

PERMIT NO. MIG140000



**BALLAST WATER CONTROL GENERAL PERMIT  
PORT OPERATIONS AND BALLAST WATER DISCHARGE**

In compliance with the provisions of Michigan Act 451, Public Acts of 1994, as amended (the "Michigan Act"), Parts 31 and 41, and Michigan Executive Orders 1991-31, 1995-4 and 1995-18, ballast water is authorized to be discharged from oceangoing vessels specified in individual certificates of coverage (COC) in accordance with discharge limitations, monitoring requirements, and other conditions set forth in this general permit (the "permit").

The applicability of this permit shall be limited to oceangoing vessels that: a) engage in port operations in Michigan and do not discharge ballast water into the waters of the state; b) discharge ballast water treated by one or more of the ballast water treatment methods determined by the Michigan Department of Environmental Quality (Department) to be environmentally sound and effective in preventing the discharge of aquatic invasive species; or c) have not otherwise been determined by the Department to need an individual permit. The Department has determined the following ballast water treatment methods to be environmentally sound and effective in preventing the discharge of aquatic invasive species: (1) Hypochlorite treatment; (2) Chlorine Dioxide treatment; (3) Ultraviolet Light Radiation treatment preceded by suspended solids removal; and (4) Deoxygenation treatment. In making its determination, the Department finds the above mentioned treatment methods have the highest success rates among available treatment methods of destroying aquatic invasive species and protecting the diversity or abundance of native species or the ecological stability of the waters of the state, or activities dependent on such waters. A ballast water discharge is authorized by this permit only if the discharge is in compliance with the applicable treatment requirements and other conditions contained in this permit. This permit does not authorize the discharge of aquatic invasive species at levels which are injurious to the designated uses of the waters of the state or which constitute a threat to the public health, safety, or welfare. Discharges which may cause or contribute to a violation of a water quality standard are not authorized by this permit.

In order to constitute a valid authorization to discharge, this permit must be complemented by a COC issued by the Department. The COC will specify which sections apply to individual permittees.

Unless specified otherwise, all contact with the Department required by this permit shall be to the Department position indicated in the COC, and all Department approvals specified in this permit shall be by the position indicated in the COC.

This general permit shall take effect on the date of issuance. The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended or revoked in whole or in part during its term in accordance with applicable laws and rules.

This general permit shall expire at midnight, January 1, 2017.

Issued March 9, 2012

  
Philip Argiroff, Chief  
Permits Section  
Water Resources Division

## PERMIT FEE REQUIREMENTS

In accordance with Section 324.3120 of the Michigan Act, the permittee shall make payment of an annual permit fee to the Department for each October 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. The fee shall be postmarked by January 15 for notices mailed by December 1. The fee is due no later than 45 days after receiving the notice for notices mailed after December 1.

## APPLICATION FOR INDIVIDUAL PERMIT

Owners/Operators of oceangoing vessels proposing ballast water treatment methods not included in this general permit may apply for an individual permit. Individual permit applicants shall demonstrate to the Department the proposed alternate ballast water treatment method is environmentally sound and its treatment effectiveness is equal to or better at preventing the discharge of aquatic invasive species as the ballast water treatment methods contained in this permit. In accordance with Rule 323.2119 of the Michigan Administrative Code, all draft individual permits shall be public noticed for 30 days.

## CONTESTED CASE INFORMATION

The terms and conditions of this general permit shall apply to an individual oceangoing vessel on the effective date of a COC for the vessel. The Department may grant a contested case hearing on this general permit in accordance with the Michigan Act. Any person to whom this permit is not acceptable may file a sworn petition with the State Office of Regulatory Reinvention of the Michigan Department of Licensing and Regulatory Affairs, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department of Licensing and Regulatory Affairs may grant a contested case hearing on the COC issued to an individual vessel operator under this general permit in accordance with Rule 323.2192(c) of the Michigan Administrative Code.

**PART I****Section A. Effluent Limitations and Monitoring Requirements****1. Authorized Discharges**

Ballast water discharges are authorized by this permit provided the discharge is in compliance with one or more of the ballast water treatment conditions specified in Part I.A.3. through Part I.A.6., and all other requirements contained in this permit. The discharge of ballast water into the surface waters of the state under Part I.A.2. of this permit is prohibited.

**2. Conditions for Port Operations with No Ballast Water Discharge**

During the period beginning on the effective date of this permit and the effective date of an individual COC, and lasting until the expiration of this permit or termination of the individual COC, the permittee is authorized to engage in port operations in Michigan without discharging ballast water into the surface waters of the state under the following conditions.

a. Notification and Reporting Requirement

The vessel master or a duly authorized representative of this person that plans to engage in port operations in Michigan shall notify the Department. The notification report shall include:

- 1) vessel name and IMO number;
- 2) COC number;
- 3) port destination, arrival date, and estimated time period in port;
- 4) last port and name of country;
- 5) next port and name of country;
- 6) vessel contact name (see Part I.A.9);
- 7) reason for port operation;
- 8) date and type of last ballast water management practice (ballast water exchange, salt water flushing, etc.) used;
- 9) total volume and/or weight of ballast water on board; and
- 10) certification that ballast water will not be discharged into the waters of the state.

The notification for port operations shall be submitted via fax or e-mail at least 24 hours prior to port operations. See Part II.C.1 for submittal instructions.

**PART I****Section A. Effluent Limitations and Monitoring Requirements****3. Conditions and Limitations for using Hypochlorite Treatment**

During the period beginning on the effective date of this permit and the effective date of an individual COC, and lasting until the expiration of this permit or termination of the individual COC, the permittee is authorized to engage in port operations in Michigan and discharge hypochlorite-treated ballast water to the surface waters of the state. Such discharge shall be limited and monitored by the permittee and subject to the conditions as specified below.

a. **Notification and Reporting Requirement**

Any person operating an oceangoing vessel that plans to engage in port operations in Michigan and discharge treated ballast water shall notify the Department. The notification report shall be submitted via fax or e-mail at least 24 hours prior to port operations and include the information required in Part I.A.2.a (1)-(9) of this permit.

b. **Hypochlorite Dosage and Monitoring Requirements**

In using hypochlorite as a ballast water biocide, the permittee shall inject the intake ballast water with hypochlorite in such a manner to achieve adequate mixing throughout the ballast water to be later discharged. The ballast water shall be dosed with hypochlorite to a level of 10 ppm total residual chlorine ("TRC") after meeting the chlorine demand of the ballast water. The ballast water, dosed to a level of 10 ppm TRC, shall be held in the ballast tanks a minimum of 19 hours prior to discharge. The Department may approve other hypochlorite dosages and contact times if the applicant demonstrates the chlorine demand of the ballast water sediment will not be a significant factor.

To assure the ballast water contained in each ballast tank is dosed to 10 ppm TRC, the permittee shall monitor ballast water TRC concentrations in each ballast tank to be discharged. The 19-hour exposure time shall not begin until all ballast water to be discharged reaches the required TRC level of 10 ppm in each ballast tank. The TRC concentration of the ballast water shall be analyzed using methods approved by the United States Environmental Protection Agency ("EPA") or other methods approved by the Department.

The required dose level of 10 ppm TRC is based on a ballast water sediment concentration of 1000 ppm or less. If the intake ballast water sediment concentration exceeds 1000 ppm, the permittee shall ensure the intake ballast water sediment concentration is at or below 1000 ppm before dosing the ballast water to a level of 10 ppm TRC.

c. **Operation and Maintenance Plan**

To assure compliance with Part II.D.4. of this permit, the permittee shall operate and maintain the ballast water treatment system in accordance with a Operation and Maintenance Plan which sets forth: operational controls and procedures; treatment validation methods; equipment maintenance and calibration schedule; system monitoring requirements; component performance testing schedule and any other quality control measure recommended by the treatment system manufacturer or system design engineer. If applicable, the ballast water discharge sampling protocol and analytical methodologies and laboratory controls used shall be included in the Operation and Maintenance Plan. The Operation and Maintenance Plan shall be available to the Department upon request.

d. **Intake Filtration Residuals and Separated Solids**

In the event intake ballast water is pretreated using mechanical separation methods, the permittee is authorized to discharge ballast water intake filter backwash into the surface waters of the state provided the discharge is in accordance with Part I.A.3.g.

**PART I****Section A. Effluent Limitations and Monitoring Requirements**

- e. **Ballast Water Treatment Additives**  
This permit does not authorize the discharge of supplemental ballast water treatment additives without approval from the Department. Approval of water treatment additives is authorized under separate correspondence. Ballast water treatment additives include any material that is added to ballast water to condition or supplement treatment of the water. In the event a permittee proposes to discharge water additives, including an increased discharge concentration of a previously approved water additive, the permittee shall submit a request to the Department for approval. See Part I.A.7. for information on requesting water treatment additive use.
- f. **Treatment Performance Monitoring Points**  
Monitoring points shall be provided to sample and analyze ballast water for process control treatment effectiveness and verification. As a minimum, the treatment performance monitoring points shall be located before the first treatment stage and after final treatment.
- g. **Narrative Standard**  
Any discharge pursuant to this permit shall not cause the receiving water to contain unnatural turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits in quantities which are or may become injurious to any designated use.
- h. **Discharge Sampling Frequency**  
The following shall apply to ballast water discharges exceeding 160 minutes: the daily concentration value reported for Total Residual Chlorine ("TRC") shall be the average of a minimum of three (3) equally spaced grab samples taken during a discharge event, with the additional limitation that no single sample exceed 300 µg/l.
- i. **Discharge Monitoring**  
Samples and measurements taken in compliance with the monitoring requirements in Part I.A.3.i. shall be taken of the discharge prior to mixing with the waters of the state. The monitored ballast water shall be representative of the quality of the discharge.
- j. **TRC**  
Compliance with the TRC discharge limit shall be determined on the basis of one or more grab samples. If more than one (1) sample per day is taken, the additional samples shall be collected in near equal intervals over at least two (2) hours. Amperometric Titration using either Standard Method 4500-Cl D, Standard Method 4500-Cl E or Orion 97-70 electrode shall be used for analysis of each grab sample (other analytical methods specified in 40 CFR 136 may be used upon approval of the Department).
- k. **Dechlorination**  
The permittee shall use dechlorination techniques, if necessary, to achieve the applicable TRC limitations in Part I.A.3.i., using sodium thiosulfate, sodium sulfite, sodium bisulfite, or other dechlorinating reagents approved by the Department. The quantity of reagent(s) used shall be limited to 1.5 times the stoichiometric amount of applied chlorine. The permittee shall report dechlorination reagent usage in accordance with Part I.A.3.m.

**PART I**

**Section A. Effluent Limitations and Monitoring Requirements**

I. Discharge Limitations and Reporting (see Part II definition of daily concentration)

Parameter	Daily Concentration Limit	Units	Frequency of Analysis	Sample Type
Flow	Report	MG	---	Report Total Daily Flow
TRC (discharge(s) exceeding 160 minutes)	38	µg/l	3 samples per discharge event (see Part I.A.3.h.)	Grab
TRC Intermittent (discharge(s) less than or equal to 160 minutes)	200	µg/l	1 sample per discharge event	Grab
Duration of Discharge(s) per day	---	Hours	---	Report Total Discharge Time

m. Hypochlorite Treatment and Operations Record

The permittee shall maintain a Ballast Treatment Record (“BTR”) on all treatment operations for ballast water discharges into Michigan waters. The BTR shall be submitted to the Department in accordance with Part II.C.2. within 24 hours of port departure and include the following information:

- 1) source(s) of ballast water treated (port name or other location);
- 2) volume and concentration of hypochlorite used for treatment to achieve 10 ppm TRC in the ballast water;
- 3) hypochlorite contact time (hours) in the ballast water;
- 4) volume of ballast water treated and amount discharged;
- 5) amount and type of dechlorination reagent used (report zero if no dechlorination reagent is needed pursuant to Part I.A.3.k.);
- 6) date and location of ballast water discharge event; and
- 7) results of discharge monitoring required in Part I.A.3.l.

**PART I****Section A. Effluent Limitations and Monitoring Requirements****4. Conditions and Limitations for using Chlorine Dioxide Treatment**

During the period beginning on the effective date of this permit and the effective date of an individual COC, and lasting until the expiration of this permit or termination of the individual COC, the permittee is authorized to engage in port operations in Michigan and discharge chlorine dioxide-treated ballast water to the surface waters of the state. Such discharge shall be limited and monitored by the permittee and subject to the conditions as specified below.

- a. **Notification and Reporting Requirement**  
Any person operating an oceangoing vessel that plans to engage in port operations in Michigan and discharge treated ballast water shall notify the Department. The notification report shall be submitted via fax or e-mail at least 24 hours prior to port operations and include the information required in Part I.A.2.a (1)-(9) of this permit.
- b. **Chlorine Dioxide Dosage and Monitoring Requirements**  
In using chlorine dioxide as a ballast water biocide, the permittee shall inject the chlorine dioxide in such a manner to achieve adequate mixing throughout the ballast tank in the ballast water to be discharged. The ballast water shall be dosed with chlorine dioxide to a level of 5 ppm chlorine dioxide. Chlorine dioxide concentrations shall be monitored and analyzed using EPA approved methods or an alternate method approved by the Department. The chlorine dioxide treated ballast water shall be held in the ballast tanks a minimum of 24 hours prior to discharge.
- c. **Operation and Maintenance**  
To assure compliance with Part II.D.4. of this permit, the permittee shall operate and maintain the ballast water treatment system in accordance with a Operation and Maintenance Plan which sets forth: operational controls and procedures; treatment validation methods; equipment maintenance and calibration schedule; system monitoring requirements; component performance testing schedule and any other quality control measure recommended by the treatment system manufacturer or system design engineer. If applicable, the ballast water discharge sampling protocol and analytical methodologies and laboratory controls used shall be included in the Operation and Maintenance Plan. The Operation and Maintenance Plan shall be available to the Department upon request.
- d. **Intake Filtration Residuals and Separated Solids**  
In the event intake ballast water is pretreated using mechanical separation methods, the permittee is authorized to discharge ballast water intake filter backwash back into the surface waters of the state provided the discharge is in accordance with Part I.A.4.h.
- e. **Ballast Water Treatment Additives**  
This permit does not authorize the discharge of supplemental ballast water treatment additives without approval from the Department. Approval of water treatment additives is authorized under separate correspondence. Ballast water treatment additives include any material that is added to ballast water to condition or supplement treatment of the water. In the event a permittee proposes to discharge water additives, including an increased discharge concentration of a previously approved water additive, the permittee shall submit a request to the Department for approval. See Part I.A.7. for information on requesting water treatment additive use.
- f. **Removal of Byproduct Chlorite**  
The permittee shall use chlorite removal techniques approved by the Department as necessary to effectively remove byproduct chlorite. The permittee shall report reagent usage in accordance with Part I.A.4.j.

**Analytical Method for Chlorite**

Chlorite shall be analyzed using amperometric titration methods approved by the Department capable of achieving a quantification level of 5 µg/l.

**PART I**

**Section A. Effluent Limitations and Monitoring Requirements**

- g. **Treatment Performance Monitoring Points**  
Monitoring points shall be provided to sample and analyze ballast water for process control treatment effectiveness and verification. The treatment performance monitoring points shall be located before the first treatment stage and after final treatment.
- h. **Narrative Standard**  
The receiving water shall contain no unnatural turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits as a result of this discharge in quantities which are or may become injurious to any designated use.
- i. **Discharge Limitations and Reporting (see part II definition of daily concentration)**

Parameter	Daily Concentration Limit	Units	Frequency of Analysis	Sample Type
Flow	Report	MG	---	Report Total Daily Flow
Chlorite	Report	µg/l	3 per discharge event (1 per event for discharges less than or equal to 160 minutes)	Grab
Duration of Discharge(s)	---	Hours	---	Report Total Discharge Time

- j. **Chlorine Dioxide Treatment and Operations Record**  
The permittee shall maintain a BTR on all treatment operations for ballast water discharges into Michigan waters. The BTR shall be submitted to the Department in accordance with Part II.C.2 within 24 hours of port departure and include the following information:
  - 1) source(s) of ballast water treated (port name or other location);
  - 2) solution strength of chlorine dioxide generated and/or injected;
  - 3) pumping rate through chlorine dioxide generator and/or injection system;
  - 4) volume of ballast water treated and amount discharged;
  - 5) chlorine dioxide contact time (hours) in the ballast water;
  - 6) amount and type of reagent used to remove the byproduct chlorite (report zero if no neutralization reagent is needed pursuant to Part I.A.4.f);
  - 7) date and location of ballast water discharge event; and
  - 8) results of discharge monitoring required in Part I.A.4.i.

**PART I****Section A. Effluent Limitations and Monitoring Requirements****5. Conditions for using Ultraviolet (“UV”) Radiation preceded by Suspended Solids Removal**

During the period beginning on the effective date of this permit and the effective date of an individual COC, and lasting until the expiration of this permit or termination of the individual COC, the permittee is authorized to engage in port operations in Michigan and discharge UV-light-radiation-treated ballast water to the surface waters of the state. Such discharge shall be limited and monitored by the permittee and subject to the conditions as specified below.

- a. **Notification and Reporting Requirement**  
Any person operating an oceangoing vessel that plans to engage in port operations in Michigan and discharge treated ballast water shall notify the Department. The notification report shall be submitted via fax or e-mail at least 24 hours prior to port operations and include the information required in Part I.A.2.a (1)-(9) of this permit
- b. **Pretreatment Requirement**  
Prior to UV radiation treatment, the ballast water shall undergo one or more pretreatment stage(s) such as filtration, cyclonic separation or other methods that remove suspended solids and sediment larger than 50 microns.
- c. **UV Radiation Dose Level**  
The ballast water UV treatment unit(s) shall deliver a UV dose of  $\geq 200,000$  microwatts-sec/cm<sup>2</sup>. Prior to discharging to Michigan waters, the ballast water shall receive the required UV dose during both ballasting and deballasting operations.
- d. **UV Light Intensity Sensors**  
To compensate for variations in UV light transmittance in the ballast water, a UV dose monitoring system shall be installed to continually monitor the UV radiation dose to maintain the required treatment dose. If the UV dose drops below the level required in Part I.A.5.c., the UV monitoring system shall automatically stop the ballasting or deballasting operation. Ballast water shall not be discharged without receiving the UV dose level required in Part I.A.5.c.
- e. **Operation and Maintenance**  
To assure compliance with Part II.D.4. of this permit, the permittee shall operate and maintain the ballast water treatment system in accordance with a Operation and Maintenance Plan which sets forth: operational controls and procedures; treatment validation methods; equipment maintenance and calibration schedule; system monitoring requirements; component performance testing schedule and any other quality control measure recommended by the treatment system manufacturer or system design engineer. If applicable, the ballast water discharge sampling protocol and analytical methodologies and laboratory controls used shall be included in the Operation and Maintenance Plan. The Operation and Maintenance Plan shall be available to the Department upon request.
- f. **Intake Filtration Residuals and Separated Solids**  
The permittee is authorized to discharge ballast water intake filter backwash back into the surface waters of the state provided the discharge is in accordance with Part I.A.5.i.
- g. **Ballast Water Treatment Additives**  
This permit does not authorize the discharge of supplemental ballast water treatment additives without approval from the Department. Approval of water treatment additives is authorized under separate correspondence. Ballast water treatment additives include any material that is added to ballast water to condition or supplement treatment of the water. In the event a permittee proposes to discharge water additives, including an increased discharge concentration of a previously approved water additive, the permittee shall submit a request to the Department for approval. See Part I.A.7. for information on requesting water treatment additive use.

**PART I**

**Section A. Effluent Limitations and Monitoring Requirements**

h. **Treatment Performance Monitoring Points**  
 Monitoring points shall be provided to sample and analyze ballast water for process control treatment effectiveness and verification. The treatment performance monitoring points shall be located before the first treatment stage and after final treatment.

i. **Narrative Standard**  
 The receiving water shall contain no unnatural turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits as a result of this discharge in quantities which are or may become injurious to any designated use.

j. **Discharge Reporting**

Parameter	Quantity	Units	Sample Type
Flow	Report	MG	Report Total Discharge Flow
Duration of Discharge(s)	Report	Hours	Report Total Discharge Time

k. **UV Radiation Treatment and Operations Record**  
 The permittee shall maintain a BTR on all treatment operations for ballast water discharges into Michigan waters. The BTR shall be submitted to the Department in accordance with Part II.C.2 within 24 hours of port departure and include the following information:

- 1) source(s) of ballast water treated (port name or other location);
- 2) maximum pumping capacity through UV light treatment units;
- 3) minimum UV light dose achieved during treatment;
- 4) volume of ballast water treated and amount discharged;
- 5) date and location of ballast water discharge event; and
- 6) results of discharge monitoring required in Part I.A.5.j.

**PART I****Section A. Effluent Limitations and Monitoring Requirements****6. Conditions and Limitations for using Deoxygenation Treatment**

During the period beginning on the effective date of this permit and the effective date of an individual COC, and lasting until the expiration of this permit or termination of the individual COC, the permittee is authorized to engage in port operations in Michigan and discharge ballast water that has been deoxygenated to the surface waters of the state. Such discharge shall be limited and monitored by the permittee and subject to the conditions as specified below.

- a. **Notification and Reporting Requirement**  
Any person operating an oceangoing vessel that plans to engage in port operations in Michigan and discharge treated ballast water shall notify the Department. The notification report shall be submitted via fax or e-mail at least 24 hours prior to port operations and include the information required in Part I.A.2 (1)-(9) of this permit.
- b. **Ballast Water Deoxygenation**  
The permittee shall inject the intake ballast water with sufficient gaseous nitrogen to reduce the dissolved oxygen in the ballast water to be discharged to 1 mg/l or below in applicable ballast tanks. In deoxygenating the ballast water, the nitrogen gas shall be injected and mixed with the ballast water downstream of the ballast pump(s). To supplement deoxygenation treatment, the intake ballast water shall flow through an injector system that causes hydro-cavitation in which turbulence and pressure physically destroy some aquatic organisms. The treated (deoxygenated) ballast water shall be monitored for dissolved oxygen and held in the ballast tanks for a minimum of 48 hours prior to discharge into the waters of the state.
- c. **Operation and Maintenance**  
To assure compliance with Part II.D.4. of this permit, the permittee shall operate and maintain the ballast water treatment system in accordance with a Operation and Maintenance Plan which sets forth: operational controls and procedures; treatment validation methods; equipment maintenance and calibration schedule; system monitoring requirements; component performance testing schedule and any other quality control measure recommended by the treatment system manufacturer or system design engineer. If applicable, the ballast water discharge sampling protocol and analytical methodologies and laboratory controls used shall be included in the Operation and Maintenance Plan. The Operation and Maintenance Plan shall be available to the Department upon request.
- d. **Intake Filtration Residuals and Separated Solids**  
In the event intake ballast water is pretreated using mechanical separation methods, the permittee is authorized to discharge ballast water intake filter backwash back into the surface waters of the state provided the discharge is in accordance with Part I.A.6.g.
- e. **Ballast Water Treatment Additives**  
This permit does not authorize the discharge of supplemental ballast water treatment additives without approval from the Department. Approval of water treatment additives is authorized under separate correspondence. Ballast water treatment additives include any material that is added to ballast water to condition or supplement treatment of the water. In the event a permittee proposes to discharge water additives, including an increased discharge concentration of a previously approved water additive, the permittee shall submit a request to the Department for approval. See Part I.A.7. for information on requesting water treatment additive use.
- f. **Treatment Performance Monitoring Points**  
Monitoring points shall be provided to sample and analyze ballast water for process control treatment effectiveness and verification. The treatment performance monitoring points shall be located before the first treatment stage and after final treatment.

**PART I**

**Section A. Effluent Limitations and Monitoring Requirements**

g. **Narrative Standard**  
 The receiving water shall contain no unnatural turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits as a result of this discharge in quantities which are or may become injurious to any designated use.

h. **Discharge Limitations and Reporting**

Parameter	Quantity	Concentration 1 hour after Treatment	Concentration After 48 hour Holding Time	Minimum Concentration for Submerged Discharge	Units	Sample Type
Flow	Report	---	---	---	MG	Report Total Discharge Flow
Dissolved Oxygen	---	Report	Report	4.0	mg/l	Grab
Duration of Discharge(s)	Report	---	---	---	Hours	Report Total Discharge Time

i. **Discharge Limitation Exemption**  
 The 4.0 mg/l dissolved oxygen ballast water discharge limitation and monitoring requirement does not apply if the deoxygenated ballast water is discharged above the receiving water surface.

j. **Dissolved Oxygen Monitoring**  
 The permittee shall use Department approved methods for the dissolved oxygen analyses required in Part I.A.6.h. The monitored ballast water shall be representative of the quality of the submerged discharge.

k. **Treatment and Operations Record Keeping**  
 The permittee shall maintain a BTR on all treatment operations for ballast water discharges into Michigan waters. The BTR shall be submitted to the Department in accordance with Part II.C.2 within 24 hours of port departure and include the following information:

- 1) source(s) of ballast water treated (port name or other location);
- 2) volume of ballast water treated and amount discharged;
- 3) pumping rate through deoxygenation treatment system;
- 4) amount of nitrogen gas generated to reduce the dissolved oxygen to 1.0 mg/l or less;
- 5) holding time of deoxygenated ballast water;
- 6) date and location of ballast water discharge event; and
- 7) results of discharge monitoring required in Part I.A.6.h.

**PART I****Section A. Effluent Limitations and Monitoring Requirements****7. Request for Discharge of Ballast Water Treatment Additives**

In the event a permittee proposes to discharge a ballast water treatment additive to supplement a treatment method authorized in this permit, the permittee shall submit a request to discharge the treatment additives to the Department for approval. Such requests shall be sent to the Permits Section, Water Resources Division, Department of Environmental Quality, P.O. Box 30458, Lansing, Michigan 48909, with a copy to the Department contact listed on the cover page of this permit. Instructions to submit a request electronically may be obtained via the Internet (<http://www.michigan.gov/deq> and on the left side of the screen click on Water, Water Quality Monitoring, and Assessment of Michigan Waters; then click on the Water Treatment Additive List which is under the Information banner). Written approval from the Department to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. Additional monitoring and reporting may be required as a condition for the approval to discharge the additive.

A request to discharge water additives shall include all of the following water treatment additive usage and discharge information:

- a. Material Safety Data Sheet;
- b. the proposed water additive discharge concentration;
- c. the discharge frequency (reported in number of hours per day and number of days per year);
- d. the monitoring point from which the product is to be discharged;
- e. the type of removal treatment, if any, that the water additive receives prior to discharge;
- f. product function (i.e. microbiocide, flocculant, etc.);
- g. a 48-hour LC<sub>50</sub> or EC<sub>50</sub> for a North American freshwater planktonic crustacean (either *Ceriodaphnia sp.*, *Daphnia sp.*, or *Simocephalus sp.*); and
- h. the results of a toxicity test for one North American freshwater aquatic species other than a planktonic crustacean that meets a minimum requirement of Rule 323.1057(2) of the Water Quality Standards.

Prior to submitting the request, the permittee may contact the Permits Section by telephone at 517-241-1346 or via the Internet at the address given above to determine if the Department already has the product toxicity data required by items g. and h. above. If the Department has the data, the permittee will not need to submit product toxicity data.

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

#### 8. Requirement to Obtain Individual Permit

The Department may require any person who is authorized to discharge by a COC and this permit to apply for and obtain an individual ballast water discharge permit if any of the following circumstances apply:

- a. the discharge is a significant contributor to pollution as determined by the Department on a case-by-case basis;
- b. the discharger is not complying or has not complied with the conditions of this permit;
- c. the discharger proposes to use an alternate treatment method, in which case the discharger shall demonstrate the alternate treatment method is as effective in preventing the discharge of aquatic invasive species as the treatment methods contained in this permit;
- d. a change has occurred in the availability of demonstrated technology or practices for the control or abatement of aquatic invasive species applicable to the ballast water discharge;
- e. discharge standards and limitations are promulgated for ballast water discharges subject to this permit;  
or
- f. the Department determines that the criteria under which the COC was issued no longer apply.

Any person may request the Department to take action pursuant to the provisions of Rule 323.2191 of the Michigan Administrative Code.

#### 9. Vessel Contact

The "Vessel Contact" was specified in the application. The permittee may name a new vessel contact at any time, and shall notify the Department in writing within 10 days after replacement. The notification shall include the name, address and telephone number of the new vessel contact.

- a. The Vessel Contact shall be the Master of the vessel or a duly authorized representative of this person.
- b. A person is a duly authorized representative only if: the authorization is made in writing to the Department by a person described in paragraph a. of this section; and the authorization specifies either an individual or a position having responsibility for the overall operation of the vessel, or an individual or position having overall responsibility for environmental matters for the vessel (a duly authorized representative may thus be either a named individual or any individual occupying a named position).

Nothing in this section obviates the permittee from properly submitting reports and forms as required by law.

## PART II

### Section A. Definitions and Abbreviations

This list of definitions may include terms not applicable to this permit.

**Aquatic invasive species** means any nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural, or recreational activities dependent on such waters.

**BTR** means Ballast Treatment Record

**Ballast tank** means any tank or hold on a vessel used for carrying ballast water, whether or not the tank or hold was designed for that purpose.

**Ballast water** means water and associated solids taken on board a vessel to control or maintain trim, draft, stability, or stresses on the vessel, without regard to the manner in which it is carried.

**Ballast water sediment** means any organic or inorganic substance present in ballast water.

**COC** means Certificate of Coverage

**Daily concentration** is the sum of the concentrations of the individual samples of a parameter divided by the number of samples taken during any calendar day. If the parameter concentration in any sample is less than the quantification limit, regard that value as zero when calculating the daily concentration. The daily concentration will be used to determine compliance with any maximum and minimum daily concentration limitations (except for pH and dissolved oxygen). When required by the permit, report the maximum calculated daily concentration on the BTR.

**Department** means the Michigan Department of Environmental Quality.

**Detection level** means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

**EPA** means the United States Environmental Protection Agency.

**Grab sample** is a single sample taken at neither a set time nor flow.

**IMO** means International Maritime Organization

**MG** means million gallons.

**mg/l** means milligrams per liter.

**Oceangoing vessel** means a vessel that operates on the Great Lakes or the St. Lawrence waterway after operating in waters outside the Great Lakes or the St. Lawrence waterway.

**Port operations** means the act of engaging in one or more of the following activities while in port: fueling, loading and off-loading cargo, and loading and unloading passengers.

**Quantification level** means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

**St. Lawrence waterway** means the St. Lawrence River, the St. Lawrence Seaway, and the Gulf of St. Lawrence.

**TRC** means Total Residual Chlorine.

**TRO** means Total Residual Oxidant.

**PART II**

**Section A. Definitions and Abbreviations**

**µg/l** means micrograms per liter.

**UV** means Ultra Violet light radiation.

**Waters of the state** means groundwaters, lakes, rivers, and streams and all other watercourses and waters, including the Great Lakes, within the jurisdiction of the State of Michigan.

## PART II

### Section B. Monitoring Procedures

#### 1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored ballast water contained in the ballast tanks including the ballast water discharged.

#### 2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 - Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this permit. Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Chief of the Permits Section, Water Resources Division, Michigan Department of Environmental Quality, P.O. Box 30458, Lansing, Michigan, 48909-7958. The permittee may use such procedures upon approval.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

#### 3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

#### 4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

#### 5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Department.

## PART II

### Section C. Reporting Requirements

#### 1. Submittal Requirement for Port Operations with No Ballast Water Discharge

The Department submittal pursuant to Part I.A.2.a. of this permit shall be sent to the applicable District Office of the Department. A list of Michigan ports and their designated District Office electronic address (fax and e-mail) will be attached to the COC.

#### 2. Submittal Requirements for Self-Monitoring Data

The self-monitoring data and BTR information shall be submitted via the Department's Electronic Environmental Discharge Monitoring Reporting (e2-DMR) System.

Part 31 of Act 451 of 1994, as amended, specifically Section 324.3110(3) and Rule 323.2155(2) of Part 21 allows the department to specify the forms to be utilized for reporting the required self-monitoring data. Unless instructed on the effluent limitations page to conduct "Retained Self Monitoring" the permittee shall submit self-monitoring data via the Department's Electronic Environmental Discharge Monitoring Reporting (e2-DMR) system.

The permittee shall utilize the information provided on the e2-Reporting website @ <https://secure1.state.mi.us/e2rs/> to access and submit the electronic forms. Both monthly summary and daily data shall be submitted to the department no later than the 20th day of the month following each month of the authorized discharge period(s). The permittee may be allowed to submit the electronic forms after this date if the Department has granted an extension to the submittal date.

#### 3. Retained Self-Monitoring Requirements

If instructed on the COC to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and, upon request, provide such log for inspection to the staff of the Water Resources Division, Michigan Department of Natural Resources and Environment. Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Department, on or before January 10th of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the discharge. With this annual certification, the permittee shall submit a summary of the previous years monitoring data. The summary shall include maximum values for samples to be reported as daily maximums and minimum values for any daily minimum samples.

Retained self-monitoring may be denied to a permittee by notification in writing from the Department. In such cases, the permittee shall submit self-monitoring data in accordance with Part II.C.2., above. Such a denial may be rescinded by the Department upon written notification to the permittee.

Reissuance or modification of this permit or reissuance or modification of an individual permittee's authorization to discharge shall not affect previous approval or denial for retained self-monitoring unless the Department provides notification in writing to the permittee.

#### 4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the BTR. Such increased frequency shall also be indicated.

## PART II

### Section C. Reporting Requirements

#### 5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a written notification to the Department indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

#### 6. Noncompliance Notification

Compliance with all applicable requirements set forth in Parts 31 and 41 of the Michigan Act, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

- a. 24-hour reporting - Any noncompliance which may endanger health or the environment (including maximum daily concentration discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the noncompliance. A written submission shall also be provided within five (5) days.
- b. other reporting - The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

#### 7. Spill Notification

The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state, unless the permittee has determined that the release is not in excess of the threshold reporting quantities specified in the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code), by calling the Department at the number indicated in the COC, or if the notice is provided after regular working hours call the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-7660).

Within ten (10) days of the release, the permittee shall submit to the Department a full written explanation as to the cause of the release, the discovery of the release, response (clean-up and/or recovery) measures taken, and preventative measures taken or a schedule for completion of measures to be taken to prevent reoccurrence of similar releases.

## PART II

### Section C. Reporting Requirements

#### 8. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Department by telephone within 24-hours of becoming aware of such conditions; and within five (5) days, provide in writing the following information:

- a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;
- b. that the permitted vessel's ballast treatment facility was, at the time, being properly operated; and
- c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this permit.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

#### 9. Changes in Ballast Treatment Operations

Any anticipated ballast treatment process modification shall be reported to the Department. Following such notice, the COC may be modified according to applicable laws and rules or an individual permit application may be required pursuant to Part I.A.8. of this permit.

#### 10. Bypass Prohibition and Notification

- a. Treatment bypass is prohibited unless the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.
- b. Notice of Unanticipated Bypass - The permittee shall submit notice to the Department of an unanticipated bypass by calling the Department at the number indicated in the COC (if the notice is provided after regular working hours, use the following number: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.
- c. Definitions
  - 1) Bypass means the intentional diversion and discharge of untreated ballast water from any portion of a ballast tank or ballast water treatment system.
  - 2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays.

**PART II****Section C. Reporting Requirements****11. Notification of Changes in Discharge**

The permittee shall notify the Department, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application (see the COC for the date(s) the complete application was submitted). Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

**12. Transfer of Ownership or Control**

In the event of a change in control or ownership of a permitted vessel, the permittee may transfer its COC to a new owner/operator. The permittee shall submit to the Department 30 days prior to the actual transfer of ownership or control a written agreement between the current permittee and the new permittee containing: 1) the legal name and address including the e-mail address of the new contact person; 2) a specific date for the effective transfer of permit responsibility, coverage and liability; 3) a certification of the continuity of or any changes in operations, ballast water discharge, or ballast water treatment, and 4) name and address of the annual fee billing contact. If the new permittee is proposing such changes, the Department may propose modification of the COC in accordance with applicable laws and rules.

If a permittee determines its permitted vessel no longer needs coverage under this permit, the permittee may request the Department to terminate the COC.

## PART II

### Section D. Management Responsibilities

#### 1. Expiration and Reissuance

If the permittee wishes to continue a discharge authorized under this permit beyond the permit's expiration date, the permittee shall submit a written request to the Department on or before July 1, 2016 which contains such information, forms and fees as required by the Department. A person holding a valid COC under an expired general permit shall continue to be subject to the terms and conditions of the expired permit until the permit is terminated, revoked, or reissued.

If this permit is modified or reissued, the permittee shall: a) request coverage under the modified or reissued permit, b) apply for an individual discharge permit, or c) request termination of discharge authorization. Lacking an adequate response, the permittee's authorization to conduct port operations and/or ballast water discharge shall expire on the effective date of the reissued or modified permit.

If this permit is terminated or revoked, all COC authorizations to conduct port operations and/or discharge ballast water under this permit shall expire on the date of termination or revocation.

#### 2. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit and the permittee's COC. The discharge of any pollutant identified in this permit and/or the COC more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit and the COC. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit or the COC constitutes a violation of the Michigan Act and constitutes grounds for enforcement action; for COC termination, revocation and reissuance, or modification; or denial of an application for permit or COC renewal.

#### 3. Operator Certification

The permittee shall have the ballast water treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Department, as required by Sections 3110 and 4104 of the Michigan Act.

#### 4. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

#### 5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

#### 6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of polluting materials in accordance with the requirements of the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code).

## PART II

### Section D. Management Responsibilities

#### 7. Waste Treatment Residues

Residuals (i.e. solids, sludges, biosolids, scrubber water, ash, grit or other pollutants) removed from or resulting from treatment or control of ballast water shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. These laws may include, but are not limited to, the Michigan Act, Part 31 for protection of water resources, Part 55 for air pollution control, Part 111 for hazardous waste management, Part 115 for solid waste management, Part 121 for liquid industrial wastes, Part 301 for protection of inland lakes and streams, and Part 303 for wetlands protection. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

#### 8. Right of Entry

The permittee shall allow the Department or any agent appointed by the Department upon the presentation of credentials:

- a. to enter upon the permittee's vessel where a ballast water treatment system is located or in which any records are required to be kept under the terms and conditions of this permit; and
- b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment systems, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

#### 9. Availability of Reports

Except for data determined to be confidential under Rule 323.2128 of the Michigan Administrative Code, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Sections 3112, 3115, 4106 and 4110 of the Michigan Act.

**PART II****Section E. Activities Not Authorized by This Permit****1. Civil and Criminal Liability**

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

**2. Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Federal Act except as are exempted by federal regulations.

**3. State Laws**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation.

**4. Property Rights**

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other Department of Environmental Quality permits, or approvals from other units of government as may be required by law.