

Carnival Spirit, Source Reduction Evaluation 2008 Alaska Season.

The Carnival Spirit will only discharge treated accommodation GW through an approved Rochem RO plant into Alaska State waters.

The source of this water comes from shore side bunker water (75 %) from Alaska ports and Vancouver and the remaining (25 %) from the Atlas fresh water generators on board which can be used when the vessel is outside the 12 NM at speed < 6 NM. Both water sources are being treated and pre paired for use as per standard approved and inspected USPH regulations.

The cleaning materials used that can wind up in this particular waste stream are closely monitored on board by the Engine and House keeping department.

No additional chemical/cleaner is introduced to the accommodation piping system.

Based on the metal sample results the bunker water samples will be evaluated and the ships piping system that the accommodation water is in contact with as well as the Rochem membranes.

For high ammonia levels an additional polishing filter might work.