

# 2018 Cruise Ship Wastewater Report

## Commercial Passenger Vessel Environmental Compliance (CPVEC) Program

Figure 1: Ketchikan, 2018 (photo: ADEC staff)



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**INTRODUCTION**

This report is prepared annually by the Alaska Department of Environmental Conservations (ADEC or the Department) Division of Water Commercial Passenger Vessel Environmental Compliance Program (CPVEC or the Program). The intent of this report is to provide information on the Program’s wastewater monitoring and compliance efforts with cruise ship pollution.



## WATER QUALITY SUMMARY

**Objective 1:** All regulated commercial passenger vessels operating in marine waters of the state shall have current, timely, and active permits, authorizations, or plans approved by the Department, as required by state law, which ensure protection of human health and water quality and are based on sound science, technology, and economics.

**Authority.** AS 46.03.462 requires commercial passenger vessels obtain and comply with terms and conditions of permits or meet all standards established for the protection of ambient water quality when discharging into Alaska marine waters.

**Results.** The CPVEC program receives notices of intent to discharge under the general permit for qualifying vessels. All authorizations were granted before vessel discharges in state waters.

2014 GP Authorizations: For 2018, 1 new General Permit authorization was granted, 2 previous GP Authorizations were revised, and 28 active GP Authorizations remain in place.

Best Management Practices (BMP): 5 Approvals covering 8 ships for 2018. The BMP law expired in 2015 and was not replaced until late 2017. The operation of small cruise ships and ferries in 2016 and 2017 occurred under a No Action Assurance Memo.

**Objective 2:** Commercial passenger vessels comply with all terms and conditions required by state and federal law and water quality standards are maintained.

**Authority.** AS 46.03.100 require the permitting and compliance of wastewater discharge permits in the State of Alaska.

**Results.** 26 effluent permit exceedances were reported in 2018, 10 more than were documented in 2017.

### Products

Sample Events: 232 large cruise ship effluent samples and 29 small cruise ship effluent samples were collected for monitoring analysis

Enforcement: 26 alleged violations of permit effluent standards and 5 reported spills or unauthorized discharge of graywater resulted in issuance of 15 Notices of Violation.

Compliance: Settlement of the 15 Notices of Violation is ongoing, only one is completed at the time of this report.

Monitoring: In addition to effluent sampling, the Program is monitoring and studying the following areas of interest that may have environmental impacts:

- Small vessel Marine Sanitation Devices (MSD) performance and capability
- Concerns with fecal coliform levels found in average effluent results of small vessels
- Concerns with discharges of untreated or partially treated wastewater

Cruise ship operators reported 16 exceedances of the 2014 General Permit daily maximum or minimum limits out of 232 samples taken in 2018. There were 10 exceedances of monthly limits. Table 1 lists 2018 exceedances of general permit daily limits by pollutant type. Table 2 list unauthorized discharges and spills of greywater or treated sewage. Table 3 lists exceedances of General Permit limits.

**Enforcement.** The Department issued 11 notices of violation (NOV) in 2018 for alleged violations of wastewater effluent limits. Four additional NOVs were issued for five unauthorized discharges of treated wastewater and graywater. Settlements were reached on the effluent exceedance NOVs. Settlements for the other NOVs have not been reached at the time of this report.

**Compliance.** The Department monitored wastewater discharges from large vessels for BOD, fecal coliform, pH, and chlorine, ammonia, and dissolved copper at frequencies established in the general permit. Data results are available from the CPVEC Program on request, and summaries are available at <http://dec.alaska.gov/water/cruise-ships/cruise-reports/>.

The overall effluent quality from small commercial passenger vessels and state ferries has improved since the implementation of the BMP plans. Additional work is still needed on some ships to meet the standards for suspended solids, fecal coliform, BOD, and chlorine. Data results are available from the CPVEC Program at <http://dec.alaska.gov/water/cruise-ships/cruise-reports/>.

## TABLES

**Table 1: 2018 Wastewater Exceedances of GP Daily Limits (232 samples)**

Criteria	Number of Exceedances	Total Samples
Fecal Coliform	4	230
pH	2	232
TSS	1	230
BOD	4	230
Chlorine	5	232
Ammonia	0	144
Copper	0	144
Nickel	NA	46
Zinc	NA	46

**Table 2: 2018 Wastewater Reported Spills and Unauthorized Discharges**

Ship	Discharge	Location	Rep. Volume	ADEC Action
Nieuw Amsterdam	Treated wastewater (under six knots in speed)	Juneau	2.17 cubic meters	NOV
Noordam	Untreated graywater	Juneau and other locations	40 cubic meters	NOV
Star Princess	Treated graywater (stationary)	Skagway	274 cubic meters	NOV
Star Princess	Treated graywater (stationary)	Skagway	292.9 cubic meters	Included in NOV above
Westerdam	Graywater	Glacier Bay	85.4 cubic meters	NOV
Noordam	Pool water (EPA VGP)	Juneau	1 cubic meter	Closed
Zaandam	Pool water (EPA VGP)	Homer	4 cubic meters	Closed

**Table 3: 2018 Wastewater GP Reported Exceedances**

Ship	Date	Parameter	Result	Units
Emerald Princess	5/16/2018	Fecal Coliform Daily Maximum	46	FC/100 ml
Emerald Princess	May	Fecal Coliform Geometric Mean	46	FC/100 ml
Seabourn Sojourn	5/31/2018	BOD Daily Maximum	70	mg/L
Seabourn Sojourn	May	BOD Monthly Average	70	mg/L
Golden Princess	6/5/2018	Fecal Coliform Daily Maximum	72	FC/100 ml
Golden Princess	6/5/2018	Fecal Coliform Daily Maximum	130	FC/100 ml
Golden Princess	June	Fecal Coliform Geometric Mean	72	FC/100 ml
Golden Princess	June	Fecal Coliform Geometric Mean	130	FC/100 ml
Golden Princess	6/5/2018	BOD Daily Maximum	61	mg/L
Golden Princess	6/5/2018	BOD Daily Maximum	170	mg/L
Golden Princess	June	BOD Monthly Average	61	mg/L
Golden Princess	June	BOD Monthly Average	170	mg/L
Ruby Princess	6/12/2018	BOD Daily Maximum	190	mg/L
Ruby Princess	June	BOD Monthly Average	101	mg/L
Star Princess	6/13/2018	BOD Daily Maximum	210	mg/L
Star Princess	June	BOD Monthly Average	107.1	mg/L
Eurodam	June	Fecal Coliform Geometric Mean	18.3	FC/100 ml
Emerald Princess	6/27/2018	pH daily Minimum	2.93	SU
Island Princess	7/8/2018	Chlorine Maximum	0.1	mg/L
Island Princess	7/14/2018	Chlorine Maximum	0.1	mg/L
Regatta	7/26/2018	pH daily Minimum	5.83	SU
Volendam	7/13/2018	Chlorine Maximum	0.12	mg/L
Norwegian Jewel	8/2/2018	Chlorine Maximum	0.1	mg/L
Golden Princess	8/8/2018	Fecal Coliform Daily Maximum	110	FC/100 ml
Regatta	August	Total Suspended Solids Average	37.7	mg/L
Seven Seas Mariner	9/5/2018	Chlorine Maximum	0.12	mg/L

### Abbreviations and Acronyms

AAC:	Alaska Administrative Code
ADEC:	Alaska Department of Environmental Conservation
AS:	Alaska Statute
AMHS:	Alaska Marine Highway System
BMP:	Best Management Practices
BOD:	Biological Oxygen Demand
CPVEC:	Commercial Passenger Vessel Environmental Compliance (Program)
EPA:	United States Environmental Protection Agency
FC:	Fecal coliform bacteria
IMO:	International Maritime Organization
MOU:	Memorandum of Understanding
NOV:	Notice of Violation
TSS:	Total Suspended Solids
VGP:	US EPA Vessel General Permit