable provisions of this chapter.

Minnesota finds that the exchange/flushing requirements set forth in this condition, including the combination of treatment with exchange or flushing, are needed to prevent impairment of waters for their best usage and are thus needed to comply with existing Minnesota water quality standards and to ensure that no nonnative invasive species are introduced. In accordance with 40 CFR § 124.53 (e)(2), the MPCA finds that this condition cannot be made less stringent and still comply with State water quality standards.

This requirement effectively serves as an interim WQBEL prior to a numeric WQBEL calculation that will be protective of state water quality and until the numeric WQBEL is fully implemented. Requirement #3 requires operation of a treatment system that meets IMO D-2 requirements *in conjunction with ballast water exchange or flushing*. This interim WQBEL, justified partly by the known effectiveness of exchange and flushing alone<sup>2</sup> and partly by recent research by Canada's Department of Fisheries and Oceans on the benefits of *combining* exchange and flushing with treatment,<sup>3</sup> has recently undergone land-based testing at the Great Ships Initiative (GSI) test facility in Superior, Wisconsin.<sup>4</sup> Early results from the GSI land-based tests<sup>5</sup> are consistent with the goal of reducing propagule pressure, at least for fresh and brackish receiving waters, in order to achieve an invasion risk "at least 10 times lower" than would be achieved using ballast water treatment alone.<sup>6</sup> In our judgment, the interim WQBEL meets antidegradation and anti-backsliding requirements relative to MPCA's currently effective certification because: (1) the treatment-system performance will exceed IMO D-2 for the reasons described above; (2) the exchange and flushing alone will keep "risky" organism concentrations at or below the No Observable Adverse Effect Level (NOAEL) described above; and (3) the more stringent conditions of MPCA's existing certification are not yet considered technologically achievable and are not yet in effect.

4. Exchange and flushing for voyages originating beyond the EEZ.

Requirement

The operator of any vessel covered under the VGP2 whose voyage originates outside the exclusive economic zone and enters Minnesota waters shall not discharge ballast unless the following conditions are met: the vessel has conduct ballast water exchange or flushing beyond the EEZ, at least 200 nautical miles from any shore, and in water at least 2,000 meters in depth, while in oceanic waters, resulting in a salinity level of at least 30 ppt prior to the time the vessel enters Minnesota waters. These requirements remain in effect regardless of whether the vessel is equipped with a ballast water treatment system. These requirements are in addition to treatment requirements required under the proposed VGP2.

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<sup>2</sup> Most of the water and most of the organisms carried in a vessel's ballast tanks are physically expelled during mid-ocean exchange or flushing, and many of the remaining organisms are then killed by salinity shock (osmotic stress) from the ocean water with which the ballast tanks are refilled. See paper submitted by Canada to the IMO, BLG 15/5/7, *op. cit.*, paragraphs 8 and 9; S.A. Bailey et al. (2011), *op. cit.*, at 2555-56.

<sup>3</sup> Paper submitted by Canada to the IMO, BLG 15/5/7, *op. cit.* Note that, in addition to the benefits derived from physical expulsion and salinity shock, the combined process allows treatment systems to operate on a more uniform and more biologically sparse feed water.

<sup>4</sup> Publication of test results pending.

<sup>5</sup> Sarah Bailey, DFO Canada, *pers. comm.*.

<sup>6</sup> Paper submitted by Canada to the IMO, BLG 15/5/7, *op. cit.*, paragraph 18.

All vessels entering Minnesota waters must maintain the ability to measure salinity levels in each tank onboard the vessel so that salinities of at least 30 ppt can be ensured prior to discharge in Minnesota waters.

*This requirement does not apply to:*

- a. Vessels that either have no ballast tanks or that carry only permanent ballast water, all of which is in sealed tanks that are not subject to discharge, or
- b. Vessels that carry only potable water that meets the requirements of section 2.2.3.5.1.3 of the draft VGP2 in their ballast tanks.

This requirement does not apply if the master of the vessel determines that compliance with this condition would threaten the safety or stability of the vessel, its crew, or its passengers because of adverse weather, equipment failure, or any other relevant condition. If a vessel is unable to conduct ballast water exchange or flushing due to serious safety concerns as specified above, the operator of any vessel shall inform the MPCA and DNR prior to discharging ballast in state waters to allow a determination of whether the discharge of the ballast presents a "high risk" as described below. No ballast shall be discharged that does not meet the conditions in this part if the MPCA determines that the ballast is "high risk" and that additional treatment is necessary to protect aquatic resources.

#### Summary of the Basis

Minnesota finds that the exchange/flushing requirements set forth in this condition, including the combination of treatment with exchange or flushing, are needed to prevent impairment of waters and to preserve such waters for their best usage and are thus needed to comply with the Minnesota State statutes and rules cited above. In accordance with 40 CFR 124.53 (e)(2), this condition cannot be made less stringent and still comply with State water quality standards.

For vessels entering the Great Lakes from outside the EEZ and carrying only residual amounts of ballast water and/or sediment, the flushing requirements are equivalent to those set forth in the January 1, 2012, edition of the St. Lawrence Seaway regulations, 33 CFR § 401.30(f).

Minnesota finds that the exchange/flushing requirements set forth in this requirement, including the combination of treatment with exchange or flushing, are needed to prevent impairment of waters for their best usage and are thus needed to comply with the Minnesota State statutes and rules. In accordance with 40 CFR § 124.53 (e)(2), this condition cannot be made less stringent and still comply with State water quality standards.

This requirement adds no new requirement or deadline for ballast water treatment. The requirements and deadlines for ballast water treatment are those specified in the draft VGP2, Section 2.2.3.5, Table 6, and the Minnesota Ballast Water General Permit. However, in addition to meeting those requirements, vessel operators will need to continue performing exchange or flushing prior to discharging in Minnesota waters.

This Certification, applicable to vessels entering Minnesota waters from outside the EEZ, effectively serves as an interim WQBEL prior to a WQBEL calculation that will be protective of state water quality until the numeric WQBEL is fully implemented. Requirement #4 requires



operation of a treatment system that meets IMO D-2 requirements *in conjunction with ballast water exchange or flushing*. This interim WQBEL, justified partly by the known effectiveness of exchange and flushing alone<sup>7</sup> and partly by recent research by Canada's Department of Fisheries and Oceans on the benefits of *combining* exchange and flushing with treatment,<sup>8</sup> has recently undergone land-based testing at the GSI test facility in Superior, Wisconsin.<sup>9</sup> Early results from the GSI land-based tests<sup>10</sup> are consistent with the goal of reducing propagule pressure, at least for fresh and brackish receiving waters, in order to achieve an invasion risk "at least 10 times lower" than would be achieved using ballast water treatment alone.<sup>11</sup> In our judgment, the interim WQBEL meets antidegradation and anti-backsliding requirements relative to MPCA's currently effective certification because: (1) the treatment-system performance will exceed IMO D-2 for the reasons described above; (2) the exchange and flushing alone will keep "risky" organism concentrations at or below the NOAEL described above; and (3) the more stringent conditions of MPCA's existing certification are not yet considered technologically achievable and are not yet in effect. In accordance with 40 CFR § 124.53(e)(2), this requirement cannot be made less stringent and still comply with the requirements of State law, including State water quality standards.

See regulatory citations in Requirement 3 Summary of Basis.

#### 5. Emergency Control of Ballast Water discharge

##### Requirement

- a. The MPCA and MDNR may prohibit discharge, require a discharge to occur in a particular area, or require emergency treatment of any "high risk" ballast water proposed to be discharged in Minnesota waters.
- b. A "high risk" ballast water is one that has been collected in an area that has been identified as a source area for nonindigenous species that, in the opinion of the MPCA in consultation with the DNR, poses an enhanced risk for introduction of that species into Minnesota waters. A ballast water can also be determined to be "high risk" if it was collected by a vessel with design limitations that prevent effective ballast exchanges.
- c. If relocation of a high risk ballast discharge is required, the MPCA, coordinating with the U.S. Coast Guard (USCG), the Minnesota Department of Natural Resources, and the States of Michigan and Wisconsin, as needed, will identify alternative locations for the discharge of the high risk ballast water.
- d. Nothing in this section relieves the vessel owner or operator of the responsibility for ensuring the vessel's safety and stability or the safety of the crew and passengers.

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<sup>7</sup> Most of the water and most of the organisms carried in a vessel's ballast tanks are physically expelled during mid-ocean exchange or flushing, and many of the remaining organisms are then killed by salinity shock (osmotic stress) from the ocean water with which the ballast tanks are refilled. See paper submitted by Canada to the IMO, BLG 15/5/7, *op. cit.*, paragraphs 8 and 9; S.A. Bailey et al. (2011), *op. cit.*, at 2555-56.

<sup>8</sup> Paper submitted by Canada to the IMO, BLG 15/5/7, *op. cit.* Note that, in addition to the benefits derived from physical expulsion and salinity shock, the combined process allows treatment systems to operate on a more uniform and more biologically sparse feed water.

<sup>9</sup> Publication of test results pending.

<sup>10</sup> Sarah Bailey, DFO Canada, *pers. comm.*.

<sup>11</sup> Paper submitted by Canada to the IMO, BLG 15/5/7, *op. cit.*, paragraph 18.

- e. As an alternative to discharging high-risk ballast water, MPCA may authorize the use of BWTS identified as promising technology by EPA, USCG, neighboring states or a U.S. ballast water testing research facility. U.S. ballast water testing research facilities include, but may not be limited to the Golden Bear, Great Ships Initiative and Maritime Environmental Resource Center.

#### Summary of the Basis

See regulatory citations in Requirement 3 Summary of Basis.

#### 6. Coverage of Lakers confined to upstream of the Welland Canal

##### Requirement

For vessels that operate exclusively in the Great Lakes, the following Best Management Practices (BMPs) are required to be incorporated into the vessel's ballast management plan and implemented prior to discharge of ballast in Minnesota waters):

- a. Annually inspect and replace, as necessary, ballast sea chest screens. Replace screens with the smallest openings allowed by good engineering practice. Inspections must be documented by log entry, diver's report, video report, dry-docking report, marine inspection note, or surveyor's report.
- b. During cargo operations (while accounting for boom list, hull stress, and bending moments), lighten the ship as much as practical to elevate water intakes before ballasting to minimize sediment uptake and increase water flow.
- c. Ballast water taken aboard in Viral Hemorrhagic Septicemia (VHS) affected waters shall be the minimum needed to ensure the safety of the crew and vessel. Additional ballast water can be taken aboard, once deeper water is reached.
- d. Ballast water shall always be taken aboard or discharged via the pumps and never "gravity fed or drained." This ensures an organism that somehow makes it past the screen is pulverized by the high speed, high pressure, and tight tolerance pump.

The temperature range in which the VHS virus is known to replicate, and in which fish kills have been detected, is quite broad (37°F - 70°F [3°C - 21°C]). Since this range encompasses the majority of water temperatures found in the Great Lakes throughout the year, Minnesota recommends following these supplemental BMPs regardless of water temperatures. The following BMPs are *recommended* to be included in the ballast management plan and implemented prior to discharge of ballast in Minnesota:

- a. In order for the VHS disease to spread, an uninfected, yet vulnerable fish must be exposed to an active virus, such as with exposure to the bodily fluids from an infected fish. The virus is most stable in a living fish. It can remain active in dead or macerated fish parts, but for a shorter time. Therefore Minnesota recommends its vessel operators take all appropriate actions to insure that fish or fish parts do not enter their ballast tanks. This is accomplished by inspecting the ½" openings screening the ballast water intakes and using pumps as macerators during uptake and discharge.
- b. Fish populations are denser near shore and significantly less dense more than 3 miles from shore; therefore, Minnesota recommends its vessel operators, when and where possible,

minimize uptake of ballast water in near shore locations. To further reduce risk, when possible:

1. Conduct a ballast water exchange in the deepest, warmest water prior to entering Lake Superior (this practice would specifically preclude exchanging ballast water in Lake St. Clair and the western basin of Lake Erie).
2. If vessel operators are unable to conduct an exchange in the lower Great Lakes, consider doing an exchange in deep, remote waters of Lake Superior.
3. Although it is unlikely a live fish or larger fish particle could have entered the ballast system, consider exchanging ballast water within the ship or re-circulating it within a ballast tank (pumps act as a macerator to reduce the possibility of discharging fish or larger pieces of fish).
4. Continue working with the USCG and Council of Lake Committees to evaluate additional risk reduction actions.

#### Summary of the Basis

Minn. Stat. § 115.1703 provides that vessels operating in the state waters of Lake Superior conduct ballast water management operations according to a ballast water management plan that is designed to minimize the discharge of invasive species. The Commissioner of the MPCA is allowed to establish the requirements of such plans. The statute provides:

#### 115.1703 BALLAST WATER MANAGEMENT PLAN.

Subdivision 1. Ballast water management plan required. (a) The operator of a vessel that is designed, constructed, or adapted to carry ballast water in state waters of Lake Superior shall conduct all ballast water management operations of the vessel according to a ballast water management plan that is designed to minimize the discharge of invasive species, meets the requirements prescribed by the commissioner under subdivision 2, and is approved by the commissioner.

(b) The owner or operator of a vessel required to have a ballast water management plan under paragraph (a) shall maintain a copy of the vessel's ballast water management plan on board at all times and keep the plan readily available for examination by the commissioner.

Subd. 2. Ballast water management plan approval. (a) The commissioner may not approve a ballast water management plan unless the commissioner determines that the plan:

(1) describes in detail the actions to be taken to implement ballast water management;

(2) describes in detail the procedures to be used for disposal of sediment at sea and on shore;

(3) describes in detail the safety procedures for the vessel and crew associated with ballast water management;

(4) designates the officer on board of the vessel in charge of ensuring that the plan is properly implemented;

(5) contains the reporting requirements for vessels as prescribed by the commissioner; and

(6) meets all other requirements prescribed by the commissioner.

(b) The commissioner may approve a ballast water management plan for a foreign vessel on the basis of a certificate of compliance with the criteria described in paragraph (a) issued by the vessel's country of registration according to standards established by the commissioner.

Minnesota finds that the BMPs set forth in this condition are needed to prevent impairment of waters and to maintain such waters for their best usage and are thus needed to comply with the statutes and rules cited under condition 3 above. In accordance with 40 CFR § 124.53 (e)(2), this condition cannot be made less stringent and still comply with State water quality standards.

## 7. Monitoring Requirements

### Requirements:

- a. *Monitoring for vessels required to meet IMO D-2 ballast water discharge standards:* In addition to meeting the draft VGP2 monitoring requirements in section 2.2.3.5.1.1.4, all vessels covered under the VGP2 and operating in Minnesota waters after a Ballast Water Treatment System is installed must sample and analyze the ballast water discharge at least once a year (provided appropriate facilities are available) using the shipboard Environmental Technology Verification (ETV) sampling protocol, or the California shipboard sampling protocol, or a protocol consistent with IMO G8/G9 protocols, whichever is most advanced and available. The monitoring results shall be submitted to EPA and the MPCA on an annual basis, consistent with the mechanisms used in the VGP2 for all other submissions. The MPCA's point of contact is provided at the close of this letter. Such live organism monitoring shall include the collection of representative discharge samples and the testing (counting) of live organisms in such samples by qualified personnel in accordance with standard and/or best available sampling and analytical methods.
- b. *Monitoring for vessels not required to meet IMO D-2 ballast water discharge standards:* All vessels not required to meet IMO D-2 ballast water discharge standards shall install onboard equipment for the sampling of ballast water discharges within 24 months of final issuance of VGP2. Vessels that are confined to the Great Lakes upstream of the Welland Canal (Confined Lakers), which discharge ballast water in Minnesota waters, shall monitor a minimum of once annually for the list of high risk species as published by

the Minnesota Department of Natural Resources, to identify the potential spread of aquatic invasive species (AIS) that are present in the Great Lakes system, but not yet established in Minnesota waters.

#### Summary of the Basis

Persons discharging ballast water have a duty, when requested, to provide information regarding that discharge to the MPCA under the following statutes and rules:

Minn. Stat. § 115.04 DISPOSAL SYSTEMS AND POINT SOURCES.

Subdivision 1. Information. Any person operating or installing a disposal system or other point source, or portion thereof, when requested by the agency, or any member, employee or agent thereof, when authorized by it, shall furnish to it any information which that person may have or which is relevant to the subject of this chapter, chapter 114C, and, with respect to the pollution of waters of the state, of chapter 116.

#### **7053.0205 GENERAL REQUIREMENTS FOR DISCHARGES TO WATERS OF THE STATE.**

Subp. 12. Point source dischargers must report to agency. All persons operating or responsible for sewage, industrial waste, or other waste disposal systems that are adjacent to or that discharge effluents to waters of the state shall submit a report to the agency upon request on the operation of the disposal system, the effluent flow, and the characteristics of the effluents and receiving waters. Sufficient data on measurements, observations, sampling, and analyses, and other pertinent information must be furnished as may be required by the agency to adequately evaluate the condition of the disposal system, the effluent, and the waters receiving or affected by the effluent.

Minnesota finds that the monitoring requirements set forth in this condition are needed to prevent impairment of waters and preserve such water for their best usage and are thus needed to comply with the authorities cited in Condition 3. In accordance with 40 CFR § 124.53 (e)(2), this condition cannot be made less stringent and still comply with State water quality standards.

The protocol for sampling ship discharges as described in the Great Ships Initiative Ballast Discharge Monitoring Guidebook, published November 2011, (<http://www.nemw.org/GSI/BallastDischargeMonitoringGuidebook.pdf>) is a feasible and cost-effective approach for sampling vessel ballast discharges. Vessels which ply the Great Lakes could use this protocol or propose another method to assure representative sampling of ballast discharges.

#### **8. Biocide Usage**

##### Requirement:

Biocides are regulated via the Minnesota General Ballast Water Permit. Discharge limitations for residual oxidants, and procedures for obtaining authorization to use other chemical additives are established by the permit. Obtaining coverage under the VGP2 does not release any person

from the duty to obtain a permit required by state law. Vessels covered by the EPA's VGP2 must obtain any permits required by the state of Minnesota for vessel discharges and comply with all requirements in the applicable permit at the time of compliance review.

Summary of the Basis

Minnesota law prohibits discharges without a permit. Minn. Stat. § 115.07 provides:

115.07 VIOLATIONS AND PROHIBITIONS.

Subdivision 1. Obtain permit. (a) Except as provided in paragraph (b), it is unlawful for any person to construct, install, or operate a disposal system, or any part thereof, until plans and specifications for the disposal system have been submitted to the agency, unless the agency waives submission of the plans and specifications and a written permit for the disposal system is granted by the agency.

Should you require further information regarding this Certification, please contact Kate Frantz at 651-757-2370, or you may contact me.

Sincerely,

David Richfield  
Supervisor, Water & Land Rules & Special Projects Unit  
SSTS, Land Treatment, and Rules Section  
Municipal Division

DR/KF:Img