

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**General Permit – Antifouling Paint Contaminated
Vessel Wash Water**

**Maine Pollutant Discharge Elimination System Permit
Maine Waste Discharge License**



Bureau of Land and Water Quality
MEPDES Permit #MEG170000
Waste Discharge License #W009046-5Y-B-R

Effective Date: October 14, 2014

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

GENERAL PERMIT FOR ANTIFOULING PAINT CONTAMINATED VESSEL
WASH WATER

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DEPARTMENT ORDER

IN THE MATTER OF

ANTIFOULING PAINT CONTAMINATED)	MAINE POLLUTANT DISCHARGE
VESSEL WASH WATER)	ELIMINATION SYSTEM PERMIT
GENERAL PERMIT)	
STATE OF MAINE)	AND
#W009046-5Y-B-R)	WASTE DISCHARGE LICENSE
#MEG170000)	RENEWAL
APPROVAL	

In compliance with the applicable provisions of *Pollution Control*, 38 M.R.S.A. §§ 411 – 424-B, *Water Classification Program*, 38 M.R.S.A. §§ 464 – 470 and *Federal Water Pollution Control Act*, Title 33 U.S.C. § 1251, and applicable rules of the Maine Department of Environmental Protection (Department) has considered the renewal of Maine Pollutant Discharge Elimination System (MEPDES) General Permit #MEG170000 / Maine Waste Discharge License (WDL) #W009046-5Y-B-R, which was issued on October 14, 2009 for a five-year term, with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

PROCEDURAL AND REGULATORY SUMMARY

On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine. The Department administers the program as the above-referenced MEPDES permit program.

On October 14, 2009, the Department issued a new General Permit for applicable discharges of antifouling paint (AFP) contaminated vessel wash water. WDL #W009046-5Y-A-N authorized the discharge on 1,000 gallons per day of treated AFP contaminated vessel wash water to certain Class SB and SC waters of the State.¹

Public notice of the Department’s intent to renew the October 14, 2009 General Permit was made on or about May 1, 2014 in the Bangor Daily, Brunswick Times Record, Kennebec Journal, Portland Press Herald, Sun Journal, and the Ellsworth American newspapers. The notice solicited comments on the draft permit and provided an opportunity to request a public hearing.

¹ MEG170000 does not authorize discharges to the Saco River estuary or to any Class SB or SC water having a draining area of less than 10 square miles at the point of discharge.

PERMIT SUMMARY

The Department is carrying forward all the terms and conditions of the October 14, 2009 General Permit except that it is:

1. Adding new definitions for certain terms used in the General Permit that were not previously defined;
2. Adding a requirement to provide actual or estimated discharge flow volume information on the Notice of Intent form;
3. Eliminating the biochemical oxygen demand (BOD₅) and total suspended solids (TSS) concentration limits to correct an administrative error;
4. Amending the biochemical oxygen demand (BOD₅) and total suspended solids (TSS) mass limits based on new data from facilities;
5. Amending the daily maximum copper limit based on the correction of the ambient water quality criteria (AWQC) for from the previous General Permit; and
6. Eliminating the concentration limits for copper, lead, and zinc pursuant to 38 M.R.S.A. § 464(4)(K).

CONCLUSIONS

Based on the findings in the attached Fact Sheet, dated May 12, 2014, and subject to the special and standard conditions that follow, the Department makes the following **CONCLUSIONS**:

1. The AFP contaminated vessel wash water discharge from a facility covered under this General Permit, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below its classification.
2. The AFP contaminated vessel wash water discharge from a facility covered under this General Permit, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification that the Department expects to adopt in accordance with state law.
3. The provisions of the State's antidegradation policy, *Classification of Maine waters*, 38 M.R.S.A. § 464(4)(F), will be met, in that:
 - (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

CONCLUSIONS

- (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;
 - (c) The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
 - (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification that higher water quality will be maintained and protected; and
 - (e) Where a discharge will result in lowering the existing water quality of any waterbody, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The AFP contaminated vessel wash water discharge from a facility covered under this General Permit will be subject to effluent limitations that require application of best practicable treatment as defined in *Conditions of licenses*, 38 M.R.S.A. § 414-A(1)(D).

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ACTION

Based on the findings and conclusions as stated above, the Department APPROVES the renewal of General Permit #MEG170000, *Antifouling Paint Contaminated Vessel Wash Water*, for the discharge of certain pollutants resulting from antifouling paint maintenance at facilities that discharge to certain² Class SB and SC waters, SUBJECT TO THE ATTACHED CONDITIONS, including:

1. The attached Special Conditions, including any effluent limitations and monitoring requirements.
2. *Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*, revised July 1, 2002, copy attached.
3. This General Permit and the authorization to discharge become effective upon the date of signature below and expire at midnight five (5) years from the effective date. Prior to expiration of this General Permit, the Department must make a determination if it is to be renewed, and, if so, must commence renewal proceedings. If the General Permit is to be renewed, it shall remain in force until the Department takes final action on the renewal. [*Maine Administrative Procedure Act*, 5 M.R.S.A. § 10002, *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2(21)(A) (amended August 25, 2013), and *General Permits for Certain Wastewater Discharges*, 06-096 CMR 529(3)(c) (last amended June 27, 2007)]

DONE AND DATED AT AUGUSTA, MAINE THIS 14th DAY OF October, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: /s/ Michael Kuhns
for PATRICIA W. AHO, Commissioner

Date filed with Board of Environmental Protection October 15, 2014

Date of Public Notice: May 1, 2014

This Order prepared by Cindy L. Dionne/Bill Hinkel, BUREAU OF LAND & WATER QUALITY

² MEG170000 does not authorize discharges to the Saco River estuary or to any Class SB or SC water having a draining area of less than 10 square miles at the point of discharge.

SPECIAL CONDITIONS

A. AUTHORITY

A permit is required for the direct or indirect discharge of pollutants to waters of the State and United States. *Waste discharge licenses*, 38 M.R.S.A. § 413(1) and *Federal Water Pollution Control Act*, Title 33 U.S.C. § 1251, *et seq.* The Department is authorized by the USEPA to administer the NPDES permit program in Maine. The Department may issue a General Permit authorizing the discharge of certain pollutants from multiple individual discharge sources and locations which all have the same type of discharges and which involve situations where the Department determines there is a relatively low risk for significant environmental impact. 06-096 CMR 529. The Department has determined that the discharge of antifouling paint contaminated wash water to Class SB and SC waters that conform to the applicability and eligibility conditions established herein may be authorized by a General Permit.

B. DEFINITIONS

In addition to the definitions found in *Definitions in the Waste Discharge Permitting Program*, 06-096 CMR 520 (effective January 12, 2001) and in the waste discharge and water classification laws, the following terms have the following meanings when used in this General Permit.

1. **Antifouling paint contaminated vessel wash water.** “Antifouling paint contaminated wash water” means wastewater that contains antifouling paint or residues thereof resulting from vessel washing activities that occur during drydock examination, and incidental uncontaminated bilge water.
2. **Antifouling paint.** “Antifouling paint” “AFP” means a pesticide, adjuvant, solvent, or pigment compound or coating applied to the submerged portion of a vessel’s hull to prevent growth of marine organisms. Antifouling paint’s active ingredients may include multiple pesticides.
3. **Incidental uncontaminated bilge water.** “Incidental uncontaminated bilge water” means water from the bottom of the vessel’s interior spaces that is drained at the time of vessel washing activities and conveyed to the wastewater treatment system prior to discharge. Incidental uncontaminated bilge water must not violate narrative limitations specified at Special Condition G of this General Permit.
4. **Drydock examination.** “Drydock examination” means hauling out a vessel or placing a vessel in a drydock or slipway for an examination of all accessible parts of the vessel's topside or hull.
5. **Hull.** “Hull” means the exterior body frame of a vessel.
6. **Hull washing.** “Hull washing” means cleaning the exterior of a vessel using any means, including manual scrubbing, low pressure water washing, and pressure washing.
7. **Notice of Intent or NOI.** “Notice of Intent” or “NOI” means a notification of intent to seek coverage under this General Permit made by the owner or operator of a facility to the Department on a form provided by the Department.
8. **Pressure washing.** “Pressure washing” means the use of a device that increases the pressure of pumped water for the purpose of removing dirt, paint, or biological growth from a vessel.

SPECIAL CONDITIONS

B. DEFINITIONS

9. **Pressure wash water.** “Pressure wash water” means the wastewater generated during pressure washing.
10. **Topside.** “Topside” means the exterior of the vessel above the waterline.
11. **Vessel.** “Vessel” means a craft designed to navigate the water including but not limited to boats, yachts and ships.
12. **Vessel maintenance facility.** “Vessel maintenance facility” or “Facility” means a person engaged in the construction, repair, or maintenance of vessels at which antifouling paint contaminated wash water is generated and discharged to marine or estuarine waters of the State.
13. **Wash water collection area.** “Wash water collection area” means all areas within the facility that drain to surface waters or the wastewater treatment system.

C. APPLICABILITY AND ELIGIBILITY

Only antifouling contaminated vessel wash water facilities that conform to the following condition for applicability and coverage are eligible for coverage under this General Permit.

1. **Area of coverage.** The geographic area covered by this General Permit is limited to Class SB or SC marine or estuarine waters of the State of Maine (except those Class SB or SC waters within the Saco River estuary and those Class SB or SC waters having a drainage area of less than 10 square miles at the point of discharge, as determined by the Department); that are in compliance with the standards of their ascribed classifications, or where not, only if the discharge does not cause or contribute to the failure of the water body to meet the standards of classification. The Department will determine on a case-by-case basis for each proposed discharge whether applicable water quality standards are currently achieved. This determination will be based on the status of water quality as specified in the State of Maine’s biennial Integrated Water Quality Monitoring and Assessment Report, prepared pursuant to Sections 303(d) and 305(b) of the *Federal Water Pollution Control Act*, or other available relevant data.

D. NOTIFICATION, DECISIONS, AND EFFECTIVE TERM OF COVERAGE

1. **Notice of Intent (NOI).** A person meeting the requirements and seeking coverage under this general permit shall submit a completed NOI to the Department for review and approval. NOI forms must be mailed or hand-delivered to:

Department of Environmental Protection
Division of Water Quality Management
Permitting Section
17 State House Station
Augusta, ME 04333-0017

SPECIAL CONDITIONS

D. NOTIFICATION, DECISIONS, AND EFFECTIVE TERM OF COVERAGE (cont'd)

The Department reserves the right to request additional information from the applicant based on review of the NOI. Permitting information, forms, and Augusta office directions may be obtained by contacting the Department's Waste Discharge Permitting Unit at 1-207-287-7688 or toll-free at 1-800-452-1942. Additionally, the General Permit, associated fact sheet and other forms are available for review and download at: <http://www.maine.gov/dep/water/wd/gp.html>.

2. **NOI Information.** A complete NOI must contain the following information.
 - a. The name and location of the facility, including the town and map coordinates (if available).
 - b. The name, address, telephone number, and email address of the applicant.
 - c. The legal name, address, telephone number, and email address of the owner or operator of the facility (if different from the applicant).
 - d. The signature of an authorized person in accordance with *Applications for Waste Discharge Licenses*, 06-096 CMR 521(5) (effective January 12, 2001).
 - e. Name of the waterbody into which the discharge is proposed.
 - f. Facility information, including, but not limited to: type of facility, number and size of vessels washed, pressure wash flow, etc.
 - g. A description of the antifouling paint contaminated wash water collection and treatment system(s).
 - h. Outfall information including the diameter of outfall pipe in inches, depth below mean low water at outlet in feet, and a description of any diffusers, mixers or similar structures used to disperse the effluent. Include drawings or diagrams as appropriate.
 - i. A topographic or similar type map (or copy thereof) clearly identifying the location of the facility, the collection system, the treatment system, and discharge pipe.
 - j. A site plan including property boundaries, buildings, roads, parking areas, streams and wetlands.
 - k. Evidence of title, right or interest (TRI) in all of the property that is proposed for development or use in accordance with 06-096 CMR 2(11)(D).
 - l. For corporations, a *Certificate of Good Standing* or a statement signed by a corporate officer affirming that the corporation is in good standing.
 - m. Copies of the published Notice of Intent to File and a list of abutters to whom notice was provided in accordance with Special Condition D.3 must be submitted with the application.

SPECIAL CONDITIONS

D. NOTIFICATION, DECISIONS, AND EFFECTIVE TERM OF COVERAGE (cont'd)

Failure to submit all required NOI information may result in finding the NOI incomplete for processing and may delay processing or result in denial of the NOI.

3. **Public notice.** In accordance with 06-096 CMR 2(14)(A) and 06-096 CMR 529(3)(a), within 30 days prior to filing with the Department, an applicant must give public notice of Intent to File a NOI application using the form included with DEPLW1049. A NOI application that has been previously returned as incomplete for processing must comply with these requirements if the application is not resubmitted within 30 days of the date it was returned to the applicant. The notice must be mailed by certified mail or Certificate of Mailing to abutters, as determined by local tax records or other reliable means, to the municipal office of the municipality(ies) where the project is located and, if the project is located in the unorganized or deorganized areas of the state, to the appropriate county commissioners.
4. **Decisions.**
 - a. **Effective date of coverage.** The Department must approve or deny each NOI submitted for coverage under this General Permit: 1) within 31 calendar days of receipt of a complete NOI; 2) within 31 days of the date of public notice; or 3) on the effective date of this General Permit, whichever is later. If the Department does not notify the applicant within the specified timeframe, the NOI is automatically approved and becomes effective as if signed by the Commissioner in accordance with 06-096 CMR 2(19)(E). In the event coverage is denied, the Department must notify the applicant of the reason(s) for denial. Denial of coverage under this General Permit is not appealable to the Board of Environmental Protection and is not final agency action. The approval of coverage under this General Permit is appealable in accordance with 06-096 CMR 2(24)(B).
 - b. **Individual permit coverage.** The Department may require, or an interested party may request for consideration, that a facility covered under this General Permit obtain an individual MEPDES permit for any of the reasons specified at 06-096 CMR 529(2)(b)(3)(i)(A-G). The owner or operator of a facility discharging AFP contaminated vessel wash water eligible for coverage under this General Permit may request to be excluded from this General Permit and instead apply for an individual MEPDES permit as provided at 06-096 CMR 529(3)(iii).
5. **Effective term of coverage.** The term of this General Permit is five years. Coverage under this General Permit will be continued from year to year provided payment of an applicable annual fee pursuant to *Maine Environmental Protection Fund*, 38 M.R.S.A. § 353-B, and that there are no significant changes in the facility or its operation as described in the NOI.

Prior to expiration of this General Permit, the Department must make a determination if it is to be renewed, and, if so, will commence renewal proceedings. Not less than 24 months prior to expiration of this General Permit, the Department must notify all permittees covered under this General Permit of the decision to renew or not renew the General Permit. If the General Permit is to be renewed, it must remain in force until the Department takes final action on the renewal. Upon reissuance of a renewal General Permit, persons wishing to continue coverage must apply for coverage under the renewal

SPECIAL CONDITIONS

D. NOTIFICATION, DECISIONS, AND EFFECTIVE TERM OF COVERAGE (cont'd)

General Permit not later than 30 days following the issuance date of the new General Permit.

In the event that the ownership of a facility is transferred to a new owner, coverage under this General Permit may be transferred by the new owner notifying the Department in writing, provided the new owner proposes no significant changes in the facility or its operation. The notice must include documentation that the new owner has: 1) a *Certificate of Good Standing* or a statement signed by a corporate officer affirming that the corporation is in good standing; 2) title, right or interest in the facility; and 3) the technical and financial capacity to comply with this General Permit. Such notification must be made within two weeks of the transfer. If increases or significant changes in the discharge are proposed, a new NOI must be filed.

6. **Changed conditions.** In the event a permittee covered by this General Permit proposes to make significant changes in the nature or scope of the operations of facilities described in a NOI previously approved, the permittee must notify the Department as soon as becoming aware of and before implementing such changes. Based on its evaluation of the proposed changes, the Department may require the submittal of a new NOI or that an individual permit be obtained. Reportable changes include, but are not limited to, changes to the collection or treatment systems, changes to the location of the discharge line, and changes to the number or type of vessels to be serviced that would result in the elimination of the discharge or the expansion of the discharge volume beyond the permit limit.

SPECIAL CONDITIONS

E. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge treated antifouling paint contaminated wash water from **OUTFALL # 001A** to the Class SB or SC waters identified in the approved NOI. Such discharges are limited and must be monitored by the permittee as specified below⁽¹⁾.

Reporting must take place annually from August through December⁽²⁾.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Mass		Concentration		Measurement Frequency	Sample Type
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum		
Flow <i>[50050]</i>	600 gpd <i>[07]</i>	1,000 gpd <i>[07]</i>	---	---	1/Discharge Day ⁽²⁾ <i>[01/DD]</i>	Measure <i>[MS]</i>
BOD ₅ <i>[00310]</i>	2.82 lbs./Day <i>[26]</i>	7.56 lbs./Day <i>[26]</i>	Report mg/L <i>[19]</i>	Report mg/L <i>[19]</i>	1/Month ⁽²⁾ <i>[01/30]</i>	Grab <i>[GR]</i>
TSS <i>[00530]</i>	0.59 lbs./Day <i>[26]</i>	1.15 lbs./Day <i>[26]</i>	Report mg/L <i>[19]</i>	Report mg/L <i>[19]</i>	1/Month ⁽²⁾ <i>[01/30]</i>	Grab <i>[GR]</i>
Copper (Total) <i>[01042]</i>	0.004 lbs./Day <i>[26]</i>	0.015 lbs./Day <i>[26]</i>	---	---	1/Month ⁽²⁾ <i>[01/30]</i>	Grab <i>[GR]</i>
Lead (Total) <i>[01051]</i>	0.008 lbs./Day <i>[26]</i>	0.592 lbs./Day <i>[26]</i>	---	---	1/Month ⁽²⁾ <i>[01/30]</i>	Grab <i>[GR]</i>
Zinc (Total) <i>[01092]</i>	0.088 lbs./Day <i>[26]</i>	0.255 lbs./Day <i>[26]</i>	---	---	1/Month ⁽²⁾ <i>[01/30]</i>	Grab <i>[GR]</i>

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports.

FOOTNOTES: See Page 11 of this permit for applicable footnotes.

SPECIAL CONDITIONS

E. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

1. **Sampling** – All effluent monitoring must be conducted at the end of the treatment system as to be representative of end-of-pipe effluent characteristics. Any change in sampling location must be approved by the Department in writing. The permittee must conduct sampling and analysis in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis must be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services for wastewater. Samples that are sent to a publicly owned treatment works licensed pursuant to *Waste discharge licenses*, 38 M.R.S.A. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (effective April 1, 2010).

All analytical test results must be reported to the Department including results which are detected below the respective reporting limits (RLs) specified by the Department or as specified by other approved test methods. If a non-detect analytical test result is below the respective RL, the concentration result must be reported as <Y where Y is the RL achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL or reporting an estimated value ("J" flagged) is not acceptable and will be rejected by the Department. Reporting analytical data and its use in calculations must follow established Department guidelines specified in this permit or in available Department guidance documents.

All monitoring results must be reported through the use of electronic DMR (eDMR) system unless the permittee is authorized to submit paper forms by the Department.

2. **Discharge Duration and Monitoring Schedule** – The permittee is authorized to discharge on a year-round basis in accordance with the terms and conditions of the General Permit. Monitoring and reporting is required during the months of August through December, inclusive. The Department reserves the right to require additional monitoring as necessary to determine compliance with the General Permit.

F. AUTHORIZED DISCHARGES

A permittee covered under this General Permit is authorized to discharge: 1) only in accordance with the permittee's Notice of Intent; and 2) only in accordance with the terms and conditions of this General Permit. Discharges of pollutants from any other point source are not authorized under this General Permit, and must be reported in accordance with Standard Condition B(5), *Bypasses*, of *Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*, revised July 1, 2002, attached to this General Permit.

SPECIAL CONDITIONS

G. NARRATIVE LIMITATIONS

1. The permittee must not discharge effluent that contains a visible oil sheen, foam or floating solids at any time which would impair the usages designated for the classification of the receiving waters.
2. The permittee must not discharge effluent that contains materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated for the classification of the receiving waters.
3. The permittee must not discharge wastewater that causes visible discoloration or turbidity in the receiving waters that causes those waters to be unsuitable for the designated uses and characteristics ascribed to their class.
4. The permittee must not discharge effluent that lowers the quality of any classified body of water below such classification, or lowers the existing quality of any body of water if the existing quality is higher than the classification.

H. MONITORING AND REPORTING

Monitoring results obtained during the previous month must be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and **postmarked on or before the thirteenth (13th) day of the month or hand-delivered to the Department's Regional Office such that the DMRs are received by the Department on or before the fifteenth (15th) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein must be submitted to the Department assigned inspector (unless otherwise specified by the Department) at the following address:

Department of Environmental Protection
Bureau of Land and Water Quality
Division of Water Quality Management
17 State House Station
Augusta, Maine 04333

Alternatively, if the permittee submits an electronic DMR (eDMR), the completed eDMR must be electronically submitted to the Department by a facility authorized DMR Signatory not later than close of business on the **15th day of the month** following the completed reporting period. Hard copy documentation submitted in support of the eDMR must be postmarked on or before the **thirteenth (13th) day of the month or hand-delivered** to the Department's Regional Office such that it is received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. Electronic documentation in support of the eDMR must be submitted not later than close of business on the 15th day of the month following the completed reporting period.

SPECIAL CONDITIONS

I. GENERAL OPERATIONAL CONSTRAINTS

1. The permittee must collect and treat, using a treatment system capable of achieving compliance with all terms and conditions specified in this General Permit, all antifouling contaminated wash water prior to discharge.
2. The permittee must provide an outfall that is submerged below the surface of the water to a depth of at least 5 feet at mean low water.
3. The permittee must ensure proper maintenance of the facility and the wash water collection area is maintained on a regular basis kept clean and free of paint debris, oils and greases to reduce the potential discharge through storm water. When not in use, the wash water collection area must be controlled in such a manner as to prevent rainwater and storm water from entering the wastewater treatment system.
4. The permittee shall maintain a log of vessel washing activities conducted in the wash water collection area, including, at a minimum, the number of vessels washed per day and month and the duration of each batch discharge from the wastewater treatment system.

J. SEVERABILITY

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit must remain in full force and effect, and must be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
MAINE WASTE DISCHARGE LICENSE**

FACT SHEET

DATE: MAY 12, 2014

GENERAL PERMIT NUMBER: #MEG170000
WASTE DISCHARGE LICENSE: #W009046-5Y-B-R

**ANTIFOULING PAINT CONTAMINATED VESSEL WASH WATER
GENERAL PERMIT**

Issued by
MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

AREA OF COVERAGE AND RECEIVING WATER CLASSIFICATION:

**CLASS SB OR SC MARINE OR ESTUARINE WATERS OF THE STATE OF MAINE, EXCEPT
THOSE CLASS SB OR SC WATERS WITHIN THE SACO RIVER ESTUARY AND THOSE
CLASS SB OR SC WATERS HAVING A DRAINAGE AREA OF LESS THAN 10 SQUARE MILES
AT THE POINT OF DISCHARGE**

DEPARTMENT CONTACTS:

Bill Hinkel
APPLICATION AND PERMITTING
Division of Water Quality Management
Maine Dept. of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017
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Pamela Parker
COMPLIANCE AND TECHNICAL ASSISTANCE
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17 State House Station
Augusta, Maine 04333-0017
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e-mail: pamela.d.parker@maine.gov

Internet resources: <http://www.maine.gov/dep/> <http://www.maine.gov/dep/water/wd/gp.html>

1. PROCEDURAL AND REGULATORY SUMMARY

On January 12, 2001, the Maine Department of Environmental Protection (Department) received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine. The Department administers the program as the Maine Pollutant Discharge Elimination System (MEPDES) permit program.

On October 14, 2009, the Department issued a new General Permit for applicable discharges of antifouling paint (AFP) contaminated vessel wash water. Waste Discharge License (WDL) #W009046-5Y-A-N authorized the daily maximum discharge of 1,000 gallons per day (gpd) of treated AFP contaminated vessel wash water to certain Class SB and SC waters of the State.

Public notice of the Department's intent to renew the October 14, 2009 General Permit was made on or about May 1, 2014 in the Bangor Daily, Brunswick Times Record, Kennebec Journal, Portland Press Herald, Sun Journal, and the Ellsworth American newspapers. The notice solicited comments on the draft permit and provided an opportunity to request a public hearing.

2. PERMIT SUMMARY

The Department is carrying forward all the terms and conditions of the October 14, 2009 General Permit except that it is:

1. Adding new definitions for certain terms used in the General Permit that were not previously defined;
2. Adding a requirement to provide actual or estimated discharge flow volume information on the Notice of Intent form;
3. Eliminating the biochemical oxygen demand (BOD₅) and total suspended solids (TSS) concentration limits to correct an administrative error;
4. Amending the biochemical oxygen demand (BOD₅) and total suspended solids (TSS) mass limits based on facility results;
5. Amending the daily maximum copper limit based on the correction of the ambient water quality criteria (AWQC) for from the previous General Permit; and
6. Eliminating the concentration limits for copper, lead, and zinc pursuant to 38 M.R.S.A. § 464(4)(K).

3. DESCRIPTION OF PERMITTED ACTIVITIES

This General Permit authorizes the discharge of treated AFP contaminated wash water to certain surface waters of the state. Specifically, this General Permit regulates the washing of vessel hulls after removing the vessel from the water while the hull is still wet, or after the hull has dried. Hull washing involves a process that may include pressure washing using high pressure water jet(s) to remove marine growth, dirt and paint at and below the water line of the vessel or manually scrubbing the hull and rinsing with low pressure water. All vessel wash water contaminated with AFP must be captured and treated. Any solid waste not captured by the treatment system must be disposed of in accordance with applicable state and federal law.

4. AREA OF COVERAGE

The geographic area covered by this General Permit is limited to Class SB or SC marine or estuarine waters of the State of Maine that are in compliance with the standards of their ascribed classifications, except those Class SB or SC waters within the Saco River estuary and those Class SB or SC waters having a drainage area of less than 10 square miles at the point of discharge, as determined by the Department. The direct discharge of pollutants to Class SA waters is prohibited by *Standards for classification of estuarine and marine waters*, 38 M.R.S.A. § 465-B(1)(c); thus, Class SA waters within the geographic area of coverage are excluded.

The Department will determine on a case-by-case basis for each proposed discharge whether applicable water quality standards are currently achieved. This determination will be based on the status of water quality as specified in the State of Maine's biennial Integrated Water Quality Monitoring and Assessment Report, prepared pursuant to Sections 303(d) and 305(b) of the *Federal Water Pollution Control Act*, or other available relevant data.

The 2012 Integrated Water Quality Monitoring and Assessment Report lists the Saco River Estuary in Category 5-A: *Estuarine and Marine Waters Impaired by Pollutants Other Than Those Listed in 5-B Through 5-D (TMDL Required)* for copper. Because the discharge of AFP vessel wash water may contain copper, this General Permit is excluding the Saco River estuary from the area of coverage.

5. ADMINISTRATIVE REQUIREMENTS

The General Permit's administrative procedures and requirements are drawn from *Rules Concerning the Processing of Applications and Other Administrative Matters* 06-096 CMR 2, *General Permits for Certain Wastewater Discharges* 06-096 CMR 529 and applicable Maine laws. Individuals seeking coverage under this General Permit must file a Notice of Intent (NOI) containing sufficient information and facts as to allow the Department to determine if the proposed facilities are anticipated to comply with the General Permit terms and conditions. Pursuant to 06-096 CMR 2, within 30 days prior to filing the NOI with the Department, an applicant for coverage under this General Permit is required to give public notice of its intent to submit a NOI to the Department, and an original or photocopy of the public notice must be submitted to the Department with the NOI.

Once a completed NOI is received, the Department has a maximum of 30 days in which to act on it. If no other action is taken within that 30-day period, the NOI is considered approved on the 31st day following the Department's receipt of the NOI.

5. ADMINISTRATIVE REQUIREMENTS (cont'd)

The term of this General Permit is five years. Coverage under this General Permit will be continued from year to year through payment of an applicable annual fee pursuant to *Maine Environmental Protection Fund*, 38 M.R.S.A. § 353-B, provided there are no changes in the facility or its operation as described in the NOI. Prior to expiration of this General Permit, the Department shall make a determination if it is to be renewed, and, if so, will commence renewal proceedings. Not less than 24 months prior to expiration of this General Permit, the Department must notify all permittees covered under this General Permit of the decision to renew or not renew the General Permit. If the General Permit is to be renewed, it shall remain in force until the Department takes final action on the renewal. Upon reissuance of a renewal General Permit, persons wishing to continue coverage must apply for coverage under the renewal General Permit not later than 30 days following the issuance date of the renewal General Permit.

6. CONDITIONS OF PERMITS

Conditions of licenses, 38 M.R.S.A. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420 and *Surface Waters Toxics Control Program* 06-096 CMR 530 (effective March 21, 2012) require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective July 29, 2012), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

7. RECEIVING WATER QUALITY STANDARDS

The State's water quality standards establish water quality objectives for all State waters by: (1) designating uses and related characteristics of those uses for each class of water, and (2) prescribing water quality criteria necessary to protect those uses and related characteristics. In addition, the State's antidegradation policy protects and maintains certain existing uses.

The applicability of this General Permit is restricted to discharges to certain estuarine or marine waters of the State classified as SB or SC pursuant to *Classifications of estuarine and marine waters*, 38 M.R.S.A. § 469 and that meet the standards of their ascribed classification, or where not, only if the discharge does not cause or contribute to the failure of the water body to meet the standards of classification. 38 M.R.S.A. § 465-B(2) and (3) describe the standards for Class SB and Class SC waters, respectively.

Relevant standards for Class SB and SC waters:

- Designated Uses. Class SB waters must be of such quality that they are suitable for the designated uses of recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation and as habitat for fish and other estuarine and marine life. The habitat must be characterized as unimpaired.

7. RECEIVING WATER QUALITY STANDARDS (cont'd)

- Water Quality Criteria. The dissolved oxygen content of Class SB waters must be not less than 85% of saturation. Between May 15th and September 30th, the numbers of enterococcus bacteria of human and domestic animal origin in these waters may not exceed a geometric mean of 8 per 100 milliliters or an instantaneous level of 54 per 100 milliliters. The numbers of total coliform bacteria or other specified indicator organisms in samples representative of the waters in shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration (USFDA).

Discharges to Class SB waters may not cause adverse impact to estuarine and marine life in that the receiving waters must be of sufficient quality to support all estuarine and marine species indigenous to the receiving water without detrimental changes in the resident biological community³. There may be no new discharge to Class SB waters that would cause closure of open shellfish areas by DMR.

- Designated Uses. Class SC waters must be of such quality that they are suitable for recreation in and on the water, fishing, aquaculture, propagation and restricted harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation and as a habitat for fish and other estuarine and marine life.
- Water Quality Criteria. The dissolved oxygen content of Class SC waters must be not less than 70% of saturation. Between May 15th and September 30th, the numbers of enterococcus bacteria of human and domestic animal origin in these waters may not exceed a geometric mean of 14 per 100 milliliters or an instantaneous level of 94 per 100 milliliters. The numbers of total coliform bacteria or other specified indicator organisms in samples representative of the waters in restricted shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, USFDA.

Discharges to Class SC waters may cause some changes to estuarine and marine life provided that the receiving waters are of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community.

- Antidegradation Policy. State waters are protected by the State's antidegradation policy which provides that certain existing in-stream water uses and the level of water quality necessary to protect those existing uses must be maintained and protected. *Classification of Maine waters*, 38 M.R.S.A. § 464(4)(F).

38 M.R.S.A. § 464(4)(A)(4) states "(A) Notwithstanding section 414-A, the department may not issue a water discharge license for any of the following discharges (4) Discharge of pollutants to waters of the State that imparts color, taste, turbidity, toxicity, radioactivity or

³ "Without detrimental changes in the resident biological community" is defined as "no significant loss of species or excessive dominance by any species or group of species attributable to human activity." 38 M.R.S.A. § 466(12). The term "indigenous" means "supported in a reach of water or known to have been supported according to historical records compiled by State and Federal agencies or published scientific literature." 38 M.R.S.A. § 466(8).

7. RECEIVING WATER QUALITY STANDARDS (cont'd)

other properties that cause those waters to be unsuitable for the designated uses and characteristics ascribed to their class.”

38 M.R.S.A. § 464(4)(B) states “All surface waters of the State shall be free of settled substances which alter the physical or chemical nature of bottom material and of floating substances, except as naturally occur, which impair the characteristics and designated uses ascribed to their class.”

8. RECEIVING WATER QUALITY CONDITIONS

The State of Maine 2012 Integrated Water Quality Monitoring and Assessment Report (Report), prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Control Act, indicates there are a total of 1,821,293 acres listed under SA, SB, and SC classifications. A total of 1,721,748 acres are listed under Category 2: Total Attaining At Least One Standard. Class SA waters (waters not covered under this General Permit) make up 7.98% of the total marine waters. Including Class SA waters, 93% of the marine and estuarine waters within the State are attaining standards for some uses with insufficient information on other uses, and 6.7% as being impaired for one or more uses (Category 4 and 5). Of the total impaired waters, 5.3% are impaired due to bacteria. The Saco River Estuary is the only waterbody with an impaired use due to copper in combination with other pollutants (elevated fecals) and is excluded from the area of coverage.

As permitted, the discharges will not cause or contribute to the non-attainment of the receiving waters since their ambient concentration will be below applicable water quality criteria after a reasonable opportunity for dilution at the point of discharge.

9. DESCRIPTION OF TREATMENT

All AFP contaminated wash water that will be discharged under this General Permit must be collected and treated prior to discharge.

This General Permit requires: 1) that the discharge receives best practicable treatment; and 2) that the discharge does not cause or contribute to non-attainment of water quality standards. The previous General Permit gave examples of potential treatment systems. The Department does not prescribe or specify the method by which a permittee complies with this General Permit. The permittee must provide a description of the proposed treatment system and include a basis statement for how the proposed treatment system will achieve compliance with the terms and conditions established in the General Permit.

10. DISCHARGE LIMITATIONS & CONTROLS

USEPA has not promulgated effluent guideline limitations for this category of discharge. Limitations on discharges contained in this General Permit are specified to ensure that ambient water quality standards are maintained and that BPT technology is applied to the discharge. This General Permit imposes the more stringent of either a water quality-based or BPT-based limit.

10. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

Since 1915, when Danish manufacturer J.C. Hempel invented the first marine AFPs, they have protected virtually all seagoing vessel hulls, primarily through the use of cuprous oxide in a paint base. The primary AFP used on these vessels contained tributyltin. Due to its persistence in the environment and very high broad spectrum toxicity, the use of tributyltin in AFPs is tightly regulated, and discharge of tributyltin is banned in Maine. Other pesticides that have been used in AFPs historically include: Diuron; dichlofluanid; tolylfluanid; Zineb, and deltamethrin. Although some of these continue to be registered in Maine for use in AFPs, they are not found in most commercially available vessel AFPs.

With the heightened awareness of the potential impacts of AFPs on the environment, paint manufacturers have been developing pesticides that are targeted more specifically to the fouling organisms and have less persistence in the environment while still providing effective protection of vessels. The compounds frequently found in current AFPs include: copper oxide(s), copper pyrithione, copper thiocyanate; zinc oxide, zinc pyrithione; SeaNinetm (4,5-dichloro-2-n-octyl-4-isothiazolin-3-one); and Irgaroltm (1,3,5-triazine-2,4-diamine).

The addition of the “booster biocides” SeaNinetm and Irgaroltm can result in effective paints with lower copper levels. However, because the compounds are relatively new, their long term persistence in the environment and impacts on non-target organisms through food chain disruption is not well understood. Several paint manufacturers now offer AFPs that do not contain any copper by using only zinc pyrithione as the active biocide.

During end-of-season cleaning and storage, most vessels are hauled from the water and pressure washed before being transported to their winter storage location. During the hull pressure washing, high pressure water is used to remove marine growth. However, along with the marine growth, AFP still adhering to the hull is also normally removed resulting in AFP contaminated wastewater. The level of AFP contamination can vary significantly depending on type of paint used, how well the paint adheres to the vessel, and how the washing is performed.

- a. Flow: The previous General Permit established, and this permitting action is carrying forward, a monthly average discharge flow limit of 600 gpd and a daily maximum discharge flow limit of 1,000 gpd. This permit requires the facility to measure flows once per discharge day, which is consistent with the flow monitoring requirement for other similar facilities.

All effluent limitation calculations in this permit are based on the flow as estimated via pressure washer flow rates and actual measured times for various vessel lengths. The Department estimates that it takes 1.3 minutes (on average) to pressure wash one linear foot of vessel length based on a 40-foot vessel normally taking 30 minutes to pressure wash. Pressure washers vary in flow rate from 1.5 to 4.5 gpm, so the Department assumed an average flow of 3.0 gpm. Based on Department of Inland Fisheries and Wildlife registration data, the average size of vessel that would normally be hauled at a vessel maintenance facility is 32'. Using the above assumptions results in a discharge of 125 gallons per 32' vessel. Most boatyards and marinas in Maine will haul 5-8 vessels per day, resulting in a daily maximum discharge of 1,000 gpd.

10. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

b. Dilution Factors: 06-096 CMR 530(4)(A)(2)(a-c) states:

- (a) For discharges to the ocean, dilution must be calculated as near-field or initial dilution, or that dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low water level and slack tide for the acute exposure analysis, and at mean tide for the chronic exposure analysis using appropriate models determined by the Department such as MERGE, CORMIX or another predictive model.
- (b) For discharges to estuaries, dilution must be calculated using a method such as MERGE, CORMIX or another predictive model determined by the Department to be appropriate for the site conditions.
- (c) In the case of discharges to estuaries where tidal flow is dominant and marine waters, the human health criteria must be analyzed using a dilution equal to three times the chronic dilution factor.

Using the assumptions that follow and the CORMIX model, the Department has determined that the dilution factor for the discharge of an average of 600 gpd of treated AFP contaminated wash water to waterbodies defined in the area of coverage and meeting the permit requirements is 272:1 at a discharge depth of 10 feet at mid-tide, or 5 feet at low tide, and a continuous even flow over a 24-hour period. This is the most conservative estimate for dilution, assuming a 0 foot per second ambient velocity and will be considered the chronic dilution ratio. It is likely that the discharge will occur during a more concentrated time period. Modeling indicates that discharging the maximum permitted volume during a shorter period of time, 12 hours, results in an increased dilution of 428:1 due to the increased velocity of the effluent as it exits the outfall, resulting in greater initial mixing. The 428:1 ratio will be considered the acute dilution factor.

- c. BOD₅: BOD is generated by the decay of marine growth that is removed from the hull during pressure washing. Marine growth may include but is not limited to; various forms of bacteria, algae, mollusks, and shellfish.

In the absence of promulgates standards for this category, the previous General Permit established daily maximum and monthly average BOD₅ concentration limits of 50 mg/L and 30 mg/L, respectively, based on secondary treatment standards for publicly owned treatment works (POTWs) as a Department best professional judgment (BPJ) of BPT.

Since that time, the Department has amassed effluent BOD₅ data from permittees with appropriate treatment technologies. This data indicates that even with appropriate technologies, effluent quality cannot meet the previous permit limits established in the previous General Permit. Therefore, the Department used the data to calculate 95th and 99th percentile concentrations (below), for facilities with treatment:

Daily Maximum: 906 mg/L
Monthly Average: 564 mg/L

10. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

Based on this new data, the Department applied the following calculation for mass conversion from concentration:

$$\begin{aligned} \text{Daily Maximum: } & (0.001 \text{ MGD})(8.34 \text{ lbs/gallon}) (906 \text{ mg/L}) = 7.56 \text{ lbs/day} \\ \text{Monthly average: } & (0.0006 \text{ MGD})(8.34 \text{ lbs./gallon})(564 \text{ mg/L}) = 2.82 \text{ lbs/day} \end{aligned}$$

These technology-based thresholds represent achievable effluent quality levels for BOD while also being protective of water quality standards as analyzed by the Department's Division of Environmental Assessment.

The Department believes that these limits represent BPJ of BPT for this category of discharge. This General Permit is establishing the monthly average and daily maximum mass limits of 2.82 lbs./day and 7.56 lbs./day, respectively.

Increasing the numeric mass limit for BOD complies with the anti-backsliding provision at 40 CFR 122.44(l)(2)(i)(B)(1), as the data used for the revised limits is information which was not available at the time the previous permit was issued and which would have justified the application of less stringent effluent limitations at the time of permit issuance.

- d. TSS: The suspended solids in the wash water come from the coloring pigments in the paint residue, as well as from marine growth. Marine growth may include but is not limited to; various forms of bacteria, algae, mollusks, and shellfish.

As with BOD₅, in the absence of promulgated standards for this category, the previous General Permit established daily maximum and monthly average TSS concentration limits of 50 mg/L and 30 mg/L, respectively, based on secondary treatment standards for POTWs as a Department BPJ of BPT.

Since that time, the Department has amassed effluent TSS data from permittees with appropriate treatment technologies. This data indicates that even with appropriate technologies, effluent quality cannot meet the previous permit limits established in the previous General Permit. Therefore, the Department used the data to calculate 95th and 99th percentile concentrations (below), for facilities with treatment:

$$\begin{aligned} \text{Daily Maximum: } & 138 \text{ mg/L} \\ \text{Monthly Average: } & 118 \text{ mg/L} \end{aligned}$$

Based on this new data, the Department applied the following calculation for mass conversion from concentration:

$$\begin{aligned} \text{Daily Maximum: } & (0.001 \text{ MGD})(8.34 \text{ lbs/gallon}) (138 \text{ mg/L}) = 1.15 \text{ lbs/day} \\ \text{Monthly average: } & (0.0006 \text{ MGD})(8.34 \text{ lbs./gallon})(118 \text{ mg/L}) = 0.59 \text{ lbs/day} \end{aligned}$$

These technology-based thresholds represent achievable effluent quality levels for TSS while also being protective of water quality standards as analyzed by the Department's Division of Environmental Assessment.

10. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

The Department believes that these limits represent BPJ of BPT for this category of discharge. This General Permit is establishing the monthly average and daily maximum mass limits of 0.59 lbs./day and 1.15 lbs./day, respectively.

Increasing the numeric mass limit for TSS complies with the anti-backsliding provision at 40 CFR 122.44(l)(2)(i)(B)(1), as the data used for the revised limits is information which was not available at the time the previous permit was issued and which would have justified the application of less stringent effluent limitations at the time of permit issuance.

- e. Metals - 38 M.R.S.A. § 414-A and 38 M.R.S.A. § 420 prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA.

06-096 CMR 584 sets forth AWQC for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters. The following is a list of applicable marine AWQC for metals (total) regulated by this General Permit for this category of discharge:

<u>Copper</u>	
Acute	Chronic
5.78 µg/L	3.73 µg/L
<u>Lead</u>	
Acute	Chronic
221 µg/L	8.52 µg/L
<u>Zinc</u>	
Acute	Chronic
95 µg/L	86 µg/L

06-096 CMR 530(3)(D) states, “*Expression of effluent limits. Where the need for effluent limits has been determined, limits derived from acute water quality criteria must be expressed as daily maximum values. Limits derived from chronic or human health criteria must be expressed as monthly average values.*” This permit is carrying forward monthly average (chronic) and daily maximum (acute) EOP mass limits for copper, lead and zinc as these metals are anticipated to be present in the discharge. The derivation for these limits is as follows:

$$\text{Concentration Limit Formula} = [(\text{Dilution Factor})(0.75)(\text{criterion})] + [(0.25)(\text{criterion})]$$

$$\text{Mass Limit Formula} = \frac{(\text{Conc. Limit, } \mu\text{g/L})(8.34\text{lbs/gal})(\text{flow limit, mgd})}{1000 \mu\text{g/mg}}$$

In May 2012, 38 M.R.S.A. § 464 was enacted which reads as follows, “Unless otherwise required by an applicable effluent limitation guideline adopted by the department, any limitations for metals

10. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

in a waste discharge license may be expressed only as mass-based limits.” Therefore, this General Permit is eliminating the concentration limits for metals.

Copper

Copper as cuprous oxide(s) is a nearly ubiquitous contaminant in municipal, industrial, and storm water discharges. Industrial point sources include electronics manufacturing, metals products and machine shops. Municipal sources include copper leaching from residential plumbing affected by acidic potable water supplies. Copper has long been used as an effective fungicide in orchards and to prevent moss and lichen growth on house roofs. The aqueous cupric ion, not complexed with organic and inorganic compounds, is acutely toxic to a wide variety of terrestrial and marine organisms particularly in the larval and planktonic forms by disrupting adenotriphosphate (ATP) exchange in the cellular metabolism. Copper is rapidly and readily complexed in the marine environment, making it less biologically available and less toxic. However, it is a persistent contaminant and can have significant impacts on non-target organisms. It is considered most effective against “hard” fouling organisms including mussels and barnacles.

The previous permitting action established monthly average and daily maximum mass limitations based on the formulas listed above, however, an error in the calculation for total Copper was identified in the previous General Permit. Correction of the calculation resulted in the limit going from 0.016 lbs./day to 0.015 lbs./day. End-of-pipe (EOP), water quality-based daily maximum and monthly average limits for copper (total) are calculated as follows:

Copper (Total):

Acute AWQC = 5.78 µg/L or .00578 mg/L

Acute dilution = 428:1

Chronic AWQC = 3.73 µg/L or .00373 mg/L

Chronic dilution factor = 272:1

$$\begin{aligned} \text{Daily Maximum Conc.} &= [(428)(0.75)(5.78 \mu\text{g/L})] + (0.25)(5.78 \mu\text{g/L}) \\ &= 1855.38 + 1.445 \\ &= 1856.83 \mu\text{g/L} \end{aligned}$$

$$\text{Daily Maximum Mass} = \frac{(1,856.83 \mu\text{g/L})(8.34 \text{ lbs/gal})(0.001 \text{ mgd})}{1000 \mu\text{g/mg}} = \mathbf{0.015 \text{ lbs./day}}$$

$$\begin{aligned} \text{Monthly Average Conc.} &= [(272)(0.75)(3.73 \mu\text{g/L})] + (0.25)(3.73 \mu\text{g/L}) \\ &= 760.92 + 0.93 \\ &= 761.85 \mu\text{g/L} \end{aligned}$$

$$\text{Monthly Average Mass} = \frac{(761.85 \mu\text{g/L})(8.34 \text{ lbs/gal})(0.0006 \text{ mgd})}{1000 \mu\text{g/mg}} = 0.0038 \text{ lbs./day} \text{ *Rounded to } \mathbf{0.004 \text{ lbs./day}}$$

10. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

Lead

Lead is not identified as an active ingredient in AFPs, but appears to be a contaminant of zinc compounds used in the paints. Before being eliminated from gasoline, lead was a nearly ubiquitous contaminant in storm water discharges and already widely contaminates coastal sediments.

Historical sources of lead discharges in Maine include metal finishing, electronics textile, pulp and paper manufacturers. It is still widely used in lead acid batteries, vessel ballast, fishing line sinkers, and diving weights. Lead is a potent neurotoxin, and due to its stability it also bioaccumulates.

Sub-lethal doses of lead can result in behavioral changes that can disrupt entire ecosystems. EOP, water quality-based daily maximum and monthly average limits for lead (total) are calculated as follows:

Lead (Total):

Acute AWQC = 221 µg/L or 0.221 mg/L

Acute dilution = 428:1

Chronic AWQC = 8.52 µg/L or 0.00852 mg/L

Chronic dilution factor = 272:1

$$\begin{aligned} \text{Daily Maximum Conc.} &= [(428)(0.75)(221 \mu\text{g/L})] + (0.25)(221 \mu\text{g/L}) \\ &= 70,941 + 55.25 \\ &= 70,996.25 \mu\text{g/L} \end{aligned}$$

$$\text{Daily Maximum Mass} = \frac{(70,996.25 \mu\text{g/L})(8.34 \text{ lbs/gal})(0.001 \text{ mgd})}{1000 \mu\text{g/mg}} = \mathbf{0.592 \text{ lbs./day}}$$

$$\begin{aligned} \text{Monthly Average Conc.} &= [(272)(0.75)(8.52 \mu\text{g/L})] + (0.25)(8.52 \mu\text{g/L}) \\ &= 1738.08 + 2.13 \\ &= 1740.21 \mu\text{g/L} \end{aligned}$$

$$\text{Monthly Average Mass} = \frac{(1740.21 \mu\text{g/L})(8.34 \text{ lbs/gal})(0.0006 \text{ mgd})}{1000 \mu\text{g/mg}} = \mathbf{0.008 \text{ lbs./day}}$$

Zinc

Zinc as zinc oxide and its salts (zinc pyrithione) is also a ubiquitous contaminant. In addition to non-point sources from land, a significant source of zinc contamination in marine waters is due to the use of sacrificial zinc anodes use to prevent structural loss of steel on steel vessels. Zinc oxide and zinc pyrithione are primarily an anti-fungal and antibacterial compound, zinc oxide are the primary ingredient in soothing protective ointments for children effective against streptococcus and staphylococcus bacteria. Zinc pyrithione is best known in its use for treating dandruff and seborreic dermatitis. Its antifungal effect is probably by disrupting cellular membrane transport. In AFP zinc compounds are considered algacides.

Zinc pyrithione has been demonstrated to be unstable in the marine environment, readily trans-chelating with copper, resulting in copper pyrithione and zinc salts. Zinc pyrithione is quickly

10. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

photodegradable but in conditions typical to marine AFP use, the low light conditions of Maine waters would result in a much longer persistence and potential effect on non-target organisms and potential accumulations in the sediments.

EOP, water quality-based daily maximum and monthly average limits for zinc (total) are calculated as follows:

Zinc (Total):

Acute AWQC = 95 µg/L or 0.095 mg/L

Acute dilution = 428:1

Chronic AWQC = 86 µg/L or 0.086 mg/L

Chronic dilution factor = 272:1

$$\begin{aligned} \text{Daily Maximum Conc.} &= [(428)(0.75)(95 \mu\text{g/L})] + (0.25)(95 \mu\text{g/L}) \\ &= 30,495 + 23.75 \\ &= 30,518.75 \mu\text{g/L} \end{aligned}$$

$$\text{Daily Maximum Mass} = \frac{(30,518.75 \mu\text{g/L})(8.34 \text{ lbs/gal})(0.001 \text{ mgd})}{1000 \mu\text{g/mg}} = \mathbf{0.255 \text{ lbs./day}}$$

$$\begin{aligned} \text{Monthly Average Conc.} &= [(272)(0.75)(86 \mu\text{g/L})] + (0.25)(86 \mu\text{g/L}) \\ &= 17,544 + 21.5 \\ &= 17,565.5 \mu\text{g/L} \end{aligned}$$

$$\text{Monthly Average Mass} = \frac{(17,565.5 \mu\text{g/L})(8.34 \text{ lbs/gal})(0.0006 \text{ mgd})}{1000 \mu\text{g/mg}} = \mathbf{0.088 \text{ lbs./day}}$$

11. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

Specific pollutants generated during the authorized activity include: BOD from the marine growth that may have adhered to the vessel hull; suspended solids from the AFP pigment residue; copper, lead, zinc, chromium and several other pesticide compounds from the AFP residue; and minor amounts of oil and grease from engine exhaust discharges or other exposed portions of the propulsion system (if present). Narrative limitations are protective of water quality standards as they prohibit discharges that result in a visible sheen, turbidity, discoloration, etc. to the waterbody.

The Department has considered impacts from each of these pollutants and developed permit limits to address or control each. As permitted, facilities that discharge AFP contaminated wash water operating in compliance with the terms of conditions of this General Permit, will not cause or contribute to non-attainment of applicable water quality standards.

12. ANTIDegradation

The State's antidegradation policy is set forth at 38 M.R.S.A. §464(4)(F). The Department has determined that the discharge of treated AFP contaminated vessel wash water in accordance with the terms and conditions of this General Permit will not violate the provisions of the antidegradation policy.

13. PUBLIC COMMENTS

Public notice of this intent to renew the October 14, 2009 General Permit was made on or about May 1, 2014 in the Bangor Daily, Brunswick Times Record, Kennebec Journal, Portland Press Herald, Sun Journal, and the Ellsworth American newspapers. The Department receives public comments on an application until the date a final agency action is taken on the application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses*, 06-096 CMR 522 (effective January 12, 2001).

14. RESPONSE TO COMMENTS

In accordance with the National Pollutant Discharge Elimination System Memorandum of Agreement Between the State of Maine and the United States Environmental Protection Agency, finalized on January 12, 2001, and 40 CFR 123.44(a)(2), the USEPA make take up to 90 days from receipt of the proposed General Permit to comment upon, object to or make recommendations with respect to the proposed permit. During the period of May 12, 2014 through the effective date of this final agency action, the Department solicited comments on the draft General Permit – Antifouling Paint Contaminated Vessel Wash Water. The Department received one significant comment from the USEPA via electronic mail dated June 17, 2014. The comment and Department response are summarized below. It is noted that minor typographical and grammatical errors identified in comments were not included in this section, but were corrected, where necessary, in the final permit.

Comment #1: “EPA is concerned with the elimination of concentration based limits for BOD, TSS, Cu, Pb and Zn and with the removal of concentration-based reporting requirements for Cu, Pb, and Zn. EPA raised this concern in connection in 2012 when 38 M.R.S.A. § 464 was being enacted which reads as follows, ‘Unless otherwise required by an applicable effluent limitation guideline adopted by the department, any limitations for metals in a waste discharge license may be expressed only as mass-based limits.’ EPA’s concern is that mass-based limits without concentration-based limits may not be protective of [f] water quality standards and designated uses in all situations, such as to prevent acute toxic effects at low flows and/or with minimum dilution. Here the mass-based limits were calculated based on 1000 gpd, assuming the wash water from 5-8 boat washes a day and a discharge spread over hours. With fewer boat washes these mass-based limits allow the discharge concentrations to increase considerably. The concentration based limits also provide a check that could be applied to specific receiving waters rather than reliance on the generic dilution calculation in the fact sheet.”

14. RESPONSE TO COMMENTS (cont'd)

Response #1: The General Permit stipulates the outfall pipe be covered by at least 5 feet of water at mean low tide. Due to Maine's 10-foot tide, most facilities are unable to haul vessels at mean low tide and can, in fact, only haul boats within a few hours of high tide, increasing the depth of water over the pipe by 5 to 10 feet. With the additional water volume associated with the timing of discharges from permitted facilities the Department is making a best professional judgment determination that the available dilution and compliance with the mass-based limits will be protective of water quality standards and all designated uses ascribed to Class SB and SC waters.

Comment #2: During internal review by Department staff, it was determined that Special Condition J of the draft General Permit, Operations and Maintenance (O&M) Plan, contained language that is inconsistent with Standard Condition C.2 of *Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*, revised July 1, 2002.

Response #2: The Department determined that the standard condition requiring the proper operation and maintenance of all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit was adequate for the size and complexity of these treatment systems and category of discharge without additional permit conditions. Special Condition J of the draft General Permit was eliminated in the final permit.

15. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from, and written comments sent to:

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