

2007 Air Quality Monitoring of Commercial Passenger Vessels Operating In Alaska Waters

Opacity Monitoring

All marine vessels including vessels covered under the State of Alaska’s Department of Environmental Conservation (ADEC) Commercial Passenger Vessel Environmental Compliance (CPVEC) Program (a.k.a. “Cruise Ship Program”), must comply with Alaska’s s marine vessel emission standard (listed in 18 ACC 50.070). The standard requires visible emissions (opacity) from vessel smoke stacks be no greater than 20% opacity for three minutes while docked or anchored. There are limited exemptions while maneuvering to/from anchor or port.

ADEC staff and an independent contractor monitor the visible emissions (opacity) from vessel smoke stacks each season and performed over 170 opacity readings during 2007. Observations were conducted in Juneau, Ketchikan, Skagway, and Whittier. The independent contractor conducts opacity readings on large and small vessels in Southeast and South-Central Alaska during the cruise ship season and immediately report to ADEC any reading that may be a potential violation. DEC staff (and contractors) are trained and certified to measure the level of visible emissions (opacity) from vessel stacks according to EPA-approved protocols (Method 9).

In 2002, ADEC joined forces with the U.S. Forest Service to enable monitoring of cruise ship emissions in Tracy Arm, a popular fiord 30 miles south of Juneau. Kayak Forest Rangers monitor cruise ship emissions while patrolling Tracy Arm.

Enforcement

For the 2007 season ADEC issued two Notice of Violations (NOV). Both NOVs were issued to Royal Caribbean Cruises Ltd.

ADEC issued no NOVs in 2006. There were two NOVs in 2005, one NOV in 2004, two NOVs in 2003, one NOV in 2002, 11 NOVs in 2001, and 15 NOVs in 2000.

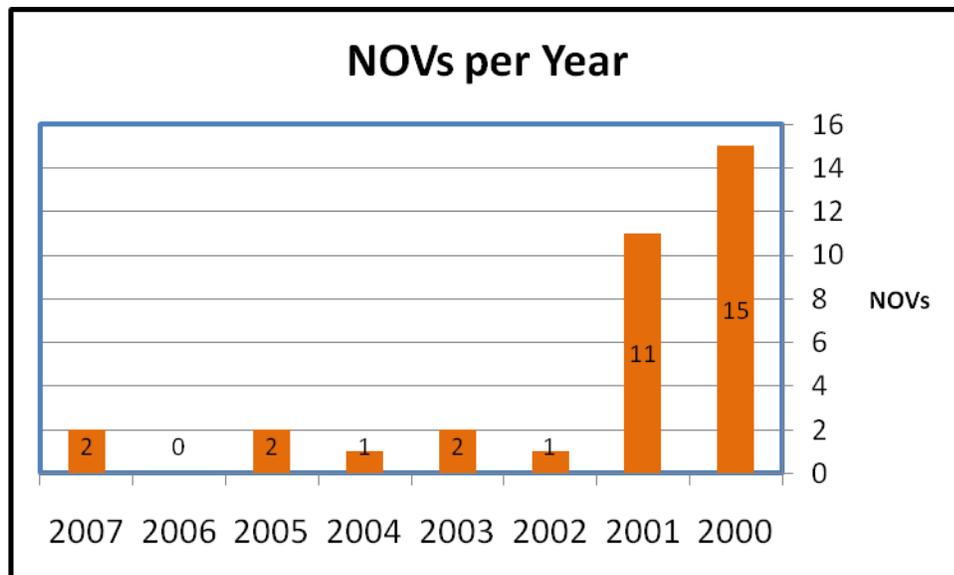


Figure 1

Complaints by the Public

Over the past several years, the ADEC has received public complaints about cruise ship smokestack visible emissions. Staff responds to these public complaints by doing opacity readings in accordance with EPA approved protocols (Method 9). There were 24 complaints received by ADEC in 2007. The number of cruise ship visible emissions complaints received from the public has remained fairly constant since 2004 (Figure 2).

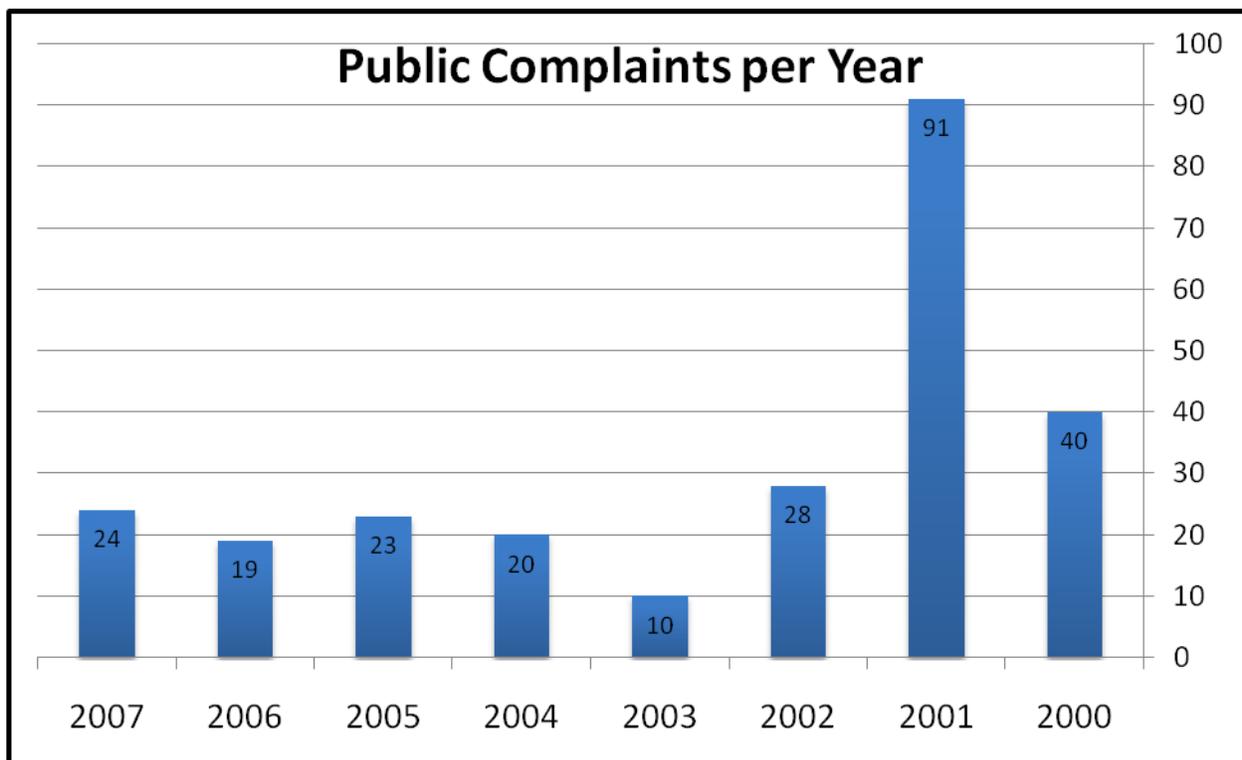


Figure 2

Ambient Air Monitoring in Juneau

Juneau receives the highest volume of cruise ship traffic of any Alaska port. Due to concerns about the air quality in downtown Juneau, an ADEC contractor set up ambient air monitors during 2000 and 2001 to measure the level of selected air pollutants that can be harmful to public health and the environment (sulfur dioxide, nitrogen dioxide, and microscopic particles-PM 2.5). The contractor installed three downtown ambient air monitoring stations in 2000 (Baranof Hotel, Capital Park, and Marine Way) and three monitoring stations during 2001 (Wickersham House, Highlands, and Marine Way).

Data from these monitors indicate that concentrations of measured air pollutants were appreciably below the State and national air quality standards in both 2000 and 2001. Since these standards are developed to protect health and welfare, ADEC concluded that current air pollutant concentrations in Juneau would not result in adverse effects on health and welfare.

Because ambient pollutant levels were low during 2000 and 2001, ADEC decided not to continue the ambient air monitoring during the 2002 through 2007 season. However, ADEC may include additional ambient monitoring in the future.