



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

Department of Environmental  
Conservation

DIVISION OF WATER  
Director's Office

410 Willoughby Ave.  
Juneau, AK 99801  
907-465-5320

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The Honorable Cathy Giessel  
Chair, Senate Resources Committee  
State Capitol  
Juneau, AK 99801

Dear Senator Giessel,

Thank you for hearing Senate Bill 3: Small Vessel Wastewater Exemption; 1% Art. Below, I have provided supplemental responses to some of the questions that came up during that hearing.

***Can you explain what a safe water quality level would be for wastewater discharge and describe some of the variance in the samplings?***

Safe water quality levels are determined by the water that the wastewater is discharged to; this is the reason that a comparison of marine criteria with drinking water standards is not appropriate. Water quality criteria for the marine environment are developed for growth of seafood, seafood processing, water supply for industrial use, and for recreation. These water quality criteria range from 20 fecal coliform per 100 ml to 400 fecal coliform per 100 ml.

However, the criteria are only part of the equation. Significant mixing of wastewater occurs after discharge from the vessel. With the low volumes discharged by the state ferries and the small cruise ships, this mixing is expected to result in these criteria being met very quickly.

Samples are taken onboard the vessel prior to discharge. Through implementing Best Management Practices Plans (BMP) the Department has identified that the wastewater effluent quality from Marine Sanitation Devices (MSD) used by small commercial passenger vessels and state ferries is a balance between chlorine and bacteria levels. Insufficient chlorine use can result in higher bacteria levels. High levels of chlorine can be toxic to aquatic life.

***Can you briefly explain the process of sample collection, and how that process tries to address the variability in each sample?***

The samples are taken from an onboard sample valve prior to discharge. Samples are collected in clean, laboratory provided bottles. The samples are prepared and analyzed according to the Department-approved Quality Assurance Project Plan. The samples are sent to an approved laboratory for analysis. Any deviations from the approved sampling plan must be identified and corrective actions implemented to avoid future issues. On occasion, a sample may exceed either its holding time or temperature limit. The holding time for bacteria is short, a matter of hours, and meeting this holding time is problematic across Alaska, as most communities do not have

laboratories. Higher temperature or exceeded holding time can result in an increase in fecal coliform levels.

***What level of complaints have arisen in the time this exemption has been in place for the vessels under the programs, if any?***

The Department has only received one documented wastewater complaint since 2004 regarding a small commercial passenger vessels or a state ferry. This 2006 public complaint was in regards to the fast ferry *FVF Chenega* while docked in Juneau. The complaint was investigated and dropped due to the fact that the fast ferry is not a discharging vessel (the vessel pumps waste to shore side facilities for treatment).

***How does the level of compliance on discharges compare to the large vessels under the cruise ship standards?***

The Department has found operators of both the large and small vessels to be responsive to meeting cruise ship standards and requirements.

Large vessels (250 or more lower berths) operate under a general permit that establishes limits for several parameters. Large vessels have installed Advanced Wastewater Treatment Systems (AWTS) which treat effluent to a much higher quality than standard MSDs. Exceedances of general permit limits results in issuance of notices of violations (NOV); the Department issued 11 such NOVs for the 2016 season.

Small cruise ships and ferries under BMPs do not have the same limits as those laid out in the large vessel general permit. Through the use of BMPs, the Department and small vessel operators work to ensure that the equipment is working as certified. The intent of the BMP program is to work with small vessel operators on an ongoing basis to continuously improve the system. The trend for effluent sample results from small vessels indicate that there has been dramatic improvement.

- 2004 – the geometric mean for samples collected was 12,249 fecal coliform colonies per 100ml.
- 2016 – the geometric mean for samples collected was 528 fecal coliform colonies per 100ml.

***Would DEC allow a vessel that in its opinion posed a risk to the environment or health continue to operate?***

The short answer is No. The Department has statutes and regulations in place that allows the Department – after a required warning period – to remove authorization for a vessel to discharge. This authority is in place for both the general permit and the BMPs. In order to re-establish Department approval for discharging, an operator of a small vessel is required to submit a new or revised BMP which demonstrates that there is not a risk to the environment or human health as well as demonstrate that their treatment equipment is operable.

Sincerely,



Michelle Hale  
Director