

New York State Department of Environmental Conservation

Assistant Commissioner

Office of Water Resources, 14th Floor

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Joe Martens
Acting Commissioner

FEB 07 2011

Re: New York State DEC Division of Water
EPA VGP CWA 401 Certification Conditions
Vessel Extension Letter
Condition 2 Ballast Water

Dear Sir or Madam:

The New York State Department of Environmental Conservation (Department) has received your request for an extension to the implementation date for Condition 2 of New York's Clean Water Act 401 Water Quality Certification (WQC) to the Environmental Protection Agency's (EPA's) Vessel General Permit (VGP). New York's WQC is incorporated herein by reference. As noted in the text of Condition 2 of the WQC, "No extensions will be made to this implementation date, unless an entity covered under the permit makes a request for an extension to the Department and can provide sufficient justification for such a request." This letter answers your request for a time extension to Condition 2 of the WQC for your vessel(s), meaning the vessel(s) listed in your request for extension, and/or vessels for which you have filed, or may file, a Notice of Intent (NOI) to be covered under the VGP.

After a review of the request for extension filed under your name, the Department has determined that the information you provided demonstrated that:

- 1.) There is a shortage in supply of the technology necessary to meet the limits set forth in the certificate, or a vessel-specific engineering constraint, or other factor related to the availability and installation of technology beyond the vessel owner/operator's control, that delays the technology being available and installed in time to comply with this standard; and/or
- 2.) The unavailability of supply or installation constraint is the only reason the January 1, 2012 date cannot be met; and/or
- 3.) The vessel has exhausted all other options to comply with this standard. *The Department has also determined that ballast water treatment technology capable of meeting the discharge criteria in Condition 2 of WQC has been developed as further explained in the Addendum attached to this letter.* Furthermore, the Department has determined that ballast water treatment technology continues to advance rapidly (as summarized in reports issued by Lloyd's Register and others, and illustrated by test results released by vendors such as Ecochlor: see Addendum), and that the extension offered herein will provide adequate time for the installation of a ballast water treatment system on your vessel(s) to meet New York's water quality standards.

The Department continues to be concerned about the economic and ecological impacts of aquatic invasive species, including their negative impacts on the fish and wildlife resources of New York and other states. Consistent with its December 17, 2008 statement in the WQC the Department finds an ongoing need for discharge standards that will reduce these ecological and economic impacts in a way that meets the requirements of federal and state law, including state water quality standards. The economic disruption to communities just from the zebra mussel alone has already cost billions of dollars. The effects of other invasive species such as the round goby, spiny flea and Asian shore crab continue to threaten the economic vitality of the fishing and recreational waters of New York and the Great Lakes.

By copy of this letter, the Department extends the implementation date for your vessel(s), and all other similarly situated vessels, to comply with Condition 2 of New York's WQC to midnight August 1, 2013. In granting the extension, the Department expects you to play an active role in ensuring the timely availability of the technology needed to comply with Condition 2, and in installing compliant treatment system(s) on your vessel(s) by August 1, 2013. In the event that EPA issues a new VGP prior to midnight August 1, 2013, the Department reserves the right to incorporate the August 1, 2013 compliance deadline in a new Clean Water Act 401 Water Quality Certification.

If a ballast water treatment system that meets the discharge criteria in Condition 2 of the WQC is not installed on your vessel(s) by August 1, 2013, then such vessel(s) operating in New York waters will be deemed out of compliance with New York's WQC to the EPA's VGP.

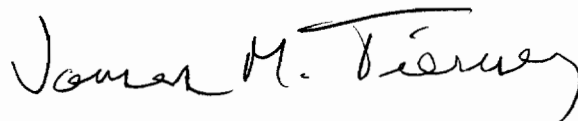
Additional requests for extensions to the implementation date for Condition 2 of New York's WQC may be considered on a case-by-case basis. In considering such requests, the Department will look more favorably on cases where substantial effort and progress have been demonstrated by documentation which must:

- 1.) Provide a record of your progress over time in identifying and installing the necessary technology on your vessel(s), including descriptions of steps you have taken at intervals no more than nine months apart, and also including current information which covers the most recent three months or other reasonable time period preceding the date of your request;
- 2.) List each ballast water treatment system you have evaluated that is reasonably capable of installation on your vessel;
- 3.) Describe, for each ballast water system you have listed, its potential to meet the requirements of Condition 2 of New York's WQC;
- 4.) Explain, for each ballast water system you have described, how you reached a conclusion about its potential to meet the requirements of Condition 2 of New York's WQC;
- 5.) Determine, for each ballast water system you have described, its availability for installation on your vessel(s); and
- 6.) Describe the active efforts you took to ensure that ballast water system(s) capable of meeting the requirements of Condition 2 of New York's WQC would be

installed on your vessel(s) by August 1, 2013, including reference to vessel-specific plans prepared by a qualified engineer or naval architect that show installation details of the work in progress on your vessel(s). In the event you have not already begun to install such system(s) onboard your vessel(s) as of the date of your extension request, you must provide clear and substantial justification that shows how an additional extension will serve the purpose of bringing your vessel(s) into compliance within a short additional period of time.

In considering such requests, the Department reserves the right to apply a more flexible extension policy to vessels enrolled in the U.S. Coast Guard's Shipboard Technology Evaluation Program (STEP) and equivalent technology demonstration programs than to other vessels. Other conditions of New York's WQC relating to graywater and bilge water remain unchanged unless extensions are provided by separate letter.

Sincerely,

A handwritten signature in black ink that reads "James M. Tierney". The signature is written in a cursive style with a prominent horizontal line above the name.

James M. Tierney
Assistant Commissioner

Addendum: Comparison of Ecochlor data to requirements of New York Condition 2

The New York State Department of Environmental Conservation has determined that Ecochlor's land-based test report for runs 7-16 (see Final Report issued February 2009 by NIOZ at www.regulations.gov/search/Regs/home.html#documentDetail?R=0900006480b130b5) shows results that are at or near the confidence level needed to demonstrate compliance with New York's Condition 2, as discussed below. Condition 2 is part of New York's Water Quality Certification (WQC) to EPA's Vessel General Permit (VGP). New York's WQC, incorporated herein by reference, can be found starting on p. 82 of EPA's VGP which is online at www.epa.gov/npdes/pubs/vessel_vgp_permit.pdf. Confidence level calculations are based on a Poisson distribution (see Lee et al., *Density Matters*, EPA/600/R-10/031, 2010) and based on the assumption that living organisms are randomly distributed.

1. *Zooplankton*. Statistical confidence that Ecochlor's system meets the 0.1 per m³ living organism limit for organisms >50 µm (corresponding generally to zooplankton) is 57.68%, based on run 7-16 test results in which 2 living organisms were counted in a total sample volume of 30 m³. In this and following paragraphs, "total sample volume" refers to total sample volume prior to concentration. Runs 7-16 are those in which the Ecochlor system operated in its standard configuration (including filter) at a 5 mg/liter concentration of chlorine dioxide. See Table 8 of the NIOZ report.

2. *Phytoplankton*. Statistical confidence that Ecochlor's system meets the 0.1 per ml living organism limit for organisms 10-50 µm (corresponding generally to phytoplankton) is in the range of 83.64% to 100.00%, based on run 7-16 test results in which total sample volume was 100 liters, and depending on how the "E-T5*" results reported in Table 9 as "<0.1 cell/ml" are interpreted. If the E-T5* results listed as "<0.1 cell/ml" are conservatively interpreted to mean ≤0.099 cell/ml, then the 0.1 per ml living organism limit is met with a statistical confidence of 83.64%. Alternatively, if the E-T5* results listed as "<0.1 cell/ml" are interpreted to mean ≤0.096 cell/ml, then the limit is met with a statistical confidence of 100.00%.

3. *Indicator microorganisms*. Statistical confidence that Ecochlor's system meets the 126 cfu per 100 ml limit for *E. coli* is 100.00%, based on run 8-16 test results in which <0.1 count/ml was reported for the 5.4-liter total sample volume obtained from the nine test runs. See p. 22 and Table 12 of the NIOZ report. (No *E. coli* data are reported for run 7.) Statistical confidence that the 33 cfu per 100 ml limit will be met for intestinal enterococci cannot be readily determined from Table 12 because the detection limit for the reported data is too high (all ten runs are reported as "<1 count/ml"), but compliance is expected to be routinely achievable for this microorganism based on the known effectiveness of chlorine dioxide and based on the fact that the 33 cfu per 100 ml limit is also the U.S. federal primary recreational water quality criterion which is routinely measured and met. This limit differs from the IMO limit for intestinal enterococci by only a factor of three. For *vibrio cholera*, the NIOZ report lists no test results in Table 12, apparently because *vibrio cholera* was not present in the intake water at the test facility. Page 38 of the NIOZ report refers to studies that show the effectiveness of chlorine dioxide against *vibrio cholera*. Compliance with the New York limit for this microorganism is expected to be routinely achievable, partly for the above reasons and partly because the New York limit is the same as the IMO standard for *vibrio cholera*.

As noted, these results are at or near the confidence level needed to demonstrate compliance with New York's Condition 2. Other technologies may also currently exist that comply with Condition 2, and it is expected that more technologies will be developed to comply with Condition 2 in the near future.