



LARGE COMMERCIAL PASSENGER VESSEL WASTEWATER DISCHARGE
GENERAL PERMIT– **PRELIMINARY DRAFT**

Marine Discharge of Treated Sewage, Treated Graywater, and Other Treated
Wastewater from Large Commercial Passenger Vessels Operating in Alaska

General Permit Number: **2013DB0004**

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Commercial Passenger Vessel Environmental Compliance Program

410 Willoughby Ave, Suite 303

PO Box 111800

Juneau, AK 99811-1800

The Large Commercial Passenger Vessel Wastewater Discharge General Permit (Permit) is issued under provisions of Alaska Statutes (AS) 46.03; Title 18, Chapters 15, 69, 70, and 72 of the Alaska Administrative Code (AAC) as amended; and other applicable State laws and regulations. The Department may modify or terminate this permit in accordance with AS 46.03.120.

The Permit shall supersede General Permit No. 2009DB0026 on the date the Permit becomes effective,

The Permit shall become effective **XX XX, XXXX**,

The Permit and the authorization to discharge shall expire within five years at midnight, **XX XX, XXXX**,

The Department issues the Permit for the discharge of treated sewage, treated graywater, and other treated wastewaters from large commercial passenger vessels operating in marine waters of the state. Large commercial vessels include passenger vessels for hire that provide overnight accommodations for 250 or more passengers, determined with reference to the number of lower berths.

The Permit is subject to the conditions and stipulations incorporated herein by reference. All discharges made under the authority of the Permit, regardless of volume, are subject to the conditions and stipulations contained herein.

XX XX, XXXX

Date Issued

Michelle Hale

Director, Division of Water, Alaska Department of
Environmental Conservation

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The Schedule of Submissions summarizes required submissions and activities the permittee must complete and/or submit to the Alaska Department of Environmental Conservation (DEC) during the term of the permit. The permittee is responsible for all submissions and activities under the Permit.

Table 1: Schedule of Submissions

Permit Section	Submittal or Completion	Frequency	Due Date	Submit to
2.1.3	Registration	Once a year	March 1	http://dec.alaska.gov/water/cruise_ships/regletter.htm
6.9.1	Vessel Tracking	Hourly	Whenever in Alaska marine waters	See Section 3.1 and 3.2
6.1	Quality Assurance Project Plan (QAPP)	Once every three years or as required by the Department		See Section 3.1 and 3.2
4.2	Notice of Intent	Once per permit cycle	30 days prior to discharge	See Section 3.1 and 3.2
4.2.3	Notice of Intent Revisions	As Necessary	Notification 48 hours prior, revised NOI within 14 days	See Section 3.1 and 3.2
6.2	Vessel Specific Sampling Plan	Once a year	21 days prior to sampling	See Section 3.1 and 3.2
6.4	Sampler Qualifications	Once a year	21 days prior to sampling	See Section 3.1 and 3.2
6.5	Notification of sampling	Each event	36 hours prior to sample	See Section 3.1 and 3.2
6.7.4	First Sample Event	Once a year	Within 10 days of first discharge in Alaskan waters each calendar year	See Section 3.1 and 3.2
7.5	Discharge Records	Monthly	Five days after the end of the calendar month	See Section 3.1 and 3.2
7.1	Sample results and analytical report	Each event	Within 21 days of testing completion	See Section 3.1 and 3.2
7.2	Discharge Monitoring Report (DMR)	Monthly	21 days after the end of the calendar month	See Section 3.1 and 3.2
6.8.3	Measure Total Flow	Daily (in Alaska)	See DMR	With DMR
7.4.1 & 7.6	Notification of Noncompliance	As Necessary	Within 24 hours of the permittee becoming aware of occurrence	See Section 3.1 and 3.2 or by phone to the cruise program
7.4.2	Written documentation of noncompliance	As Necessary	Within 7 days of the permittee becoming aware of	See Section 3.1 and 3.2

1. Authority

The Alaska Administrative Code, 18 AAC 72.900, authorizes the Department to issue general permits for categories of discharges with similar types of operations and effluent and that the Department determines are better controlled under a general permit. The Department issues the Large Commercial Passenger Vessel Wastewater Discharge General Permit (Permit) under the authority of Alaska Statutes AS 46.03.462 and AS 46.03.100.

2. Operation under the General Permit

2.1. Eligibility

All large commercial passenger vessels that operate in marine waters of the state that provide overnight accommodations for two hundred fifty (250) or more passengers for hire, determined with reference to the number of lower berths, are eligible to seek coverage under the Permit (AS 46.03.462).

2.1.1. In order to discharge under the Permit, owners or operators of a large commercial passenger vessel must submit a complete Notice of Intent and receive authorization to discharge from the Department.

2.1.2. The vessel must have an installed and operational Advanced Wastewater Treatment System (AWTS), or a system that achieves a quality of effluent that is comparable to that achieved by vessels employing an advanced wastewater treatment system (AS 46.03.462).

2.1.3. The vessel must have a current vessel registration on file with the Department (AS 46.03.461).

2.2. Geographic coverage

The Permit authorizes discharge into the marine waters of the state including those confined by the islands of the Alexander Archipelago or the mainland (AS 46.03.462 & 490). Definitions include:

2.2.1. “marine waters of the state” means all waters within the boundaries of the state together with all of the waters of the Alexander Archipelago in Southeast Alaska even if not within the boundaries of the state. Thus there are no “donut holes” or areas within Southeast Alaska where the Permit conditions would not apply;

2.2.2. “waters of the Alexander Archipelago” means all waters under the sovereignty of the United States within or near Southeast Alaska, beginning at a point 58 degrees 11 minutes 41 seconds North, 136 degrees 39 minutes 25 seconds West (near Cape Spencer Light), thence southeasterly along a line three nautical miles seaward of the baseline from which the breadth of the territorial sea is measured in the Pacific Ocean and the Dixon Entrance, except where this line intersects geodesics connecting the following five pairs of points;

2.2.2.1. 58 degrees 05 minutes 17 seconds North, 136 degrees 33 minutes 49 seconds West and 58 degrees 11 minutes 41 seconds North, 136 degrees 39 minutes 25 seconds West (Cross Sound);

2.2.2.2. 56 degrees 09 minutes 40 seconds North, 134 degrees 40 minutes 00 seconds West and 55 degrees 49 minutes 15 seconds North, 134 degrees 17 minutes 40 seconds West (Chatham Strait);

2.2.2.3. 55 degrees 49 minutes 15 seconds North, 134 degrees 17 minutes 40 seconds West and 55 degrees 50 minutes 30 seconds North, 133 degrees 54 minutes 15 seconds West (Sumner Strait);

- 2.2.2.4. 54 degrees 41 minutes 30 seconds North, 132 degrees 01 minutes 00 seconds West and 54 degrees 51 minutes 30 seconds North, 131 degrees 20 minutes 45 seconds West (Clarence Strait);
- 2.2.2.5. 54 degrees 51 minutes 30 seconds North, 131 degrees 20 minutes 45 seconds West and 54 degrees 46 minutes 15 seconds North, 130 degrees 52 minutes 00 seconds West (Revillagigedo Channel)
- 2.2.2.6. the portion of each such geodesic situated beyond three nautical miles from the baseline from which the breadth of the territorial sea is measured forms the outer limit of the waters of the Alexander Archipelago in those five locations.

2.3. Authorized discharges

This Permit only authorizes the discharge of treated sewage, treated graywater, and other treated wastewater in accordance with the terms and conditions set forth herein. Discharges must be from an operational Advanced Wastewater Treatment System or a system that achieves a quality of effluent that is comparable to that achieved by vessels employing an advanced wastewater treatment system (AS 46.03.462).

2.4. Permit expiration

The Permit expires at 11:59 p.m. Alaska time on **XX, XX, XXXX.**

3. Administrative Procedures

3.1. Mailing address for required signed reports

Each required signed report or form must be mailed to the following address:

Alaska Department of Environmental Conservation Division of Water/ CPVEC 410 Willoughby Ave, Suite 303 PO Box 111800 Juneau, AK 99811-1800
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3.2. Electronic submittals, monitoring results, and other forms

- 3.2.1. Electronic submittals, monitoring results, and other forms must be emailed to: DEC.WQ.Cruise@alaska.gov
- 3.2.2. Hourly vessel tracking data will be provided to the Department as an accessible Automatic Identification System (AIS) database such as the PACTRACS system from the Marine Exchange of Alaska or through another Department approved method.

3.3. Signatory requirements

- 3.3.1. The permittee shall sign and certify all Notices of Intent, Notices of Termination, Discharge Monitoring Reports, and Noncompliance Reports submitted to the Department.
- 3.3.2. The permittee shall sign documents described in Section 3.3.1 as follows:
 - 3.3.2.1. A responsible corporate officer shall sign for a corporation,
 - 3.3.2.2. A general partner shall sign for a partnership, or
 - 3.3.2.3. The proprietor shall sign for a sole proprietorship.
- 3.3.3. The permittee may submit documents and information to the Department signed by a duly authorized representative of a person listed in Section 3.3.2 only if:

- 3.3.3.1. A person described in Section 3.3.2 signs and submits written authorization to the Department, and
- 3.3.3.2. The authorization specifies a person or a position as responsible for the overall operation of the permitted vessel or permitted activity.

3.4. False Statements

Knowingly making a false statement by the permittee or any person in its employ, including contractors, on any report or test may result in the imposition of civil or criminal penalties as provided for under state law, including AS 46.03.760 and AS 46.03.790, and federal law.

4. Authorization, Transfers, and Termination

4.1. Certification

Any person signing a document under this section must make the following certification (AS 46.03.760(f)):

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.”

4.2. How to Apply - Notice of Intent Form

- 4.2.1. Owners or operators of large commercial passenger vessels seeking coverage under the Permit shall submit a completed Notice of Intent (NOI) form to the Department at least 30 calendar days prior to the discharge of any treated sewage, treated graywater, and other treated wastewater into marine waters of the state.
- 4.2.2. The NOI form shall indicate whether the owner or operator is seeking a mixing zone authorization and provide the required information.
- 4.2.3. The permittee shall notify the Department, in writing, of wastewater treatment system modifications that change information provided to the Department in the approved NOI form at least 48 hours prior to the discharge of any treated wastewater into marine waters of the state. The operator shall submit a revised NOI form and revised Vessel Specific Sampling Plan (VSSP,) as described in Section 6.2, to the Department no later than 14 calendar days after those modifications have been made.
- 4.2.4. If a NOI form submitted under this section is no longer accurate, the permittee shall submit a new NOI form to the Department prior to discharge, or together with any reports, information, or applications that the duly authorized representative must sign. In no case should this be later than 14 days after the permittee becomes aware information in the NOI is no longer accurate.

4.3. Authorization

- 4.3.1. Authorization from the Department to discharge is required prior to the discharge of treated sewage, treated graywater, or other treated wastewater in the marine waters of the state.
- 4.3.2. The permittee may only discharge treated sewage, treated graywater, or other treated wastewater that is stored in holding tanks into marine waters of the state if the permittee

samples effluent from those tanks as part of the sampling protocol described in the approved VSSP and shows that all effluent limits are met.

- 4.3.3. The Department shall authorize coverage under the Permit in writing after determining that the application meets all Permit requirements and the vessel is capable of operating under the Permit.
- 4.3.4. Permittees must possess written Department authorization prior to discharging treated sewage, treated graywater, or other treated wastewater in the marine waters of the state.
- 4.3.5. The Department may attach additional terms and conditions to authorizations. Additional terms and conditions in the authorization are Permit terms and conditions.

4.4. Individual Permit

- 4.4.1. Owners or operators of large commercial passenger vessels may apply for an individual permit instead of seeking approval to operate under the Permit. Applicants must submit an application to the address in 3.1 for an IP to the Department at least 60 calendar days before the proposed discharge commences.
- 4.4.2. The Department will consider the application for an individual permit and will issue an individual permit instead of an authorization under the Permit at the Department's discretion.
- 4.4.3. An authorization to operate under the Permit automatically terminates on the effective date of the individual permit.

4.5. Transfers

The Department does not authorize the transfer of Permit authorizations. The Permit NOI process ensures that applicants understand the terms, conditions, and information needs necessary to comply with state requirements. New owners or operators must submit a NOI form to the Department.

4.6. Termination of Authorization

- 4.6.1. The permittee may submit a Notice of Termination form at any time in order to terminate their authorization for coverage under the Permit.
- 4.6.2. The permittee shall meet all terms and conditions of the Permit until the Department, in writing, approves the termination of authorization to discharge under the Permit.
- 4.6.3. The Department may require an authorized vessel to terminate operation under the Permit, or to apply for an individual permit when situations including, but not limited to, the following occur:
 - 4.6.3.1. The discharge does not meet the conditions of the Permit;
 - 4.6.3.2. The discharge contributes to pollution or causes an adverse effect on public health or water quality; or
 - 4.6.3.3. A change occurs in the availability of technology or practices for the control or abatement of pollution contained in the discharge.
- 4.6.4. The Department will provide 30 days written notice prior to termination of an authorization for coverage under the Permit.

4.7. Termination of the Permit

The Department may terminate the Permit earlier than the Permit expiration date in accordance with 46.03.120. The department will provide 30 days written notice prior to termination before the expiration date of the Permit.

5. Limitations

5.1. Prohibited discharges

- 5.1.1. Discharges to waterbodies included in the latest DEC Integrated Water Quality Monitoring and Assessment Report are prohibited if the inclusion is due to any of the pollutants for which effluent limits are included in the Effluent Limit Tables in the Permit. A map of impaired waters can be found at: <http://dec.alaska.gov/water/wqsar/map.html>.
- 5.1.2. The discharge shall be free of:
- 5.1.2.1. foam (in other than trace amounts) and floating solids (18 AAC 70.240 (d)(4));
 - 5.1.2.2. oily wastes (which produce a sheen on the surface of the receiving waters) and grease (18 AAC 70.020 (b)(17) & 18 AAC 70.240 (d)(4) & AS 46.03.740);
 - 5.1.2.3. plastics (33 CFR 151.67 & AS 46.03.710);
 - 5.1.2.4. hazardous wastes and materials (AS 46.03.745); and
 - 5.1.2.5. biosolids and sewage sludges (18 AAC 72.055).
- 5.1.3. Discharge volumes and flow rates shall not exceed maximums as submitted in the permittee's VSSP and NOI form (AS 46.03.120(a)(3)).
- 5.1.4. Discharges shall not cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines (18 AAC 70.210 & 18 AAC 70.240(d)).

5.2. Mixing zone

- 5.2.1. The Department may authorize a mixing zone in accordance with 18 AAC 70.240. The permittee shall apply for a mixing zone by filling out the mixing zone information required in the NOI form. The Department will approve, approve with conditions, or deny a mixing zone application based upon the information provided in the NOI form.
- 5.2.2. Mixing zone applications are required for all permittees whose discharges do not meet Alaska water quality criteria at the point of discharge, including:
- 5.2.2.1. Permittees requesting coverage under the Permit for discharges at ship speeds of 6 knots or greater; and
 - 5.2.2.2. Permittees requesting coverage under the Permit for discharges at ship speeds of under 6 knots.
- 5.2.3. Mixing zone size for permittees authorized for discharges at speeds of 6 knots or greater is limited to 63 meters in length, 5 meters in width, and a depth below the water surface equivalent to the depth the discharge port is below the water surface plus one meter. The shape of the mixing zone is an elongated rectangle that extends from the discharge port towards the stern of the ship.
- 5.2.4. Mixing zone size for permittees authorized for discharges at speeds under 6 knots, excepted as specified in Section 5.2.5, is limited to a radius of 83 meters and a depth below the water surface equivalent to the depth the discharge port is below the water surface plus one meter. The mixing zone will extend away from the hull of the vessel in a semicircle centered on the discharge port.
- 5.2.5. Mixing zone size for permittees authorized for discharge when docked in Skagway at Broadway Dock or Ore Dock is limited to a radius of 15 meters and a depth below the water surface equivalent to the depth the discharge port is below the water surface plus one meter. The mixing zone will extend away from the hull of the vessel in a semicircle centered on the discharge port.

- 5.2.6. The Department will, based on the applicant’s submittal, NOI, and/or historical effluent data, make a determination on the whether the standard mixing zone sizes are appropriate or whether a more restricted mixing zone is necessary as described in the authorization.
- 5.2.7. If a permittee does not request a mixing zone authorization, discharges must meet Alaska water quality criteria at the point of discharge as outlined in Table 2 of the Permit.
- 5.2.8. Permittees with authorized mixing zones shall comply with the appropriate effluent limits as outlined in Table 3 and Table 4 of the Permit.

5.3. Effluent Limitations

Authorized discharges must comply with the Effluent Limitation Tables contained in the Permit at all times

Table 2: Effluent Limitations for Vessels Permitted to Discharge Without a Mixing Zone.

Parameter	Minimum Value	Monthly Geometric Mean ^a	Daily Maximum	Sample Type
Fecal Coliform Bacteria	N/A	14 per 100 mL	40 per 100 mL	Grab
Parameter	Minimum Value	Monthly Average ^b	Daily Maximum	Sample Type
Total Flow	N/A	Not to exceed maximums in NOI and VSSP	Not to exceed maximums in NOI and VSSP	Metered or estimated
Total Residual Chlorine (TRC)	N/A	N/A	0.0075 mg/L ^c	Grab/Field test
pH	6.5 S.U.	N/A	8.5 S.U.	Grab/Field test
Biochemical Oxygen Demand (5-day)	N/A	30 mg/L	60 mg/L	Grab
Total Suspended Solids (TSS)	N/A	30 mg/L	150 mg/L	Grab
<p>Notes:</p> <p>^a The “monthly geometric mean” is the geometric mean of all samples taken during the calendar month. A non-detect value may be substituted with a value of 1 for the purpose of calculating the geometric mean. If only one sample is collected, the result of that sample is the geometric mean.</p> <p>^b The “monthly average” is the average of all samples taken during the calendar month. If only one sample is collected, the result of that sample is the monthly average. A non-detect value may be substituted with a value of 0 for the purpose of calculating the monthly average.</p> <p>^c Analytical results below the instrument method detection limit of 0.1 mg/L shall be deemed compliant with the effluent limit, as described in Section 6.7.11 of the Permit. TRC effluent limits are only applicable if chlorine is used as a disinfectant.</p>				

Table 3: Effluent Limitations for Vessels Permitted to Discharge at Speeds of 6 Knots or Greater with a Mixing Zone of 63 meters in length, 5 meters in width and a depth of 1 meter below the discharge port.

Parameter	Minimum Value	Monthly Geometric Mean ^a	Daily Maximum	Sample Type
Fecal Coliform Bacteria	N/A	14 per 100 mL	40 per 100 mL	Grab
Parameter	Minimum Value	Monthly Average ^b	Daily Maximum	Sample Type
Total Flow	N/A	Not to exceed maximums in NOI and VSSP	Not to exceed maximums in NOI and VSSP	Metered or estimated
Total Residual Chlorine (TRC)	N/A	N/A	0.010 mg/L ^c	Grab/Field test
pH	6.5 S.U.	N/A	8.5 S.U.	Grab/Field test
Biochemical Oxygen Demand (5-day)	N/A	30 mg/L	60 mg/L	Grab
Total Suspended Solids (TSS)	N/A	30 mg/L	150 mg/L	Grab
Ammonia	N/A	N/A	160 mg/L	Grab
<p>Notes:</p> <p>^a The “monthly geometric mean” is the geometric mean of all samples taken during the calendar month. A non-detect value may be substituted with a value of 1 for the purpose of calculating the geometric mean. If only one sample is collected, the result of that sample is the geometric mean.</p> <p>^b The “monthly average” is the average of all samples taken during the calendar month. If only one sample is collected, the result of that sample is the monthly average. A non-detect value may be substituted with a value of 0 for the purpose of calculating the monthly average.</p> <p>^c Analytical results below the instrument method detection limit of 0.1 mg/L shall be deemed compliant with the effluent limit, as described in Section 6.7.11 of the Permit. TRC effluent limits are only applicable if chlorine is used as a disinfectant.</p>				

Table 4: Effluent Limitations for Vessels Permitted to Discharge at Speeds Under 6 Knots with a Mixing Zone of either a radius of 83 meters or 15 meters (in Skagway at Broadway Dock or Ore Dock) and a depth of 1 meter relative to the discharge port.

Parameter	Minimum Value	Monthly Geometric Mean ^a	Daily Maximum	Sample Type
Fecal Coliform Bacteria	N/A	14 per 100 mL	40 per 100 mL	Grab
Parameter	Minimum Value	Monthly Average ^b	Daily Maximum	Sample Type
Total Flow	N/A	Not to exceed maximums in NOI and VSSP	Not to exceed maximums in NOI and VSSP	Metered or estimated
Total Residual Chlorine (TRC)	N/A	N/A	0.01 mg/L ^c	Grab/Field test
pH	6.5 S.U.	N/A	8.5 S.U.	Grab/Field test
Biochemical Oxygen Demand (5-day)	N/A	30 mg/L	60 mg/L	Grab
Total Suspended Solids (TSS)	N/A	30 mg/L	150 mg/L	Grab
Ammonia	N/A	N/A	78 mg/L	Grab
Dissolved Copper	N/A	N/A	77 µg/L	Grab
<p>Notes:</p> <p>^a The “monthly geometric mean” is the geometric mean of all samples taken during the calendar month. A non-detect value may be substituted with a value of 1 for the purpose of calculating the geometric mean. If only one sample is collected, the result of that sample is the geometric mean.</p> <p>^b The “monthly average” is the average of all samples taken during the calendar month. If only one sample is collected, the result of that sample is the monthly average. A non-detect value may be substituted with a value of 0 for the purpose of calculating the monthly average.</p> <p>^c Analytical results below the instrument method detection limit of 0.1 mg/L shall be deemed compliant with the effluent limit, as described in Section 6.7.11 of the Permit. TRC effluent limits are only applicable if chlorine is used as a disinfectant.</p>				

6. Monitoring

6.1. Quality Assurance

All samples shall be taken in accordance with the Department approved 2014 Cruise Line International Association – Alaska Quality Assurance Project Plan (QAPP) or an alternate Department approved QAPP. The QAPP outlines the planning, implementation, and assessment procedures for sampling events, and describes how specific quality assurance (QA) and quality control (QC) activities will be applied. All QAPPs must be approved by the Department prior to implementation (18 AAC 69.025).

6.2. Vessel Specific Sampling Plan

The permittee shall sample in accordance with an approved VSSP (18 AAC 69.030). The VSSP outlines vessel specific information on wastewater treatment, treatment system components, location

of sampling ports, and frequency of sample collection. Onboard sampling locations must match those listed in the approved VSSP. The approved VSSP must be available onboard the vessel.

6.3. Methods of Analysis

Test procedures for the analysis of pollutants shall conform to methods cited in 18 AAC 70.020, except as otherwise specified in the Permit. The permittee may substitute alternative methods of monitoring or analysis upon receipt of written approval from the Department (18 AAC 70.020(c)(7)).

6.4. Sampler Qualifications

Samples shall be taken by a qualified and approved sampler in accordance with 18 AAC 69.090. The permittee must submit information describing the qualifications of the proposed sampler for Department approval no later than 21 days prior to sampling.

6.5. Notification of Sampling

The permittee shall notify the Department of the date and time of each sampling event at least 36 hours prior to the beginning of the sample collection (18 AAC 69.053).

6.6. Combination with Federal and Other State Sampling Requirements

Samples obtained from U. S. Coast Guard, EPA, or other state required sampling programs can be used to satisfy the monitoring requirements of the Permit, provided those samples meet all conditions of the Permit (AS 46.03.465(f)).

6.7. Sampling Requirements

- 6.7.1. The permittee shall collect each wastewater sample while the vessel is discharging into marine waters of the state (AS 46.03.465(b)).
- 6.7.2. Wastewater samples collected shall be representative of the effluent that the vessel is discharging into marine waters of the state.
- 6.7.3. The permittee shall report analytical/field monitoring results for the parameters listed in Table 6: Sampling Frequency (depending on authorized discharge status,) and any additional parameters required under the most recent Department approved QAPP (AS 46.03.465(d)).
- 6.7.4. The first sampling event for all parameters with effluent limits must occur within ten (10) days of the first discharge, authorized by the Permit, into marine waters of the state for each year.
- 6.7.5. For permittees authorized for discharges at speeds under 6 knots, sampling events shall occur while the vessel is docked/moored and discharging in-port.
- 6.7.6. For permittees authorized for discharges at speeds under 6 knots, once and twice per month sampling events must be at least 24 hours apart and twice per year sampling events must be at least 21 days apart.
- 6.7.7. For permittees authorized for discharges at speeds of 6 knots or greater only, sampling events must be at least 21 days apart.
- 6.7.8. The permittee may only discharge treated sewage, treated graywater, or other treated wastewater that is stored in holding tanks into marine waters of the state if the permittee samples effluent from those tanks as part of the sampling protocol described in the approved VSSP and shows that all effluent limits are met.
- 6.7.9. The permittee shall collect samples from each wastewater discharge port that discharges wastewater into marine waters of the state.
- 6.7.10. If the fecal coliform result for a sample exceeds the daily maximum limit of 40 fecal coliform per 100 ml, the permittee may resample in order to meet the Permit requirement of a monthly geometric mean of 14 fecal coliform per 100 ml (18 AAC 69.070). Re-sampling must occur

within 30 days of the original sampling, may not be collected within a 24 hour period from the original sample, and must be conducted in accordance with the conditions set out in the Permit and associated QAPP.

- 6.7.11. Method detection limits (MDLs) for each parameter in Table 2 – Table 4 with a numerical effluent limit will be at or below the specified effluent limit. Due to MDL limitations on commercially available chlorine meters, an MDL of 0.1 mg/L will be accepted for total residual chlorine measurements.

6.8. Sampling frequency

The sampling frequency shall follow the minimum requirements in Table 5 or Table 6, depending on type of discharge authorization.

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Table 5: Sampling Frequency for Permittees Authorized to Discharge at Speeds of 6 Knots or Greater With, and Permittees Authorized to Discharge Without a Mixing Zone.

Parameter	Minimum Frequency	Sample Type	Units
Total Flow	Daily	Metered	Cubic meters/day
Temperature	Twice per year	Grab/Field Test	°C
pH	Twice per year	Grab/Field Test	S.U.
Total Residual Chlorine ¹	Twice per year	Grab/Field Test	mg/L
Free Chlorine ¹	Twice per year	Grab/Field Test	mg/L
Specific Conductance	Twice per year	Grab	µmhos/cm
Total Suspended Solids	Twice per month	Grab	mg/L
Biochemical Oxygen Demand (5-day)	Twice per year	Grab	mg/L
Fecal Coliform Bacteria	Twice per month	Grab	FC/100 ml
Ammonia	Twice per year ²	Grab	mg/L
Hardness	Twice per year	Grab	mg/L
Alkalinity	Twice in Year 3 ³	Grab	mg/L
Chemical Oxygen Demand	Twice in Year 3 ³	Grab	mg/L
Nitrate-Nitrite (NO ₃ –NO ₂)	Twice in Year 3 ³	Grab	mg/L
Oil and Grease	Twice in Year 3 ³	Grab	mg/L
Settleable Solids	Twice in Year 3 ³	Grab	ml/L
Total Kjeldahl Nitrogen (TKN)	Twice in Year 3 ³	Grab	mg/L
Total Organic Carbon	Twice in Year 3 ³	Grab	mg/L
Total Phosphorus	Twice in Year 3 ³	Grab	mg/L
Base-Neutral Acid extractables (BNA) ⁴	Twice in Year 3 ³	Grab	µg/L
Other Dissolved and Total Recoverable Metals ⁴	Twice in Year 3 ³	Grab	µg/L
Total Mercury	Twice in Year 3 ³	Grab	µg/L
Volatile Organic Compounds (VOCs) ⁴	Twice in Year 3 ³	Grab	µg/L

¹ Total residual chlorine and free chlorine monitoring and reporting are only applicable if chlorine is used as a disinfectant.

² For ships authorized to discharge with a mixing zone at speeds of 6 knots or greater.

³ For ships that were authorized to discharge under the 2010 General Permit, twice in the third year of the Permit term. For all other ships, sampling is required twice in the first year of operation under the Permit term and twice in the third year of the Permit term.

⁴ The full list of BNAs, Metals, and VOCs are listed in **Attachment 1**.

Table 6: Sampling Frequency for Permittees Authorized to Discharge at Speeds Under 6 Knots With a Mixing Zone.

Parameter	Minimum Frequency	Sample Type	Units
Total Flow	Daily	Metered	Cubic meters/day
Temperature	Twice per month	Grab/Field Test	°C
pH	Twice per month	Grab/Field Test	S.U.
Total Residual Chlorine ¹	Twice per month	Grab/Field Test	mg/L
Free Chlorine ¹	Twice per month	Grab/Field Test	mg/L
Specific Conductance	Twice per month	Grab	µmhos/cm
Total Suspended Solids	Twice per month	Grab	mg/L
Biochemical Oxygen Demand (5-day)	Twice per month	Grab	mg/L
Fecal Coliform Bacteria	Twice per month	Grab	FC/100 ml
Ammonia	Twice per month	Grab	mg/L
Dissolved Copper	Twice per month	Grab	µg/L
Hardness	Twice per month	Grab	mg/L
Alkalinity	Twice in Year 3 ²	Grab	mg/L
Chemical Oxygen Demand	Twice in Year 3 ²	Grab	mg/L
Nitrate-Nitrite (NO ₃ -NO ₂)	Twice in Year 3 ²	Grab	mg/L
Oil and Grease	Twice in Year 3 ²	Grab	mg/L
Settleable Solids	Twice in Year 3 ²	Grab	ml/L
Total Kjeldahl Nitrogen (TKN)	Twice in Year 3 ²	Grab	mg/L
Total Organic Carbon	Twice in Year 3 ²	Grab	mg/L
Total Phosphorus	Twice in Year 3 ²	Grab	mg/L
Base-Neutral Acid extractables (BNA) ³	Twice in Year 3 ²	Grab	µg/L
Other Dissolved and Total Recoverable Metals ³	Twice in Year 3 ²	Grab	µg/L
Total Mercury	Twice in Year 3 ²	Grab	µg/L
Volatile Organic Compounds (VOCs) ³	Twice in Year 3 ²	Grab	µg/L
Receiving Water (See Table 7, below)	Twice per year	Grab	Multiple
WET Testing	Once per month in Year 3 ⁴	Composite	

¹ Total residual chlorine and free chlorine monitoring and reporting are only applicable if chlorine is used as a disinfectant.

² For ships that were authorized to discharge under the 2010 General Permit, twice in the third year of the Permit term. For all other ships, sampling is required twice in the first year of operation under the Permit term and twice in the third year of the Permit term.

³ The full list of BNAs, Metals, and VOCs are listed in [Attachment 1](#).

⁴ Sampling is required in the third year of the Permit term or the first year of operation thereafter.

- 6.8.1. If a vessel is in Alaskan waters for less than 10 calendar days in a calendar month, one sample event for that month will meet the twice per month sampling frequency requirements.
- 6.8.2. Samples required to be taken twice per month can also be used to meet twice per year sampling requirements.
- 6.8.3. Total flow shall be monitored and recorded daily. If a permitted vessel has a meter installed that measures total daily flow, the permittee shall report the actual flow meter results (not estimations) on the Discharge Monitoring Report.

6.9. Other Monitoring

- 6.9.1. While a commercial passenger vessel is present in marine waters of the state, the permittee shall provide an hourly report of the vessel's location based on Global Positioning System technology (AS 46.03.465(b)).
 - 6.9.1.1. Permittees can comply with this law by subscribing to a service that records their vessel's position on a system that the Department can access.
 - 6.9.1.2. If a previously identified service is discontinued during the life of the permit, permittees must submit a letter to the Department within seven days of discontinuing the service. The letter must identify the date and time that the service was discontinued. Your point of contact listed in your ships registration must sign the letter.
 - 6.9.1.3. Permittees are responsible for compliance and accountability and cannot direct the Department to a contracted service.
- 6.9.2. The Department or a contractor for the Department may collect additional samples of the vessel's treated sewage, treated graywater, and other treated wastewaters being discharged into the marine waters of the state (AS 46.03.465(c)).
- 6.9.3. Receiving Water Monitoring - Required only for permittees authorized for discharges at speeds under 6 knots
 - 6.9.3.1. The permittee must conduct receiving water monitoring twice per year while the vessel is discharging into marine waters of the state. Monitoring must meet the following requirements:
 - 6.9.3.1.1. Monitoring must occur at two locations. One location under the potential influence of the discharge at 83 meters (15 meters when discharging in Skagway at Broadway Dock or Ore Dock) downstream of the vessel in the direction of the prevailing tidal current. The other location not under the influence of the discharge on the same side of the ship in the opposite direction of the prevailing tidal current (If the ship is discharging from both sides, this sample should be taken as far as possible from the discharge port in the in the opposite direction of the prevailing tidal current).
 - 6.9.3.1.2. Set and drift (current direction and velocity) and the distance perpendicular to the hull must be reported for each sampling event.
 - 6.9.3.2. Receiving water sample collection must occur on the same day and as close in time as practicable as effluent sample collection.
 - 6.9.3.3. Receiving water sample collection must occur while discharge is occurring.
 - 6.9.3.4. All receiving water samples must be grab samples.
 - 6.9.3.5. Copper must be analyzed as a dissolved metal.
 - 6.9.3.6. The discharge flow rate must be measured as near as practicable to the time other receiving water parameters are sampled.

Table 7: Receiving Water Sampling Required for Permittees Authorized for Discharges at Speeds Under 6 Knots With a Mixing Zone.

Parameter	Units	Sampling Frequency
Discharge flow rate	m ³ /s	Twice per Year ¹
Temperature	°C	Twice per Year ¹
pH	Standard Units	Twice per Year ¹
Specific conductance	µmhos/cm	Twice per Year ¹
Dissolved oxygen	mg/L	Twice per Year ¹
Total Ammonia as N	mg/L	Twice per Year ¹
Dissolved copper	µg/L	Twice per Year ¹
¹ Sampling at the two specified locations for these parameters must be conducted as close in time as practicable.		

6.9.3.7. All monitoring must be in accordance with the QAPP required under Section 6.1 “Quality Assurance”

6.9.3.8. Receiving water monitoring results must be submitted to DEC with the DMR for the month following sample collection. At a minimum, the attached report must include:

6.9.3.8.1. Dates and times of sample collection and analyses;

6.9.3.8.2. Results of sample analyses; and

6.9.3.8.3. Quality assurance and quality control (QA/QC) information such as analytical method used, method detection limit (MDL), practical quantification limit (PQL), and any deviations from the QAPP.

6.9.4. Whole Effluent Toxicity (WET) Testing Requirements

6.9.4.1. The permittee shall conduct acute and chronic toxicity tests on effluent samples once per month in the third year of the Permit or in the first year of operation thereafter. Samples must be collected in every calendar month when there is a discharge to an authorized mixing zone while at speeds under 6 knots.

6.9.4.2. The permittee must conduct tests on grab effluent samples with one vertebrate and one invertebrate species, as follows.

6.9.4.2.1. Vertebrate (survival and growth): *Atherinops affinis* (topsmelt). In the event that topsmelt is not available, *Menidia beryllina* (inland silverside) may be used as a substitute. The permittee shall document the substitute species in the next DMR.

6.9.4.2.2. Invertebrate: For larval development tests, the permittee must conduct tests with a bivalve species, *Crassostrea gigas*, (Pacific Oyster) or *Mytilus* sp. (mussel).

6.9.4.3. For the vertebrate, sample collection must comply with USEPA Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition (EPA-821-R-02-014). For the invertebrate species, sample collection must comply with Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136).

6.9.4.4. A series of at least five dilutions and a control must be tested. Test series should be designed to bracket toxicity end points from previous tests to provide meaningful toxicity information during the next permit reissuance. At a minimum the dilution series

must include the following effluent concentrations: (12.5%, 6.25%, 3.12%, 1.56%, and 0.78%).

6.10. Additional Requirements

The Department will attach terms and conditions to the authorization as appropriate. Additional monitoring parameters and increased monitoring frequency may be required and will be established on a case-by-case basis in the authorization (18 AAC 15.090).

7. Reporting

7.1. Sample reporting

The permittee shall report to the Department analytical results for all samples collected in the marine waters of the state (including results for US Coast Guard and US EPA samples) within 21 days after testing (AS 46.03.475(b)&(c)) unless results are reported in a discharge monitoring report (see Section 7.2). The results will include an analytical report in a Microsoft Excel spreadsheet format approved by the Department (Electronic Data Deliverable or EDD).

7.2. Discharge Monitoring Report

- 7.2.1. Monitoring for each calendar month that the vessel operated in the marine waters of the state shall be reported on the Permit Discharge Monitoring Report (DMR) form provided, or on an equivalent form approved by the Department. A completed DMR signed in accordance with Section 3.3 of the Permit shall be submitted to the Department within the first 21 days of the following calendar month. If a permittee submits a DMR electronically, the permittee must mail the original signed DMR to the Department within 7 days of the electronic submittal (18 AAC 69.055 and 18 AAC 72.930).
- 7.2.2. If, during the period when the Permit is effective, the Department makes available electronic reporting, the permittee will be required to submit monthly DMRs and other required reports electronically according to guidance provided by the Department.
- 7.2.3. A permittee that monitors (while discharging into marine waters of the state) any parameter identified in the Permit at a frequency greater than required shall report those results and include the results in any monitoring report calculations (46.03.465 & 475).
- 7.2.4. For purposes of calculating a monthly average, zero (0) shall be assigned for all analytical results less than the MDL. For the purposes of calculating a monthly geometric mean for fecal coliforms, a value of one (1) shall be assigned for values less than the MDL.
- 7.2.5. If a permitted vessel does not discharge in the marine waters of the state during a calendar month, the DMR shall be signed to certify that the vessel did not discharge.

7.3. WET Reporting

- 7.3.1. A discharge may not impart chronic toxicity, expressed as 1.0 chronic toxicity units (TUc) to aquatic organisms at the boundaries of the mixing zone (18 AAC 70.030).
- 7.3.2. The presence of acute and chronic toxicity for vertebrate species must be estimated as specified in USEPA Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition (EPA-821-R-02-014). For the invertebrate species, acute and chronic toxicity must be estimated as specified in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136).

- 7.3.3. Results must be reported in TU_c , where $TU_c = 100/IC_{25}$. The reported concentration showing 25% inhibition (IC_{25}) must be the lowest IC_{25} calculated for the applicable survival, or growth endpoints.
- 7.3.4. In addition to those quality assurance measures specified in the methodology, the following quality assurance procedures must be followed:
- 7.3.4.1. If organisms are not cultured by the testing laboratory, concurrent testing with reference toxicants must be conducted, unless the test organism supplier provides control chart data from at least the previous five months of reference toxicant testing. Where organisms are cultured by the testing laboratory, monthly reference toxicant testing is sufficient.
 - 7.3.4.2. If either of the reference toxicant tests or the effluent tests does not meet all test acceptability criteria as specified in the test methods manual, then the report shall note this.
 - 7.3.4.3. Control and dilution water should be receiving water, or salinity adjusted lab water. If the dilution water used is different from the culture water, a second control using culture water must also be used.
- 7.3.5. Quality assurance/quality control for all monitoring must be in accordance with the permittee's Department approved QAPP.
- 7.3.6. WET testing results must be submitted to DEC with the DMR for the month following sample collection. If unavailable by the DMR deadline, submit a copy of the sample event chain of custody with the DMR and submit the laboratory report electronically within 7 days of receipt from the laboratory. At a minimum, the WET testing report must include:
- 7.3.6.1. Dates and times of sample collection and analyses;
 - 7.3.6.2. Results of sample analyses; and
 - 7.3.6.3. Quality assurance and quality control (QA/QC) information such as any deviations from the QAPP.

7.4. Noncompliance Notifications and Reporting

- 7.4.1. The permittee shall notify the Department of the following occurrences, either verbally or in writing, within 24 hours of the permittee becoming aware of the occurrence of:
- 7.4.1.1. Each event that results in noncompliant discharge of sewage, graywater or other wastewaters into marine waters of the state due to inadequate treatment; and
 - 7.4.1.2. Each discharge of sewage or graywater or other wastewaters into marine waters of the state released overboard prior to passing through the AWTS or while the AWTS is out of operation.
- 7.4.2. In addition to the notification required by Section 7.4.1, the permittee shall submit a written report to the Department within 7 days of the time and date of the occurrence. The permittee shall submit the report on the Permit Non-Compliance form (18 AAC 70.930). The report must contain:
- 7.4.2.1. A description of the noncompliance event, its cause, and the volume discharged;
 - 7.4.2.2. The dates and times of the onset and duration of noncompliance;
 - 7.4.2.3. Details of any observed or potential effect on public health or receiving waters; and
 - 7.4.2.4. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- 7.4.3. The Department may waive the requirement for a written report pursuant to Section 7.4.2 if the permittee submits the initial notification required by Section 7.4.1 to the Department within

24 hours, and the information is sufficient for Department needs. The Department waiver must be issued in writing.

- 7.4.4. A permittee who becomes aware of a discharge in violation of AS 46.03.463 or the Permit not required to be reported under Section 7.4.1, or becomes aware of a discharge violation of other state law or requirement, shall immediately report it to the Department. The permittee shall provide a written report to the Department within 7 calendar days of the noncompliance.

7.5. Sewage and Graywater Discharge Record Book

- 7.5.1. The permittee shall maintain discharge records required under 18 AAC 69.050 and submit electronic copies of those records to the Department not later than five days after the end of each calendar month of operation in the marine waters of the state (AS 46.03.465(a)).
- 7.5.2. Permittees may submit discharge logs to the Department electronically. The permittee shall provide the key and/or cover page for the logbook that includes descriptions of discharge ports named, instructions on how the logbook is maintained, and definitions of terms and abbreviations used in the logbook (e.g., wastewater types, units used).
- 7.5.3. If, during the period when the Permit is effective, the Department makes available electronic reporting, the permittee will be required to submit monthly sewage and graywater discharge records and other required reports electronically according to guidance provided by the Department.

7.6. Notification for Discharges Necessary for Safety of the Vessel or Saving Life at Sea

The permittee shall notify the Department within 24 hours of any discharge made for the safety of the vessel or saving life at sea, following the requirements of 18 AAC 69.060.

8. Special Conditions

8.1. Proper Operation and Maintenance

- 8.1.1. A permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related accessories that the permittee installs or uses to achieve compliance with the conditions of the Permit (AS 46.03.110(d) and 18 AAC 15.090). The permittee's duty to properly operate and maintain includes using adequate laboratory controls and appropriate quality assurance procedures. However, a permittee is not required to operate back-up or auxiliary facilities or similar systems that a permittee installs unless operation of those facilities is necessary to achieve compliance with the conditions of the Permit.
- 8.1.2. The permittee is required to develop, or update, and implement an operation and maintenance plan specific for its facility within 180 days of the effective date for an authorization granted under the Permit. The Operation and Maintenance Plan shall, at a minimum, identify the manufacturer's recommendations for operation and maintenance, identify the permittee's operation and maintenance practices, and identify the permittee's procedures for documenting compliance with its operation and maintenance practices. If an Operation and Maintenance Plan has already been developed and implemented, the permittee need only review the existing plan to make sure it is up to date and all necessary revisions are made. If the required operation and maintenance procedures are included in the permittee's U.S. Coast Guard safety management system (SMS) or adopted by reference into the SMS, then the SMS will satisfy the Operation and Maintenance Plan requirement.

9. Recordkeeping

9.1. Records

The permittee shall maintain records and information resulting from the monitoring activities required by the Permit, the QAPP, and AS 46.03.465 for a minimum of three years. The permittee shall submit certified copies of such records to the Department upon request (AS 46.03.470).

9.2. Documents Available

The permittee shall maintain a current copy of the following documents on the vessel in a location that is accessible to the Department's employees or agents:

- 9.2.1. The Permit;
- 9.2.2. The authorization to discharge issued by the Department;
- 9.2.3. The Department approved VSSP (18 AAC 69.030);
- 9.2.4. The Department approved QAPP (18 AAC 69.025);
- 9.2.5. The sewage and graywater discharge record book (18 AAC 69.050); and
- 9.2.6. Operation and Maintenance Plan
- 9.2.7. Operation and maintenance records

9.3. Information Requests

Upon request, the permittee shall provide the Department with information relating to wastewater treatment, pollution avoidance, and pollution reduction measures used on the vessel in accordance with AS 46.03.465(h).

10. Access

The permittee shall allow the Department's employees and agents access to the permittee's vessel to conduct scheduled or unscheduled inspections or collect wastewater samples to determine compliance with the Permit and applicable state laws and regulations (18 AAC 69.085). The permittee will allow the Department's employees and agents passage aboard the vessel to monitor sample integrity and representativeness or to obtain Department wastewater samples (18 AAC 69.085).

11. Other Legal Obligations

11.1. Other Permits, Certificates, or Plans

11.1.1. The Permit does not relieve the permittee from the duty to obtain any other necessary permits, certificates, or plans from the Department or from other local, state, or federal agencies, and to comply with the requirements contained in any such permits. All activities conducted and all plans implemented by the permittee pursuant to the terms of the Permit shall comply with all applicable local, state, and federal laws and regulations.

11.2. Noncompliance

11.2.1. Nothing in the Permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not noncompliance is due to factors beyond permittee's control, including but not limited to accidents, equipment breakdowns, or labor disputes.

11.3. Public Records

11.3.1. Except for information related to confidential processes as approved by the Department, equipment, or methods of manufacture, all records and reports submitted in accordance with the terms of the Permit shall be available for public inspection at the Commercial Passenger Vessel Environmental Compliance Program Office.

12. Acronyms and Definitions

The following are common terms that may be found in the Permit.

- AS 46.03 Alaska Statutes Title 46, Chapter 03: Environmental Conservation. Available at <http://www.legis.state.ak.us/default.htm>
- 18 AAC 15 Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 15: Administrative Procedures
- 18 AAC 69 Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 69: Commercial Passenger Vessel Environmental Compliance Program
- 18 AAC 70 Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 70: Water Quality Standards
- 18 AAC 72 Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 72: Wastewater Disposal
- All chapters of Alaska Administrative Code, Title 18 are available at the Alaska Administrative Code database <http://www.legis.state.ak.us/cgi-bin/folioisa.dll/aac>

12.1. Acronyms

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS	Alaska Statutes
AWTS	Advanced Wastewater Treatment System
BOD ₅	5-Day Biochemical Oxygen Demand
CFR	Code of Federal Regulations
CPVEC	Commercial Passenger Vessel Environmental Compliance
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FC	Fecal Coliform Bacteria
MDL	Method Detection Limit
mg/L	Milligrams per Liter
ml/L	Milliliters per Liter
N/A	Not Applicable

NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
pH	A measure, in Standard Units (SU), of the hydrogen-ion concentration in a solution. On the pH scale (0 –14), a value of 7 at 25°C represents a neutral condition. Decreasing values, below 7, indicate increasing hydrogen-ion concentration (acidity); increasing values, above 7, indicate decreasing hydrogen-ion concentration (basicity).
PQL	Practical Quantification Limit
QAPP	Quality Assurance Project Plan
SU	Standard Units (see pH)
TRC	Total Residual Chlorine
TSS	Total Suspended Solids
µg/L	Micrograms per Liter
VSSP	Vessel Specific Sampling Plan

12.2. Definitions

Advanced Wastewater Treatment System (AWTS)	A treatment system that is capable of complying with the performance standards for Type II Marine Sanitation Devices discharging to Alaskan waters (33 CFR Part 159 Subparts C and E) but that also includes (1) additional solids separation using membrane technologies (such as ultrafiltration, nanofiltration, or reverse osmosis), or an equally effective solids separation process (flotation), and disinfection; (2) provides treatment of sewage and graywater on board commercial passenger vessels that achieves levels of biological treatment, solids removal, and disinfection higher than that achieved by traditional marine sanitation devices required by 33 CFR 159 (MSD 1 or III); and (3) has effluent discharged from that system that meets all requirements under P.L. 106-554, 33 U.S.C. 1901.
Approved and approval	"Approved" and "approval" mean approved in writing by, or the written approval of, the department (18 AAC 72.990 (4)).
Approved Laboratory	A Department Approved Laboratory meets the requirements in the current Department approved Quality Assurance Project Plan.
Average	An arithmetic mean obtained by adding quantities and dividing the sum by the number of quantities.
Biochemical Oxygen Demand (BOD ₅)	The amount, in milligrams per liter, of oxygen used in the biochemical oxidation of organic matter in five days at 20° C.
Biosolids	Treated sewage sludge.
Bounded Discharge Condition	From the CORMIX mixing zone modeling software, an ambient environment in which the plume is likely to interact with both lateral banks within the region of interest. Can partially occur when a docked ship discharges towards dockside (still open to the waterbody at the bow or stern of the ship). Tidal mixing may be

restricted on that side of the ship as compared to the overall tidal mixing in the harbor.

Chemical Oxygen Demand (COD)	A measure of the oxygen equivalent of the organic matter content of a sample that is susceptible to oxidation by a strong chemical oxidant.
Commercial Passenger Vessel	A vessel that carries at least 50 (determined with reference to the number of lower berths) overnight passengers for hire.
Continuous Discharge	A discharge of treated sewage or treated graywater into marine waters of the state regardless of whether the vessel is underway or docked, anchored, or moving at under 6 knots.
Daily	A calendar day.
Department	The Alaska Department of Environmental Conservation.
Design capacity	The average daily flow that a treatment plant or other facility is designed to accommodate.
Discharge	Any release, however caused, from a commercial passenger vessel, and includes any escape, disposal, spilling, leaking, pumping, emitting, or emptying.
Dissolved metals	The fraction of a given metal in water that passes through a 0.45 µm filter.
Effluent	The segment of a wastewater stream that follows the final step in a treatment process and precedes discharge of the wastewater stream to the receiving environment.
Effluent Limit	Restrictions imposed by the Department on quantities, discharge rates, and concentrations of pollutants that are discharged into Alaska waters.
Fecal Coliform Bacteria	Bacteria that can ferment lactose at 44.5° ± 0.2°C to produce gas in a multiple tube procedure; “fecal coliform bacteria” also means all bacteria that produce blue colonies within 24 ± 2 hours of incubation at 44.5° ± 0.2°C in an M-FC broth.
Field Test	An analytical test of wastewater that occurs while the sampler is onboard the vessel.
Free Chlorine	Chlorine available in water for disinfection.
Geometric Mean	A geometric mean is obtained by multiplying “n” quantities and then taking the n th root of the product. All sample results of zero will use a value of 1 for calculation of the geometric mean. Example geometric mean calculation: $\sqrt[4]{(1 \times 2 \times 3 \times 4 \times 990)} = 55$.
Grab	A single instantaneous sample collected at a particular place and time that represents the composition of wastewater only at that time and place.
Graywater	Galley, dishwater, bath, and laundry wastewater, even if it is stored in a ballast tank or other holding area on the vessel that may not be customarily used to store graywater.
Large Commercial Passenger Vessels	Commercial passenger vessel that provides overnight accommodations for two hundred fifty (250) or more passengers for hire, determined with reference to the number of lower berths (AS 46.03.490(7)).

Marine waters of the state	<p>All waters within the boundaries of the state together with all of the waters of the Alexander Archipelago even if not within the boundaries of the state. Includes “donut holes.”</p> <p>Waters of the Alexander Archipelago includes all waters under the sovereignty of the United States within or near Southeast Alaska as follows:</p> <p>(1) Beginning at a point 58° 11' 41" N, 136° 39' 25" W [near Cape Spencer Light], thence southeasterly along a line three nautical miles seaward of the baseline from which the breadth of the territorial sea is measured in the Pacific Ocean and the Dixon Entrance, except where this line intersects geodesics connecting the following five pairs of points:</p> <ul style="list-style-type: none"> • 58° 05' 17" N, 136° 33' 49" W and 58° 11' 41" N, 136° 39' 25" W [Cross Sound] • 56° 09' 40" N, 134° 40' 00" W and 55° 49' 15" N, 134° 17' 40" W [Chatham Strait] • 55° 49' 15" N, 134° 17' 40" W and 55° 50' 30" N, 133° 54' 15" W [Sumner Strait] • 54° 41' 30" N, 132° 01' 00" W and 54° 51' 30" N, 131° 20' 45" W [Clarence Strait] • 54° 51' 30" N, 131° 20' 45" W and 54° 46' 15" N, 130° 52' 00" W [Revillagigedo Channel] <p>The portion of each such geodesic situated beyond three nautical miles from the baseline from which the breadth of the territorial sea is measured forms the outer limit of the waters of the Alexander Archipelago in those five locations. (AS 46.03.490(18)).</p>
Maximum	The greatest quantity or concentration possible, allowed, or determined.
Milligrams per liter (mg/L)	The concentration at which one thousandth of a gram (10 ⁻³ g) is found in a volume of one liter; it is approximately equal to the unit “parts per million (ppm),” formerly of common use.
Micrograms per liter (µg/L)	The concentration at which one millionth of a gram (10 ⁻⁶ g) is found in a volume of one liter; it is approximately equal to the unit “parts per billion (ppb),” formerly of common use.
Minimum	The lowest concentration or result possible, allowed, or determined.
Mixing Zone	A volume of water adjacent to a discharge in which wastes discharged mix with the receiving water. From EPA: An area where an effluent discharge undergoes initial dilution and is extended to cover the secondary mixing in the ambient water body. A mixing zone is an allocated effect zone where water quality criteria can be exceeded as long as acute and chronic toxic effects are prevented.
Month	Month shall be the time period from the first of a calendar month to the last day in the calendar month.

Monthly Average	The average of sample results over a monitoring month calculated as the sum of all results measured during a monitoring month divided by the number of measurements during that month
No Observed Effect Concentration (NOEC)	Means the highest concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. NOEC is determined using hypothesis testing.
Noncompliance	Failure to meet the effluent limits, terms, conditions, and requirements of the Permit.
Other wastewater	Means treated graywater or treated sewage held in ballast tanks or other holding areas.
Permittee	A company, organization, association, entity or person who is issued a wastewater permit or authorization and is responsible for ensuring compliance, monitoring, and reporting as required by the permit.
Pollutant	Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under 42 U.S.C. 2011), heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, or agricultural waste discharged into water.
Quality Assurance Project Plan	A system of procedures, checks, audits, and corrective actions to ensure that all research design and performance, environmental monitoring and sampling, and other technical and reporting activities are of the highest achievable quality.
Responsible Corporate Officer	A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or has been delegated these responsibilities.
Receiving Water	A harbor or other marine water into which wastewater or treated effluent is discharged.
Report	Report result of sample analysis or information gathering.
Sediment	Solid material of organic or mineral origin that is transported by, suspended in, or deposited from water. Sediment includes chemical and biochemical precipitates and organic material, such as humus.
Settleable Solids	Material that settles out of water after a given period of time.
Sewage	Means human body wastes and other wastes from toilets and other receptacles intended to receive or retain human body waste, even if it is stored in a ballast tank or other holding area on the vessel that may not be customarily used to store sewage.
Sludge and Sewage Sludge	Solid, semi-solid, or liquid untreated residue that contains at least five percent solids by weight generated during the treatment of domestic sewage in a treatment facility. Sludge includes materials accumulated in and removed from a storage tank.
Sheen	An iridescent appearance on the water surface.

Total Flow	The volume of effluent discharged in one day in cubic meters.
Total Residual Chlorine	Chlorine remaining in water or wastewater at the end of a specified contact period as combined or free chlorine.
Total Suspended Solids (TSS)	A measure of the suspended solids in wastewater, effluent, or water bodies, determined by tests for "total suspended non-filterable solids."
Treated wastewater	Wastewater that has been subjected to treatment equipment and processes identified in the Notice of Intent and Vessel Specific Sampling Plan.
Twice per Year	Twice per year shall consist of two sampling events during the period when vessels are operating in marine waters of the state each year, typically May through September.
Toxic Unit, Chronic (TUc)	Means the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., 100/NOEC)
Underway	A vessel that is traveling at a speed of 6 or more knots (speed over ground).
Upset	An exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
Vessel Specific Sampling Plan (VSSP)	A plan that includes vessel specific information on wastewater treatment and sample collection as required under 18 AAC 69.030.
Wastewater Treatment	Any process to which wastewater is subjected in order to remove or alter its objectionable constituents and make it suitable for subsequent use or acceptable for discharge to the environment.