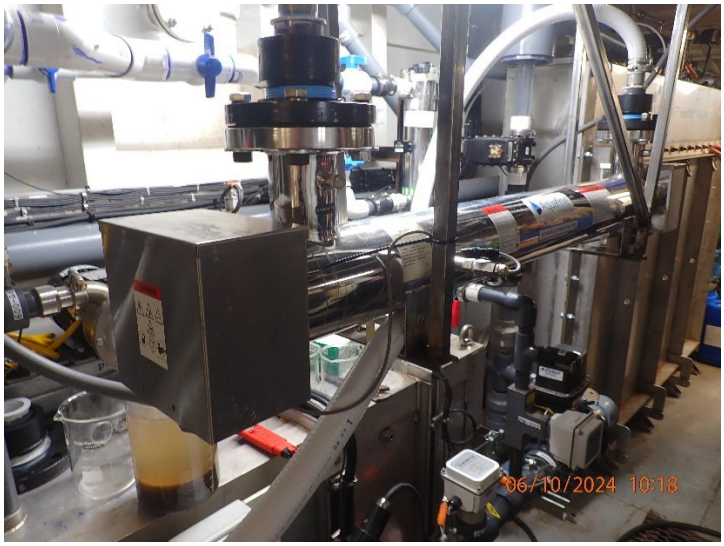
2025-2027 Small Commercial Passenger Vessel Sampling Regime

COMMERCIAL PASSENGER VESSEL ENVIRONMENTAL COMPLIANCE (CPVEC) PROGRAM



American Constellation's UV treatment in its miniMBR AWTS treatment system

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Alaska Department of Environmental Conservation

Small Commercial Passenger Vessel Sampling Guidance

This document outlines the Alaska Department of Environmental Conservation (DEC) Commercial Passenger Vessel Environmental Compliance (CPVEC) Program sampling regime guidance for Small Commercial Passenger Vessels (SCPVs). This guidance document is intended only for vessels with a DEC approved Best Management Practices (BMP) Plan. SCPVs have overnight accommodations for 50-249 passengers as determined by the number of lower berths (AS 46.03.490). There are two groups of SCPVs:

- Small cruise ships
- Alaska Marine Highway System (AMHS) ferries

Most SCPVs utilize basic Marine Sanitation Devices (MSDs) that are not capable of producing high quality effluent to the standards large cruise ships are held to. Appropriate sampling frequencies for the various size classes of SCPVs that discharge in Alaska are determined primarily by the treated wastewater volumes (i.e., correlated to passenger counts) and period of operation (e.g., year-round operations). Individual ship requirements may vary based on past effluent sampling results, ship specific items, their approved BMP Plan, or any state permit. Sampling specifics, including the wastewater discharge operations, must be included in the Quality Assurance Project Plan (QAPP) and the annually approved Vessel Specific Sampling Plan (VSSP).

This guidance document is intended to provide general information on the type of sampling regimes required for SCPVs. SPVCs are required to adhere to the sampling frequency approved annually by the CPVEC Program (described in Table 1). Vessels with passenger capacities of 250 or greater are not subject to this guidance and must receive authorization under the Large Commercial Passenger Vessel Wastewater Discharge General Permit prior to discharging in Alaska waters.

Table 1 – Annual Sample Frequency

Vessel Category	Conventional I Samples	Conventional II Samples	Priority Samples	Nutrient Samples	Minimum Sample Events in AK	Pre-Season (Prior to entry in AK waters)
1. AMHS (>50 lower berths	4	0	0	0	4	N/A
2. Small CPV (MSD II)	2	0	0	0	2	0 or 1 [A]
3. Small Vessel (AWTS)	2	2	0	0	2	0 or 1 [A]
4. Short Term CPV (less than 6 weeks in AK)	1	0	0	0	1	0
5. New Vessel (MSD or AWTS)	2	1	1	1	2	1

[A] - If a vessel received a NOV the previous year for an exceedance of a Conventional Parameter I, 1 pre-season representative sample may be required prior to entry into Alaska waters.

Vessel representatives should check with the Environmental Protection Agency (EPA) if your vessel is subject to the EPA Vessel General Permit (VGP). The VGP may require additional sampling and reporting requirements.

It is illegal to discharge untreated sewage within 3 nautical miles of shore. Discharging untreated sewage nearshore has negative environmental, economic, and human health impacts, including:

- Contamination of shellfish beds
- Creation of areas with low oxygen levels in water that can harm fish and shellfish
- Spread of fecal bacteria and diseases to humans
- Creation of odors and visible residues that impact public perception of the cruise ship industry

Sampling Timeline

CPVs operating under an approved BMP are required to protect the environment to the maximum extent feasible (AS 46.03.462(k)). To demonstrate compliance with the discharge requirements of the BMP, SCPVs must be sampled within 10 days of initial entry into the marine waters of the State of Alaska (all waters within the boundaries of the state including the entirety of the Alexnader Archipelago (AS 46.03.490)). With prior DEC approval, a vessel can perform initial sampling event after this time period if the vessel does not access an Alaska port where sampling services are provided within the first 10 days. SCPVs are subject to DEC sampling audits and DEC may perform or require additional sampling as necessary to implement AS 46.03.465(b).

If vessels fail to meet BMP parameters they will be required to resample until all Conventional I parameter limits are met, a vessel must resample within 10 days of any parameter exceedance. All vessels will be subject to a second mid-season sample to confirm proper MSD operation.

Table 2 – Sample Parameters

Conventional I (Short List)	Conventional II	Priority	Nutrients
Fecal Coliform	Specific Conductance	Base, Neutrals, and Acids	Total Organic Carbon
Total Suspended Solids	Settleable Solids	Volatile Organic Compounds	Nitrate/Nitrite
Biochemical Oxygen Demand (5 day)	Chemical Oxygen Demand	Total Recoverable Metals	Total Kjeldahl Nitrogen
Temperature [1]	Ammonia (Total)	Dissolved Metals (except Mercury)	Total Phosphorus
pH [1]	Oil and Grease		
Free Chlorine [1]	Hardness		
Total Chlorine [1]	Alkalinity		

[1] Field measurements must be measured at each sample event

Wastewater Treatment Operations:

SCPV wastewater sampling includes results for three main groups:

1. Treated Blackwater (BW, Sewage)
2. Treated / Untreated Greywater (GW)
3. Treated Mixed (BW+GW)

SCPVs that operate under an approved BMP Plan generally conduct wastewater treatment operations in one of the following ways:

- Treated Mixed (BW/GW): The vessel collects BW and GW together and treats this mixed wastewater through the MSD.
- Treated BW and Treated GW (MSD): The vessel collects BW and GW separately. BW flows to the MSD for treatment at a different time than the GW flows for treatment, but both are treated through the MSD.
- Treated BW and Treated GW (Tank): The vessel collects BW and GW separately. BW flows to the MSD for treatment. GW is stored in a separate tank and is manually chlorinated (treated) before it is discharged overboard.
- Treated BW and Untreated GW: The vessel collects BW and GW separately. BW flows to the MSD for treatment. Untreated GW is directly discharged overboard.

Configurations vary so it is important to describe the system accurately in the VSSP. Vessels must sample all distinct GW Tanks (not treated by MSD) for Conventional I parameters during their first sample event. SCPVs face common challenges due to their smaller size and vessel stability requirements that may limit wastewater treatment capacity. Accordingly, larger holding capacities or more advanced treatment systems are not always viable options for SCPVs.

Routine Sampling Regimes - Refer to Table 2 for information regarding the parameter types.

AMHS Ferries

A subset of SCPVs that applies only to mainline AMHS vessels with overnight accommodations. While passenger capacities on the mainline ferries typically range between 450 and 499, annual registrations submitted to DEC document lower berth capacities of less than 250. AMHS Ferries may be operated year-round, with passenger volume typically highest from May to August. Some ferries are laid up or operated with reduced schedules during the winter. Each type of treated wastewater discharge must be sampled.

Sampling Regime

- One Conventional Parameter I sample for every continuous three months operating in Alaska.

Small Vessel (Standard Sample Regime)

The standard schedule applied to most small vessels operating in AK waters. Some of these vessels operate only operate during the summer cruise ship season, laying up for the remainder of the year in Alaska or Washington state. Each type of treated wastewater discharge must be sampled.

Sampling Regime

- Two Conventional Parameter I samples every calendar year.
- Vessels with distinct GW treatment (e.g., not treated through MSD system) also require one Conventional Parameter I from GW OB pipe
- Vessels with GW direct OB drains are not required to sample GW from these sources.

Small Vessel (AWTS)

Sampling Regime

- Two Conventional Parameter I & Conventional Parameter II samples every year

Short Term (SCPVs operating <6 weeks in Alaska)

Several small commercial passenger vessels sail for less than six weeks in Alaska during the summer season. Sampling must occur during the Alaska cruise season.

Sampling Regime

- One Conventional Parameter I sample every calendar year.
- Vessels with distinct GW treatment (e.g., not treated through MSD system) also require one Conventional Parameter I from GW OB pipe.
- Vessels with GW OB drains are not required to sample GW from these sources.

New Vessels or New MSD

This includes new ships, ships that have not operated in Alaska in the last three years, or ships outfitted with an MSD new to the vessel. Sampling must occur during the Alaska cruise season that the vessel first arrives in Alaska.

The DEC will require sampling for BW and will evaluate which GW sources will be included if wastewater is not mixed. Note that the vessel will need to obtain a Conventional I sample from the MSD unit prior to arrival in Alaska to demonstrate that discharges will not be a threat to public health or the environment (18 AAC 69.046). Samples taken in Alaska waters will be taken from all potential sources of BW or GW (treated or untreated) discharge.

Sampling Regime

- Prior to arriving in Alaska, one representative Conventional I sample during the calendar year.
- Two Conventional Parameter I samples during the calendar year.
- One Conventional Parameter II, Priority, and Nutrients sample during the calendar year.

Sampling Results Discharge Performance

For delayed or missed sampling events: The operator must immediately notify DEC by phone or email and the vessel must contact the sampling contractor to reschedule at the earliest opportunity.

Terms of sampling: When the operator cannot sample in accordance with the terms of the DEC approved VSSP or Quality Assurance Project Plan (QAPP), the operator must immediately notify DEC by phone or email and coordinate any necessary changes to remedy the situation. Field parameters must be measured during all sample events.

For all cases, the operator should contact Ben Eisenstein, Cruise Ship Program Manager, at 907-465-5161 or email at ben.eisenstein@alaska.gov.

Within 2-3 days of the sampling event, the vessel must provide the preliminary fecal coliform, total suspended solids, and chlorine results to DEC CPVEC.

If sampling results exceed the limitations on discharges outlined in AS 46.03.463, the vessel must:

- Submit a Noncompliance Notification Form in EDMS
- Investigate the root cause of the exceedance.
- Keep treated effluent discharges to a minimum when in Alaska State waters and discharge at the maximum distance from shore possible in the area the ship is transiting.
- Take and document corrective actions.
- Submit a Corrective Action Report in EDMS.
- Resample as soon as possible once corrective action is taken. Typically at the next port of call where sampling can be coordinated to ensure the sample can be returned to the laboratory to meet holding times (as outlined in the QAPP). Vessel must have a resample event within 10 days of an exceedance.

The CPVEC Program will review all reported exceedances and may propose additional follow up actions, which include re-sampling to establish whether the wastewater treatment system discharges meet required performance criteria.

The following parameters are required for re-sample events:

- Fecal Coliform
- Total Suspended Solids
- Free Chlorine
- Total Chlorine
- pH
- Temperature

Pre-Season Sampling

Pre-Season sampling may be requested by DEC.

If the SCPV received a NOV the previous season for an exceedance of a Conventional Parameter I, one pre-season representative sample may be required prior to entry into Alaska waters. This sample must be taken with proper start-up and loading. Conditions are as follows:

- Chemical-physical systems, start-up period is 1-2 days, with 50% or higher passenger capacity.
- Biological systems, start-up period is 1-2 weeks (from empty MSDs), with 50% or higher passenger capacity.

DEC Contacts

The most recent DEC staff contact information can be found at:
https://dec.alaska.gov/water/cruise-ships/cruise-contacts/