



## Consideration report

# Introduction of exhaust gas cleaning systems (EGCS) wash water discharge requirements & introduction of standardized mooring plans for all Container Terminals

## Background

Under the *Canada Marine Act*, all Canada Port Authorities may establish practices, procedures and safety control zones for ships and safe boating and recreational activities, within port jurisdiction. The Vancouver Fraser Port Authority is the federal agency responsible for maintaining the safe and efficient movement of marine traffic within the Port of Vancouver and has had navigational and safe boating regulations in place within its jurisdiction for a number of years to ensure the safety of all port users.

On November 24, 2021 the port authority issued a notice of amendment regarding:

- Introduce exhaust gas cleaning systems (EGCS) wash water discharge requirements
- Updated Definitions of Piloted Vessel, Tankers and the addition of “and/or”
- Updated Second Narrows Rail Bridge light procedures
- Introduction of new tug and tow minimum tug bollard guidelines
- Updated TCZ-2 Total Bollard Pull requirements
- Introduction of standardized mooring plans for all Container Terminals
- Refresh the Port Information Guide with general updates that will not affect intent or application

Following the 45-day public comment period, the port authority reviewed and considered all feedback before making updates to the practices and procedures. The final changes reflect the port authority’s commitment to promoting safety on the water for commercial traffic and recreational boaters alike, and can be found in the [Port Information Guide](#).

## Overview

The port authority received many comments during the comment period between November 24, 2021 and January 8, 2022. This consideration report summarizes comments received along with the port authority’s response to comments pertaining to the proposed amendments.

| Summary of comment received   | Response from Vancouver Fraser Port Authority                                |
|---|--|
| Clarity was requested on the new definition of "Piloted vessels" and its potential effects on Fraser River Pilots providing transit windows in TCZ-4.<br><br><b>1 comment</b> | Language will be updated with minor changes to reflect the comment received. |

|   |   |
|---|---|
| <p>Close “loopholes” by removing the clause excluding “main engines,” and include “hybrid engines.”</p> <p><b>9 comments</b></p>  | <p>Based on feedback received, the requirement in the Port Information Guide will be amended with the edits and additions below (underlined):</p> <p>The discharge of wash water from exhaust gas cleaning systems (EGCS) from all fuel combustion <u>running machinery</u> (excluding main engines) into the environment is not permitted while a vessel is at anchorage or at berth within the Port of Vancouver. This applies to the wash water from open-loop, closed-loop and <u>hybrid</u> EGCS. It does not apply to inert-gas scrubbers required by tankers for cargo operations and safety reasons.</p> <p><u>The treated bleed-off water from closed-loop and hybrid scrubbers must be held onboard for disposal to an authorized shore reception facility. If the system cannot be operated in zero-discharge mode, the vessel must switch over to compliant fuel. Vessels can alternatively use shore power if available.</u></p> |
| <p>Implement full restrictions on scrubbers immediately, rather than take a phased approach. Comments noted concerns about environmental impacts such as ocean acidification, air pollution, climate change, and impacts on aquatic species.</p> <p><b>9 comments</b></p> | <p>The port authority is committed to engaging further with industry, government, Indigenous groups, and other interested stakeholder groups before implementing further restrictions on EGCS within the Port of Vancouver.</p> <p>Following further engagement with these groups about key impacts, concerns, and other considerations related to EGCS, the port authority intends to implement two further phases of restrictions:</p> <ul style="list-style-type: none"> <li>• Phase two: A prohibition on scrubber discharge while vessels are transiting within all waters within the Port of Vancouver</li> <li>• Phase three: A full prohibition on scrubber use within the Port of Vancouver</li> </ul>   |
| <p>Enforce the use of low-sulphur, compliant fuels rather than allow scrubber usage.</p> <p><b>5 comments</b></p>   | <p>The impacts of using scrubbers on air quality and human health are not fully understood and therefore the port authority plans to undertake further review and assessment to develop a better understanding of this topic.</p> <p>The port authority plans to investigate EGCS’ impacts on local air quality prior to implementation of the phase three EGCS restrictions.</p>   |

|  |  |
|--|--|
| <p>Add a clause prohibiting the discharge of “bleed off” water.</p> <p><b>2 comments</b></p>   | <p>Based on feedback received, the requirement in the Port Information Guide will be amended with the edits and additions below (underlined):</p> <p><u>The treated bleed-off water from closed-loop and hybrid scrubbers must be held onboard for disposal to an authorized shore reception facility. If the system cannot be operated in zero-discharge mode, the vessel must switch over to compliant fuel or shore power (where available).</u></p>  |
| <p>Delay the implementation of the regulation until the port authority has conducted additional studies on scrubber wash water’s impact, including an environmental risk assessment.</p> <p><b>1 comment</b></p> | <p>Independent scientific evidence has demonstrated the potential negative impact of scrubber wash water on local ecosystems within our jurisdiction, and it is our responsibility under the <i>Canada Marine Act</i> to enable Canada’s trade while protecting the environment.</p> <p>A scientific study commissioned by the port authority showed that the discharge of scrubber wash water could result in levels of certain contaminants - such as cadmium, copper, mercury, and nickel and of polycyclic aromatic hydrocarbons (PAHs) - that exceed thresholds set for the protection of aquatic life within our jurisdiction.</p> <p>In light of this, the port authority is applying the precautionary principle and proceeding with the first phase of restrictions on scrubber wash water discharge, across our jurisdiction, effective March 1, 2022.</p> <p>While an environmental risk assessment is not planned, the port authority is open to collaborating with industry and other stakeholder groups on further research and will continue to review new scientific evidence as it becomes available.</p> |

|  |  |
|--|--|
| <p>Consider the findings of the Transport Canada-CE Delft study and other studies about the impact of scrubber wash water, such as those underway by the Port of Seattle and the Washington Department of Ecology and the International Maritime Organization.</p> <p><b>1 comment</b></p> | <p>The port authority has reviewed the findings of the Transport Canada - CE Delft study, which modeled equilibrium concentrations of scrubber wash water at five Canadian ports, including the Port of Vancouver.</p> <p>This study differs considerably from the port authority's study in the methodology it uses, assumptions it makes, and data sets it applies. Specifically, the Transport Canada study employed the MAMPEC model, which is used to model non-specific geographic locations, while the port authority's study used a hydrodynamic model specially designed to model the unique conditions of our jurisdiction, including ocean depth, tidal flow, and other water characteristics.</p> <p>The independent study commissioned by the port authority found that levels of certain contaminants within scrubber wash water discharge - such as cadmium, copper, mercury, and nickel and of polycyclic aromatic hydrocarbons (PAHs) - could exceed thresholds set for the protection of aquatic life within our jurisdiction.</p> <p>In light of these findings, and our responsibility under the <i>Canada Marine Act</i> to enable Canada's trade while protecting the environment, we are choosing to apply the precautionary principle and implement restrictions on scrubbers based upon our study, which was specifically designed to model local conditions within our jurisdiction.</p> <p>The port authority will continue to evaluate new scientific information on scrubber wash water, including the results of the Port of Seattle and Washington Department of Ecology's study and pending guidance from the International Maritime Organization.</p> |
| <p>Explain why the Canadian water quality guidelines were used in the port authority study rather than the International Maritime Organization's EGCS discharge water quality criteria.</p> <p><b>1 comment</b></p>  | <p>The International Maritime Organization's discharge water quality criteria consider limited parameters such as pH, turbidity, total polycyclic aromatic hydrocarbons and nitrates. This criteria does not assess individual metals or polycyclic aromatic hydrocarbons, which also affect water quality.</p> <p>Regional or local water conditions should be considered when assessing local aquatic impacts. In recognition of this, the port authority applied the Canadian Council of Canadian Ministers of the Environment (CCME)'s water quality objectives for the protection of aquatic life, as well as guidelines set for the province of British Columbia and Burrard Inlet, specifically.</p> <p>These aquatic life guidelines provide threshold levels to protect aquatic life and their habitat from pollution. Guidelines are numerical limits based on scientifically defensible toxicological data available for the parameter of interest. Guideline values are meant to protect all forms of aquatic life and all aspects of the aquatic life cycles, including the most sensitive life stage of the most sensitive species over the long term.</p>   |

|  |  |
|--|--|
| <p>Address concerns about operational and safety-related impacts of the amendment caused by ships needing to conduct additional fuel switches. For example, this may cause a loss of propulsion, delays, and the need for additional fuel. Concerns about the additional costs entailed and the availability of fuel amid supply chain issues.</p> <p><b>1 comment</b></p> | <p>The port authority's proposed amendments on EGCS apply to vessels at berth and anchor, where it is common for the vessels to stop their propulsion engine.</p> <p>Since the North American Emission Control Area came into effect on January 1, 2015, vessels have been regularly conducting fuel-changeover procedures. All vessels are required to have an approved fuel-change over procedure for mitigating this risk.</p> <p>The Port of Vancouver has an adequate supply of compliant, low-sulphur fuel. In case of non-availability of compliant fuel, vessels can file a report seeking an exemption to Transport Canada. Once approved, the port authority will consider an exemptions request for wash-water discharge.</p> |
| <p>Conduct a cost-benefit analysis of scrubber wash water restrictions.</p> <p><b>1 comment</b></p>  | <p>The port authority has evaluated the number of vessels using EGCS calling our port and the approximate number of engine hours of use in port. We used these numbers to calculate the approximate surcharge per vessel per call to use compliant fuel. To account for fluctuations in fuel markets, our calculations provide an order of magnitude cost. We encourage vessels to limit their transits between berth and anchor and to limit their idling time in port.</p>   |
| <p>Evaluate discharges from ships fitted with scrubbers in areas that were not specifically considered within the port authority's study, such as Robert's Bank and the Fraser River</p> <p><b>1 comment</b></p>   | <p>The independent scientific study commissioned by the port authority assessed the impacts of scrubber wash water discharge within Burrard Inlet, as this is where most of EGCS-fitted vessels arrive. This study found that the discharge of scrubber wash water could result in levels of certain contaminants that exceed thresholds set for the protection of aquatic life.</p> <p>At this time, no further studies are planned to investigate the impacts of scrubber wash water on other locations within the port authority's jurisdiction; however, the port authority will continue to review new scientific evidence as it becomes available.</p>   |
| <p>Clarify that vessels must switch to compliant, low-sulphur fuel if the scrubber system cannot be operated in zero-discharge mode, not just in the event that washwater cannot be recirculated.</p> <p><b>1 comment</b></p>  | <p>Based on feedback received, the requirement in the Port Information Guide will be amended with the edits and additions below (underlined):</p> <p><u>The treated bleed-off water from closed-loop and hybrid scrubbers must be held onboard for disposal to an authorized shore reception facility. If the system cannot be operated in zero-discharge mode, the vessel must switch over to compliant fuel or shore power (where available).</u></p>  |

|  |  |
|--|--|
| <p>Clarify whether the amendment applies to all waters within the Vancouver Fraser Port Authority's jurisdiction, or if these requirements only apply within Burrard Inlet, English Bay, and the Fraser River.</p> <p><b>1 comment</b></p> | <p>As per the <i>Notice of Amendment</i>, this amendment applies to <b>all</b> waters within the Vancouver Fraser Port Authority's jurisdiction, including Burrard Inlet, English Bay, Roberts Bank and the Fraser River.</p> <p>A full-sized map of the port authority's jurisdiction is available on our website at: <a href="https://www.portvancouver.com/wp-content/uploads/2015/05/Map_Jurisdiction-scaled.jpg">https://www.portvancouver.com/wp-content/uploads/2015/05/Map_Jurisdiction-scaled.jpg</a></p> |
| <p>Clarify "if a ship can discharge wash water from an open loop scrubber if the wash water originated from an open loop scrubber used to filter exhaust gas from main engine"</p> <p><b>1 comment</b></p>                                 | <p>The port authority's proposed amendment does not apply to scrubbers used to filter exhaust gas from the main engine. Therefore, this type of discharge is permitted under Phase 1 of the port authority's restrictions on scrubbers.</p>  |
| <p>Clarify "if a ship can use open loop scrubbers for auxiliary engines (ex. generators / boilers)"</p> <p><b>1 comment</b></p>  | <p>As per the <i>Notice of Amendment</i>, vessels are only permitted to use open-loop scrubbers while they are underway (i.e., entering, leaving or transiting within the Port of Vancouver's jurisdiction).</p> <p>Scrubbers <b>cannot</b> be used in open-loop mode while vessels are at berth or at anchorage within the Port of Vancouver's jurisdiction.</p>  |
| <p>Clarify if vessels can obtain prior permission from the harbour master to use open-loop scrubbers at anchorage and at berth.</p> <p><b>1 comment</b></p>  | <p>Exemption requests can be made in certain emergencies and non-availability of compliant, low-sulphur fuel.</p> <p>The Port of Vancouver has an adequate supply of compliant, low-sulphur fuel. In the case of non-availability of compliant fuel, vessels can file a report seeking an exemption to Transport Canada. Once approved, the port authority will consider an exemptions request for wash-water discharge.</p>   |
| <p>Address the benefits that using scrubbers may have on air quality by reducing air pollutant emissions.</p> <p><b>1 comment</b></p>  | <p>The impacts of using scrubbers on air quality and human health are not fully understood and therefore the port authority plans to undertake further review and assessment to develop a better understanding of this topic.</p> <p>The port authority plans to investigate EGCS' impacts on local air quality prior to implementation of the phase three EGCS restrictions.</p>  |