



OPACITY MONITORING

Alaska Cruise Ship Initiative

Alaska Department of Environmental Conservation

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www.state.ak.us/dec/press/cruise/cruise.htm

What is opacity?

- Opacity is visible emissions from a smoke stack – in these cases, from a cruise ship.
- Opacity cannot be used to measure impacts on public health.
- Opacity is an aesthetic or quality of life issue.



Why is it important?

- Alaskans are concerned about the amount of smoke coming from cruise ship smoke stacks and high opacity levels that reduce visibility and obscure views. Tourism also depends on presenting Alaska as a pristine environment.
- Although opacity cannot be measured for public health impacts, the more material that comes out of cruise ship smoke stacks, the higher the risk of adverse impacts on public health and the environment.
- People reported fallout from cruise ship emissions – particles landing on houses, autos, and outdoor decks and furniture.

How is it read?

- Opacity is measured by looking through smoke and determining how much of the background is obscured because of the smoke.
- Certified smoke readers attend a class, pass a written classroom test, and pass a semi-annual visible emission observation test.

What is DEC's cruise ship opacity monitoring program?

- This program is a component of Royal Caribbean Cruises Limited's (Royal Caribbean) January, 2000 civil settlement agreement for past violations.
- Under the settlement agreement, Royal Caribbean is required to provide funding for a five-year \$250,000 cruise ship opacity monitoring program in several Southeast communities.

- The program's purpose is to help DEC ensure that Alaskans' health and welfare is protected and to provide information to the cruise ship industry about their ships' operations.
- At the end of the season, DEC will refer opacity violations to the Alaska Department of Law for enforcement action.

Why does DEC have this program?

- DEC has not been able to perform cruise ship opacity oversight because of funding constraints since 1996.
- Ever since the program was suspended, DEC has received calls from concerned members of the public stating the emissions are impacting their quality of life, but had no ability until now to respond.
- This is the most extensive opacity testing ever undertaken by DEC.
- The Environmental Protection Agency is also conducting spot readings.



Monitoring Results Summary

- The contractor started monitoring cruise ships' opacity on July 11, 2000, while the ships were at dock in Juneau, Ketchikan, Haines, and Skagway.
- September 30th marked the end of this year's opacity monitoring efforts by DEC. In total, 235 readings were taken, 30 showed violations.
- Once the DEC contractor was up and running, EPA discontinued their monitoring.
- Prior to July 11, EPA conducted five readings resulting in four violations.
- DEC and the Department of Law have begun discussions with those cruise lines who violated the opacity standard. It is estimated that penalties will be determined later, at which time settlement discussions will begin.