

2010 Commercial Passenger Vessels Discharge Status and Wastewater Treatment

Vessel Operator	Vessel Name	Total Persons on Board ¹	Number of Port Calls ²	Blackwater (BW) Treatment System Manufacturer	Graywater (GW) Treatment System Manufacturer	Approved for Discharge in Washington ³ ≥ 1nm from berth and ≥ 6 knots		Approved for Discharge in Washington ³ continuously		Type of Treatment System ⁴
						BW	GW	BW	GW	
NorthWest CruiseShip Association Vessels										
Carnival Cruise Lines	CARNIVAL SPIRIT	3434	18	Traditional MSD - Triton	None	NO	NO	NO	NO	Traditional MSD - aeration, settling, chlorination
Celebrity Cruises	INFINITY	3379	19	Zenon	Mixed with BW	NO	NO	NO	NO	AWTS: Zenon is a biological reactor and ultrafiltration system
Celebrity Cruises	MERCURY	2785	1	Biopure	None	NO	NO	NO	NO	Traditional MSD - aeration, settling, chlorination
Celebrity Cruises	MILLENNIUM	3450	2	Hydroxyl	Hydroxyl	NO	NO	NO	NO	AWTS: Hydroxyl is a biological reactor and ultrafiltration with UV disinfection
Holland America	AMSTERDAM	2027	14	Traditional MSD	None	NO	NO	NO	NO	Traditional MSD - aeration, settling, chlorination
Holland America	OOSTERDAM	2716	21	Traditional MSD	None	NO	NO	NO	NO	Traditional MSD - aeration, settling, chlorination
Holland America	ROTTERDAM	2232	19	Traditional MSD - Triton	None	NO	NO	NO	NO	Traditional MSD - aeration, settling, chlorination
Holland America	VOLENDAM	2079	1	Zenon	Mixed with BW	NO	NO	NO	NO	AWTS: Zenon is a biological reactor and ultrafiltration system
Holland America	ZAANDAM	2079	21	Zenon	Mixed with BW	NO	NO	NO	NO	AWTS: Zenon is a biological reactor and ultrafiltration system
Norwegian Cruise Lines	NORWEGIAN PEARL	3494	19	Scanship	Mixed with BW	YES	YES	NO	NO	AWTS: Scanship is a biological reactor flocculation/flotation & UV disinfection system
Norwegian Cruise Lines	NORWEGIAN STAR	3448	20	Scanship	Mixed with BW	YES	YES	NO	NO	AWTS: Scanship is a biological reactor flocculation/flotation & UV disinfection system
Princess Cruise Line	GOLDEN PRINCESS	3658	20	Hamworthy Bioreactor	Accomodations mixed with BW	NO	NO	NO	NO	AWTS: Hamworthy is a biological reactor and ultrafiltration system
Princess Cruise Line	ROYAL PRINCESS	1062	10	Hamworthy Bioreactor	Accomodations mixed with BW	NO	NO	NO	NO	AWTS: Hamworthy is a biological reactor and ultrafiltration system
Princess Cruise Line	SAPPHIRE PRINCESS	3916	20	Hamworthy Bioreactor	Accomodations mixed with BW	NO	NO	NO	NO	AWTS: Hamworthy is a biological reactor and ultrafiltration system
Royal Caribbean	RHAPSODY OF THE SEAS	3381	18	Hamman/NAVALIS	NAVALIS (under-going start-up)	NO	NO	NO	NO	Traditional MSD - aeration, settling, chlorination + NAVALIS AWTS under-going start-up; biological, ultrafiltration with oxidation
NON NorthWest CruiseShip Association Vessels⁵										
NONE										

Total Calls: 223

¹Numbers come from the Alaska Discharge Status Report and information gathered from the cruise industry. Most values include both passengers and crew. Actual number of passenger aboard varies dependent upon sales.

²Number of Port calls comes for Port of Seattle Cruise Schedule for 2010

³Washington waters refers to the "waters subject to this Memorandum of Understanding (MOU)" as defined in the MOU

⁴Information on the types of treatment systems comes from the Alaska Discharge Status Report and information from the cruise industry.

⁵Non Northwest CruiseShip Association vessels are not party to the MOU and the requirements of the MOU.