

Alaska Department of Environmental Conservation Division of Water Cruise Ship Program

2010 Season Report

Ocean Ranger

9/6/2013



This report is a serial monograph. It is a standalone document and, at the same time, is the third in a series of seasonal reports going back to 2008. The report explains the efforts and results of the department's Ocean Ranger program and provides comparisons to previous years.

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1. INTRODUCTION

- a. The Commercial Passenger Vessel Environmental Compliance (Cruise Ship) Program, in the Department of Environmental Conservation (DEC) Division of Water, manages the Ocean Ranger program. Ocean Rangers are deployed on large commercial passenger vessels (cruise ships) as independent observers to monitor state and federal requirements for marine discharge and pollution, and to insure protection for passengers, crew, and residents at Alaskan ports from improper sanitation, health, and safety practices¹. This is a report of Ocean Ranger activities for 2010.
- b. In August 2006, Alaskans passed Ballot Measure 2² into law. The law contained provisions for taxation, gambling, the sale of shore-side excursions, commercial passenger vessels environmental practices, and the Ocean Ranger program. The Cruise Ship Program implemented an Ocean Ranger pilot program in 2007, and has managed a full-scale program since 2008.



Figure 1: Ocean Ranger (CMS Photo)

2. OCEAN RANGER PROGRAM OPERATIONS

- a. <u>CONTRACT.</u> In 2008, DEC awarded a multi-year contract to Crowley Maritime Services (CMS) to implement the on-board Ocean Ranger program. The 2010 amount of the contract with CMS was approximately \$3.2 million. CMS coordinated Ocean Ranger operations from their Petersburg Alaska office.
- b. <u>FUNDING</u>. The Ocean Ranger fee paid by large cruise ships is the only funding source, and the fee funds only Ocean Ranger program activities. Each cruise ship paid a \$4 per-berth, per-voyage fee. Cruise ships paid \$3.3 million in Ocean Ranger fees.

¹ See Alaska Statute AS 46.03.476 Ocean Rangers

² See http://www.dec.state.ak.us/water/cruise_ships/Law_and_Regs/index.htm

- c. <u>DEPLOYMENT SCHEDULE</u>. The Cruise Ship Program approved the CMS deployment schedule for Ocean Rangers in December 2009. CMS and the Cruise Ship Program scheduled deployment to get the best prices and guaranteed cabins for Ocean Rangers.
 - (1) **Deployment Types.** The deployment schedule contained three types of deployments. Ocean Rangers:
 - A. boarded cruise ships in Seattle or Vancouver and rode the cruise ship for the entire round trip voyage,;
 - B. boarded in Alaska and departed in Alaska on a partial voyage, or
 - C. conducted in-port inspections.
 - (2) **Selection Factors.** The Cruise Ship Program and CMS considered the following factors in deciding whether to have an Ocean Ranger conduct an in-port deployment versus a full voyage deployment:
 - A. a ship's compliance history,
 - B. a ship's itinerary (e.g., few days in Alaska),
 - C. availability of Ocean Rangers, and/or
 - D. daily cabin costs.
 - (3) **Duty Rotation.** After one to three weeks, Ocean Rangers changed ships. This allowed them enough time to become familiar with each ship, yet not become complacent.

d. RECRUIT AND HIRE.

- (1) **General.** Nationally, the pool of applicants was sufficient to fill the ranks. CMS hired applicants that held one of two qualifications.
 - A. U.S. Coast Guard license as a Marine Engineer; or
 - B. a degree in marine safety and environmental protection, or an equivalent course of study approved by the department, from an accredited maritime educational institution.
- (2) Alaska Recruitment. Five Alaskans became Ocean Rangers in 2010. This was an increase from one in 2008, and four in 2009. Qualified Alaskan applicants had hiring and deployment preference over non-Alaskan applicants. CMS actively sought and recruited qualified Alaskan candidates; however, few marine engineers reside in Alaska, and many engineers work worldwide, not regionally. The Ocean Ranger program competes with other maritime industries across the globe for the few qualified Alaskan applicants available. Recruiting activities included:

- A. distribution of Ocean Ranger job packages to the State Legislature and other entities such as Chambers of Commerce to attract Alaskan candidates.
- B. job postings on the Alaska Job Network,
- C. direct calling and mailing,
- D. career fair presentations,
- E. establishment of a recruiting information website,
- F. notice of the job openings on DEC websites, and
- G. a toll free telephone number.
- e. <u>TRAINING</u>. Because marine engineers work on a wide variety of vessel types and sizes, it is unlikely that each trainee would have developed expertise or maintained currency in every Ocean Ranger monitoring category. Additionally, Ocean Rangers must learn state and contractor requirements.
 - (1) **Training Development and Refinement.** The Cruise Ship Program, CMS, and the American Maritime Officer's Union (AMO) cooperatively developed, refined, and delivered an Ocean Ranger training course. Refinement from previous years included
 - A. clear objectives for each training module,
 - B. new lesson plans and presentations,
 - C. a reorganized syllabus, and
 - D. revised guidance documents.
 - (2) Training Delivered in 2010. Between April 18 and April 24, CMS conducted an Ocean Ranger training course at the AMO Simulation, Training, Assessment & Research (STAR) Center in Dania Beach, Florida. The 7-day course for new (3-day for returning) Ocean Rangers included multiple training modules and a one-day ship visit onboard a Princess cruise ship moored in nearby Fort Lauderdale. One Cruise Ship Program staff member instructed four training modules and evaluated the training. Representatives from Princess Cruises, Cruise Lines International Association, and wastewater treatment manufacturer Hamworthy delivered presentations. Representatives from US Coast Guard Sector Juneau and DEC Spill Prevention and Response answered questions in a videoconference session. Two Ocean Rangers were trained in Juneau. Juneau DEC Certified all 24 trainees and 21 deployed as Ocean Rangers.
- f. <u>OUTFITTING</u>. CMS outfitted Ocean Rangers between certification and initial deployment. Ocean Ranger outfit included personal gear, communications devices, guidance documents, and sampling kits.

- (1) **Personal Gear.** A uniform, coveralls, hand lamp, and safety gear.
- (2) **Communications.** Communication gear included a mobile phone and tablet computer. A camera was provided to supplement the limited camera on the mobile phone.
- (3) **Sampling Kits.** Ocean Rangers placed wastewater sampling kits aboard each ship so ships' crews could take samples if necessary. The kits included instructions and chain of custody forms for ship crew use. No events in 2010 warranted the use of these kits.

3. MONITORING

- a. <u>GENERAL</u>. Ocean Rangers monitor for compliance with state and federal environmental laws and regulations. Guidance documents produced by DEC and training provided the basis for monitoring. Ocean Rangers recorded their observations on reports described in 3.c, below.
- b. <u>GUIDANCE DOCUMENTS</u>. The Cruise Ship Program and CMS created and maintained documents that gave Ocean Rangers standard and consistent guidance. Changes from prior years included adding background information and addressing some frequently asked questions.
 - (1) **Guidebook.** The Guidebook has instructions, monitoring requirements, system operations, and copies of laws and regulations.
 - (2) **Daily Report Checklist.** The Ocean Ranger checklist is a list of all items that could be monitored in the Daily Reports.
- c. <u>REPORTS TO DEC.</u> Ocean Rangers submitted reports to the CMS project manager for review and submission to the Cruise Ship Program. The CMS project manager submitted reports flagged with potentially non-compliant conditions immediately and non-flagged reports within three days of monitoring. Report types submitted by Ocean Rangers included:
 - (1) **Daily Report.** Ocean Rangers submitted a Daily Report for each day onboard a cruise ship in Alaskan waters, whether underway or in port.
 - (2) Incident Report. Incident Reports were used to document noncompliance not reported in the Daily Report. Ocean Rangers also submitted Incident Reports to inform the Cruise Ship Program about issues that did not fit into another report type or to ask questions to DEC.
 - (3) **Departure Report.** Ocean Rangers completed departure reports when leaving a cruise ship at the end of a voyage.
 - (4) **Seasonal Report.** Ocean Rangers completed the Seasonal Report during the first Ocean Ranger voyage of the season. It included items that were unlikely to change during the season.

- (5) **Oil Spill Report.** The DEC Spill Prevention and Response Division (SPAR) created the Oil Spill report so that Ocean Rangers can report spills and sheens in a complete and consistent format.
- (6) **Turnover Reports:** Turnover reports are reports intended for the next Ocean Ranger to voyage on the same cruise ship. It included notes and information that would be helpful to the next Ocean Ranger onboard.
- (7) Additional Observations and Verification Project Report. Ocean Ranger Verification Projects were designed to obtain information for environmental systems, ambiguous conditions, and environmental compliance.
- d. <u>CRUISE SHIP PROGRAM ACTIONS ON FINDINGS.</u> When Ocean Rangers reported potentially non-compliant conditions, the Cruise Ship Program performed the following actions.
 - (1) **Operator Notification.** In all cases, the Cruise Ship Program immediately reported the non-compliance to the cruise ship owner or operator. Standard procedure required Ocean Rangers to inform a cruise ship's crew of potentially non-compliant conditions. In the case of an actual non-compliant condition, the Cruise Ship Program worked with the owner or operator to stop or correct the condition.
 - (2) **Notification of Other Agencies.** The Cruise Ship Program promptly notified appropriate state and federal agencies for potentially noncompliant conditions that fell outside of the jurisdiction of the Cruise Ship Program. The Cruise Ship Program reported potentially non-compliant findings to:
 - A. Safety. U.S. Coast Guard Sector Juneau;
 - B. <u>Health and Sanitation.</u> U.S. Centers for Disease Control and Prevention, and the appropriate State of Alaska and local health agencies;
 - C. <u>Vessel General Permit (VGP).</u> U.S. Environmental Protection Agency (EPA).
 - (3) **Regulation Research.** The Cruise Ship Program researched the laws, regulations, permits, and required plan terms and conditions in the context of an Ocean Ranger finding to determine compliance; decided the appropriate compliance assistance, administrative, or compliance action; and then proceeded as appropriate.
 - (4) **Oil Pollution Reporting.** Because of the time-critical nature of oil pollution cases, the Cruise Ship Program submitted Oil Reports directly to SPAR and the US Coast Guard Sector Juneau.

e. <u>FINDINGS</u>. In 2010, Ocean Rangers reported a variety of findings, most of which involved minor items such as paperwork errors or items that, if left unattended, could eventually result in a safety problem or spill. Ocean Rangers reported on or verified several wastewater and small oil spills into Alaska waters. In 2011 the Cruise Ship program will continue to improve training, documentation, and communications as a result of lessons learned in 2010. Table 1 shows the number of findings in each area and a comparison to previous years.

Table 1. Types and Number of Ocean Ranger Findings from 2008 until 2010

Finding Type	2010	2009	2008	
Oil Pollution	62	87	74	
Safety	25	20	7	
Health	31	36	13	
Wastewater	42	22	19	
Other Waste	19	12	8	
Air Pollution	34	27	N/A	
EPA Vessel General Permit	8	26	N/A	
Boiler Blow-down	2	4	5	
TOTAL	223	234	126	

- (1) Oil Pollution Findings. Ocean Rangers reported 62 oil pollution related findings. Only 13 of these findings were potentially non-compliant conditions found on the cruise ships. The remaining 49 findings were either not attributable to the cruise ships or were conditions that, if left unattended, may have evolved into non-compliant conditions. Only Ocean Ranger reported findings were included in this report. SPAR may have received additional reports from non-Ocean Ranger sources since cruise ships must report their spills to SPAR and the U.S. Coast Guard. Notifying the Ocean Rangers does not satisfy the legal reporting requirements. State law does not require cruise ships to report pollution incidents not caused by them, although they often do.
 - A. Oil from Vessel. Ocean Rangers reported 13 cases where the petroleum products from a cruise ship entered Alaskan waters. Faulty propulsion equipment, leaking seals, or ruptured hydraulic lines caused these conditions.
 - B. <u>Miscellaneous Oil.</u> Ocean Ranger reported seven findings for non-pollution oil related matters. These findings included oil recordkeeping, equipment, and operation of oil water separators.
 - C. <u>Internal Oil Leak.</u> Ocean Rangers reported 12 cases where oil (including fuel) was leaking internally on the ship, but not into Alaskan waters. Some cruise ships had oil in bilges, oil lost from tanks or machinery and not recovered, leaking fuel pipes to combustion equipment, and internal fuel spills. These items were not compliance items, but may have developed into a safety, health or pollution hazards if left unattended.

- D. <u>Harbor Oil Sheens</u> Ocean Rangers reported 19 non-traceable pollution incidents, or "mystery" sheens. These were oil pollution incidents that an Ocean Ranger observed but could not be attributed to a source. Some of these sheens may have remained unreported without the Ocean Rangers, particularly in remote locations.
- E. <u>Port Operations Oil.</u> Ocean Ranger reported 11 oil pollution cases related to port operations, but not attributable to a cruise ship. These cases were from tenders which transfer passengers from anchored cruise ships to shore.
- (2) **Safety Findings**. Ocean Rangers reported 25 potential safety findings. Findings included loss of power, small fires, pool safety, and covers missing on rotating equipment.
- (3) **Health Findings.** Ocean Rangers reported 31 potential health findings. Findings included pool and spa cleaning, potential norovirus, dishwasher temperature, food service workers without proper gear, and potable water connections between the cruise ship and public water supplies (hose and connector sanitation items).
- (4) Wastewater Findings. Ocean Ranger reported 42 wastewater findings. Ocean Rangers reported one unauthorized discharge of wastewater in Alaskan waters. Several wastewater sampling quality assurance issues were identified with one cruise ship operator. Ocean Rangers reported several vessel specific sampling plan (VSSP) inaccuracies including an undocumented wastewater stream into an Advanced Wastewater Treatment System and inaccurate storage tank identification. Inaccurate tank identification did not appear to compromise effluent quality however tank identification discrepancies may have been a contributing factor for accidental discharges in prior seasons.
- (5) **Other Waste Findings**. Ocean Rangers reported 19 potential other-waste findings. These included objects dropped into the water, such as a handheld radio, drops of paint into the water, and an anchor and chain lost overboard (later salvaged and recovered).
- (6) Air Pollution Findings. Ocean Rangers reported 34 air pollution or opacity findings. These included refrigerant loss, boiler and incinerator issues, burning of oil sludge, and potential opacity issues. Ocean Rangers are not certified EPA Reference Method 9 opacity readers and could not perform valid opacity readings. However, marine engineers understand "excessive smoke" conditions and receive training on opacity regulatory requirements. The Cruise Ship Program has EPA Method 9 certified contractors and staff. Ocean Rangers also assisted the Cruise Ship Program with researching cruise ship self-reported opacity events. Vessel self-reporting and ultimately compliance may improve with Ocean Rangers helping to identify and report heavy smoke that may otherwise go unnoticed by cruise ship crews.

- (7) **EPA Vessel General Permit Findings.** EPA issued a NPDES Vessel General Permit on December 18, 2008³. The VGP contains federal terms and conditions that apply to cruise ships. Ocean Rangers reported three accidental discharges of pool and spa water in Alaskan waters in 2010. Concerns about the release of pool water and spa water into Alaskan waters included a possible exceedance of Alaskan water quality standards (such as pH and chlorine) and the potential release of pathogens into surrounding waters without proper disinfection.
- (8) **Special Projects.** Ship crews responded well to the projects. The verification projects increased the Cruise Ship Program's understanding of shipboard systems and the status of environmental operations. Each verification project took about three hours. Verification Projects included:
 - A. Fuel Systems and Related Operations,
 - B. Propulsion/Power Systems,
 - C. Potable Water Flows (WW),
 - D. Waste Handling and Food Waste Dewatering,
 - E. Status on AWTS Operations and Ammonia reduction methods, and
 - F. Exhaust Gas Scrubber Pilot project (one report).
- f. OCEAN RANGER ACCESS 2010. Access problems include events where Ocean Ranger monitoring is prevented, or avoidably delayed. Ocean Rangers reported problems regarding access to the areas of cruise ships where they were required to monitor. Ocean Rangers resolved most problems, with occasional CMS or Cruise Ship Program intervention. All delays cost the Cruise Ship Program, Ocean Rangers, and the vessel operator's time and effort to resolve. These issues caused Ocean Ranger down-time and reduce compliance verification monitoring, and in some cases the loss of entire monitoring days. The Cruise Ship Program will continue to inform cruise ship owners or operators of these problems in order to reduce future access problems. CMS monitored for access problems during the cruise season, and submitted an annual access report to the Cruise Ship Program. 2010 access problems included:
 - (1) boarding delays,
 - (2) delayed returns of Ocean Ranger passports,
 - (3) delays caused by cruise ships correcting onboard billing,
 - (4) delayed monitoring caused by cabin changes with little or no notice,

³ EPA Vessel General Permit webpage is :http://cfpub.epa.gov/npdes/home.cfm?program_id=350

- (5) restricted times for access to engine rooms or to crewmembers that could answer questions or show documentation, and
- (6) restricted times for access to other monitoring areas such as document storage locations.

g. MONITORING STATISTICS

(1) Out of 449 voyages, Ocean Rangers monitored 403 voyages (90%). In port inspections were used to provide Ocean Ranger or the Cruise Ship Program staff coverage for the remaining 46 voyages (10%). Table 2 shows the numbers of the different reports that Ocean Rangers submitted to DEC, and a year-by-year comparison.

Table 2. Ocean Ranger Report Statistics from 2008 until 2010

Total Number of Reports			
Report Type	2010	2009	2008
Seasonal ¹	25	NR	NR
Daily (<i>Underway + In port</i>)	1,884	2,272	2,180
Underway	1,777	2,171	2,039
In port	107	101	141
Incident	13 ²	8	100
Oil Sheen	33 ²	72	NR
Departure	100	140	131
Verification	101	143	NR
General ³	NR	NR	NR
Rescheduled ⁴	5	9	39

Notes:

¹Ocean Rangers complete Seasonal Reports for cruise ships that conduct more than one Alaskan voyage. In 2008 and 2009 seasonal reports were embedded into, and indistinguishable from daily reports.

NR — No Reports, the reports do not yet exist or had been discontinued.

Oil Sheen reports were implemented in 2009. Until 2009 oil sheens were reported on incident reports.

- (2) There were five Daily Reports rescheduled or missed in 2010. This equates to only 0.3 % of the Daily Reports (5 of 1884). See Deployment Schedule in Appendix A for details.
- (3) There was a decrease in potential non-compliance items compared to 2009 (11 less items). This decrease was likely the result of a decrease in the number of large cruise ships in Alaska in 2010.
- (4) There was a decrease in the number of report EPA Vessel General Permit items. 2009 was the first year of the EPA VGP, and the decrease in 2010

²One oil related item was reported to SPAR as an incident report.

³General Reports were implemented in 2011.

⁴In 2011 and prior years, these were missed reports.

- was likely a result of cruise ship operators becoming more familiar with permit requirements.
- (5) Table 3 shows information for each cruise ship. It shows how many days each ship operated in Alaskan compared to the Ocean Ranger coverage, the number of days that an Ocean Ranger monitored the ship, and a comparison between the days monitored while the vessel was underway on a voyage and the days monitored while the vessel was moored or anchored in port.

Table 3. 2010 Daily Report Statistics

	•			Daily Reports by Month							
Vessel Name	Voyages	RD	%	DR	May	Jun	Jul	Aug	Sep	VDR	IDR
Carnival Spirit	19	75	77%	58	12	12	14	13	7	58	0
Infinity	19	60	100%	60	11	13	13	15	8	58	2
Mercury	19	80	96%	77	10	18	17	16	16	77	0
Millennium	19	106	98%	104	20	24	25	23	12	104	0
Amsterdam	11	91	92%	84	17	19	21	21	6	81	3
Oosterdam	20	80	95%	76	12	18	18	17	11	75	1
Rotterdam	18	72	97%	70	9	18	17	18	8	68	2
Ryndam	19	103	99%	102	18	24	25	23	12	98	4
Statendam	19	103	100%	103	11	24	25	25	18	103	0
Volendam	19	76	97%	74	12	16	18	18	10	72	2
Zaandam	20	80	95%	76	10	18	16	19	13	76	0
Zuiderdam	20	80	99%	79	13	18	17	18	13	76	3
Pacific Venus	1	4	50%	2			2			0	2
Nippon Maru	1	2	50%	1		1				0	1
Norwegian Pearl	20	81	100%	81	17	18	18	17	11	81	0
Norwegian Star	22	70	94%	66	12	13	12	19	10	65	1
Asuka II	1	4	50%	2			2			0	2
Coral Princess	19	101	94%	95	11	24	25	24	11	90	5
Diamond Princess	20	100	95%	95	14	24	23	24	10	93	2
Golden Princess	19	76	99%	75	9	18	17	18	13	75	0
Island Princess	18	98	97%	95	11	23	25	25	11	93	2
Royal Princess	8	67	91%	61	6	19	16	13	7	58	3
Sapphire Princess	18	70	80%	56	6	14	14	13	9	56	0
Sea Princess	13	52	81%	42	3	12	9	10	8	26	16
Seven Seas Navigator	14	87	53%	46	2	12	15	12	5	19	27
Radiance of the Seas	18	99	100%	99	14	24	22	25	14	99	0
Rhapsody of the Seas	19	59	100%	59	12	13	12	15	7	59	0
Silver Shadow	16	75	61%	46	6	12	4	18	6	17	29
OVERALL	449	2051	92%	1884	278	449	442	459	256	1777	107

Notes:

RD - Reportable days are when a ship is in Alaskan waters for at least 3 hours in a day.

VDR - Voyage Daily Reports, Ocean Ranger onboard while underway.

4. DISCUSSION

a. Lessons learned in 2010 assisted in planning for the next contract RFP and for the 2011 Alaska cruise season including planning for a reorganization and revision of the daily checklist.

^{% -} Percent coverage for 2010

DR - Daily Report

IDR - In Port Daily Report

- b. Ocean Rangers provided timely and high quality information to the Cruise Ship Program and federal agencies for oil pollution, opacity (air emissions), wastewater treatment, solid waste processing, and required documentation. Ocean Rangers also assisted cruise ship crews in understanding State of Alaska requirements, including referring issues to appropriate Cruise Ship Program staff. Detailed Ocean Ranger monitoring and reporting verified that, in general, cruise ships follow sound environmental, health, and safety practices that minimize impact on the environment, vessel crews, passengers and Alaskans. However, there are still areas of concern.
- c. Cruise Ship cooperation is strong. However, intermittent communication and access issues persist between Ocean Rangers and vessel crews. While the issues represent a small fraction of interactions, if left unaddressed the frequency of the issues could increase or result in avoidable non-compliant conditions. The Cruise Ship Program and CMS will continue to foster a team approach with vessel crews and owners or operators.
- d. Access issues indicate that some cruise lines, whether operators or vessel crews, may remain reluctant to cooperate with Ocean Rangers. Although these incidents represent a small fraction of interactions, the cascading effect may continue to the impact the quality and quantity of Ocean Ranger monitoring. The Cruise Ship Program will address these issues with continued efforts to improve communications with owners and operators.
- e. Ocean Rangers reported numerous harbor sheens that, while not attributable to cruise ships, still represent concern for Alaskan water quality. The Cruise Ship Program and CMS will continue to focus Ocean Ranger efforts toward determining the source of these sheens when observed, in order to assist the appropriate agencies and responsible parties to resolving the conditions.
- f. Ocean Rangers reported several wastewater finding related to sampling quality assurance with one cruise ship operator over multiple cruise ships. The findings included improper documentation, improper methods used for testing, and improper handling and chain of custody. The Cruise Ship Program addressed these issues with the sampling contractor and laboratory, and will not be using the samples identified with errors by Ocean Rangers in future permitting decisions.
- g. Ocean rangers reported a number of cruise ships had submitted deficient or inaccurate vessel specific sampling plans (VSSP). Although the Cruise Ship Program did not find that the deficiencies or inaccuracies caused effluent quality concerns, they may have been contributing factors for wastewater spills in previous years, and may contribute to mishaps in the future. The Cruise Ship Program will continue to monitor and verify VSSP and sample quality assurance.

APPENDIX A. LINKS TO OCEAN RANGER DOCUMENTS AND WEBSITES

2010 Documents:

2010 Ocean Ranger Report Checklist

2010 Ocean Ranger Guidebook

2010 Ocean Ranger Deployment Schedule

2010 Example Incident Report

2010 Oil Sheen Report Form

2010 Example Departure Report

2010 Verification Projects

Websites:

Alaska Department of Environmental Conservation (DEC) Cruise Ship Home Page: http://www.dec.state.ak.us/water/cruise_ships/index.htm

Alaska Department of Environmental Conservation (DEC) Ocean Ranger Page: http://www.dec.state.ak.us/water/cruise-ships/ocean-ranger-info.html

US Centers for Disease Control: Vessel Sanitation Program, Cruise Ship Reports: http://wwwn.cdc.gov/InspectionQueryTool/Forms/InspectionSearch.aspx

Environmental Protection Agency (EPA): Vessel Discharge Final Permit: http://cfpub.epa.gov/npdes/home.cfm?program_id=350

United States Coast Guard: http://www.uscg.mil/

APPENDIX B. ACRONYMS

AAC Alaska Administrative Code

AS Alaska Statutes

AWTS Advanced Wastewater Treatment System

BW Black Water

CFR Code of Federal Regulations

CPVEC Commercial Passenger Vessel Environmental Compliance Program (DEC cruise

ship program)

CMS Crowley Maritime Services

DEC Alaska Department of Environmental Conservation

EPA US Environmental Protection Agency

GP Large Cruise Ship Wastewater General Permit

IMO International Maritime Organization

GW Gray water

IP In-port Inspection

N/A Not Applicable

QAPP Quality Assurance Project Plan

PRP Potential Responsible Party

SPAR ADEC Division of Spill Prevention and Response

USCG United States Coast Guard

VGP Vessel General Permit (EPA)

VSSP Vessel Specific Sampling Plan

WW Wastewater