

Alaska Department of Environmental Conservation

Commercial Passenger Vessel Environmental Compliance Program



Final Report

Observer Monitoring for Development of the Ocean Ranger Program

Alaska

Submitted to:
Department of Environmental Conservation



By:
OASIS Environmental, Inc.
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- B: *Ocean Ranger Program Handbook (draft) Ship Ride Checklists and Procedures*

ACRONYMS AND ABBREVIATIONS

CDC	Centers for Disease Control
DEC.....	Alaska Department of Environmental Conservation
EO	Environmental Officer
IMO	International Maritime Organization
MEBA.....	Marine Engineers Beneficial Association
NWCA	Northwest Cruise Ship Association
OASIS	OASIS Environmental, Inc.
PDA.....	Personal Data Assistant
TWIC.....	Transportation Worker Identification Credential
USCG.....	U.S. Coast Guard

EXECUTIVE SUMMARY

In December 2006, Alaska statutes were changed to reflect a citizen initiative to place Ocean Rangers on board cruise ships operating in Alaska. As described in the statutes, the role of the Ocean Ranger is to “act as an independent observer for purposes of monitoring state and federal requirements.” In 2007, the Alaska Department of Environmental Conservation (DEC) retained the services of OASIS Environmental, Inc. (OASIS) to help initiate the Ocean Ranger program for the 2007 season. This program, which should not to be viewed as fully implemented as described or defined by the statute, was initiated in three phases.

The first phase included training eight environmental professionals as observers. Training was conducted by OASIS under the supervision of DEC. These eight observers participated in at least one voyage leg during each cruise ship’s initial 2007 cruise into Alaskan waters. The training program and checklist were refined after the initial voyages. An interim report was developed to document lessons learned during the first series of voyages.

During the second phase the observers participated in 24 additional voyage legs. An abbreviated checklist was developed and used for the Phase II voyages.

In the third phase, three certified marine engineers, qualified as Ocean Rangers, were deployed full time along with, on average, one observer for the last five weeks of the season. At the conclusion of the season, the Ocean Rangers were debriefed and further lessons learned were developed.

Environmental and maritime specialists (observers), and US Coast Guard licensed marine engineers (Ocean Rangers) made a total of 114 overnight ship rides, three of which were multiple day voyages. Eight additional voyages were scheduled, but they were cancelled because of weather, lack of a berth, schedule changes, or other reasons. All 27 cruise ships regularly operating in Alaska were boarded at least once, several were boarded multiple times. These cruise ships provided overnight berths, when available, and the shipboard environmental officers and engineers assisted the observers and Ocean Rangers in their inspections.

Observers and Ocean Rangers reported no apparent violations of federal or state regulations. They made notes of each vessel’s overall environmental operations, including management practices that would enhance environmental compliance. They made observations and documented initiatives, innovations, and management practices promoting environmental protection and sound waste management. These observations are listed in Appendix A of this report.

In carrying out the terms of the contract, OASIS developed several work products designed to help train, equip, and guide the Ocean Ranger in his or her duties. These documents include a model training program, ship-specific notebooks, inspection checklists, trip report formats, and the Ocean Ranger *Ship Ride Checklists and*

Procedures. These documents should be reviewed and refined by DEC for use in the 2008 cruise ship season.

During the course of the 2007 cruise ship season, observers and Ocean Rangers developed recommendations for program improvements. Recommendations should be considered carefully and addressed before the 2008 season. The observations of the Ocean Rangers, who were not from Alaska, regarding logistics, accommodations, and travel can provide DEC with valuable information.

1. SEASON OVERVIEW

Between May 9 and September 28, 2007, environmental specialists and marine engineers retained by OASIS made 114 overnight, port-to-port trips on the 27 cruise ships¹ regularly operating in the waters of Alaska. These inspections and on-board observations were accomplished in three phases. Completed checklists for Phases I and II were transmitted to DEC separately. Phase III checklists were transmitted directly to DEC by the observers or Ocean Rangers performing each voyage.

1.1. Phase I

Between May 9 and June 17, 2007, eight environmental specialists (observers) rode each of the 27 cruise ships scheduled to make multiple Alaska voyages². The Phase I voyage summary is provided in Table 1. Observers made one overnight, Alaska port-to-port trip on each ship's first voyage of the 2007 season. The observers concentrated on using and refining a draft ship ride checklist and collecting detailed, ship-specific information. The ship-specific information was used to develop ship-specific notebooks for use on subsequent boardings and inspections.

The observers were given a minimum amount of training and orientation. Their primary task was to observe, learn, and help DEC further define the Ocean Ranger program. They were guided in their work by a draft checklist. The latest draft of this checklist is included in Appendix B.

1.2. Phase II

Between July 30 and August 20, 2007, observers completed 23 Alaska port-to-port trips on 22 cruise ships. They used a revised checklist. The Phase II voyage summary is provided in Table 2. Each observer completed a trip report. The trip report template is included as Attachment Two of Appendix B.

1.3. Phase III

Three Marine Engineers were hired through Marine Engineers Beneficial Association (MEBA) to serve as Ocean Rangers. Each Ocean Ranger had a U.S. Coast Guard (USCG) licensed 3rd Assistant Engineer or higher rating. They began their work on August 20, 2007. The three Ocean Rangers received a total of 18 hours of training and orientation provided by Cape International, Inc. (a subcontractor to OASIS), under the supervision of DEC, before deployment. Norwegian Cruise Line and Princess Cruises provided shipboard orientation and waste management familiarization as example

¹ A cruise ship, as defined under this program, is a passenger vessel with 250 or more passenger berths.

² Three cruise ships made only one voyage to Alaska in 2007. They were the M/V Asuka II, Pacific Venus, and Topaz. These vessels were not inspected or boarded under this program.

vessels making Alaska voyages. DEC staff also attended these orientations. Between August 24 and September 28, 26 ships were boarded. The Phase III voyage summary is provided in Table 3. On average, three Ocean Rangers and one observer were deployed at any one time during this period.

2. OBSERVATIONS

Trip reports (see Appendix B for a template) were completed and submitted after each ship ride. Regulatory compliance, observations of cruise industry best practices and innovation, and suggestions for program improvement were reported.

2.1. Regulatory Compliance

No illegal wastewater discharges, safety concerns, or other activities in violation of federal and state regulations were noted or observed.

On one deployment, an Ocean Ranger was informed by the ship's master of a minor oil (drip) spill. This spill was reported properly to DEC and the USCG. The spill sheen dissipated rapidly. Cleanup was neither feasible nor attempted.

On another deployment, an observer noted paint chips falling to the water's surface during a dock-side, paint scraping hull maintenance task from a bucket lift. When brought to the attention of the environmental officer (EO), corrective actions were quickly taken, including re-training of crew on proper procedures and retrieval of floating paint chips.

2.2. Observed Best Practice and Industry Innovation

The public may not be aware of current practices, improvements, and advancements in waste management within the cruise industry. The Ocean Ranger program is a vehicle for DEC to track these improvements in future cruise seasons.

Each trip report filed by observers and Ocean Rangers included observations of innovative or commendatory practices. Appendix A lists those observations.

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3. RECOMMENDATIONS

Recommendations for the Ocean Ranger program improvements were a part of each trip report. A Phase I debrief for the observers was conducted on June 11, 2007. A Phase III and end-of-season debrief was held for Ocean Rangers (marine engineers) on September 23, 2007. Collected recommendations and lessons learned are described in this section. DEC participated in these debriefings.

3.1. Overall Program Objectives

Recommendations for the Ocean Ranger program are outlined in this section.

3.1.1. Fully Utilizing Ocean Rangers during Multi-Day Deployments

It may be difficult to fully utilize an Ocean Ranger during a prolonged deployment on board a cruise ship. The State of Alaska cruise ship waste treatment program and its legislative initiatives, combined with new International Standards Organization (ISO) and International Maritime Organization (IMO) requirements for detailed and efficient ship management, have resulted in dramatic advancements in waste treatment and management over the past seven years. Most ships are approved for continuous discharge from their wastewater treatment systems; therefore, there are no unauthorized discharges³ to detect and report. Waste minimization and control have greatly reduced waste off-loading in Alaska. Record keeping is extensive, many times automated, and will take only an hour or so for the experienced Ocean Ranger to check and verify. The records and ship-specific information required was collected by the observers during their initial voyages and by DEC.

The current health and sanitation program is regulated and managed by U.S. Centers for Disease Control (CDC) and is comprehensive and complex. The new cruise ship statutes state that Ocean Rangers will address health and sanitation concerns without being specific. Extensive additional training for the Ocean Rangers will be required to contribute in ways that do not duplicate the federal program.

Quarterly safety inspections are conducted by the USCG. In order for the Ocean Rangers to conduct safety compliance and verification, they would need to complete several weeks of training from the USCG or the classification societies.

During the 2007 season, observers and Ocean Rangers spent considerable time reviewing internal waste management programs, reading program and manufacturer's manuals for wastewater treatment, and discussing and inspecting the design and maintenance of waste treatment equipment with on-board engineers. This activity was useful for the first year of program implementation. The cruise industry was cooperative

³ A wastewater discharge from a system approved for continuous discharge would be unauthorized if the effluent constituents exceed regulatory limits. However, the Ocean Ranger can not determine if an exceedence has occurred without laboratory sampling and analysis.

in allowing inspection of the systems and programs and in describing them. An initial tour of the ships' equipment and overboard discharge system allows the experienced Ocean Ranger to obtain a general understanding the systems' many components. As Ocean Rangers gain familiarity with the systems, it would not be necessary to re-inspect every system every day on every ship operating in Alaska waters.

The intent of the statute change is to have Ocean Rangers deployed on all cruise ships while in Alaska waters. Most OASIS observers reported that the Ocean Rangers can carry out the objectives of the citizen initiative through a combination of in-port visits and frequent port-to-port, overnight rides. This type of program would be more complex to manage and administer than simply booking berths and assigning an Ocean Ranger to each ship for the duration of the ship's time in Alaska.

3.1.2. Adding Wastewater Effluent Sampling to Ocean Ranger Duties

Monitoring the quality of a ship's wastewater discharge while in state waters for compliance with Alaska's standards is one of the primary goals of the Ocean Ranger program. Laboratory analysis of the ship's effluent is the only reliable method to verify a ship's compliance with the state's requirements. (Note: The new statute also requires discharge permits, which will define compliance with state standards.) Observing the operating technology of pipes, tanks, and valves does not provide scientific or verifiable proof that a ship's discharge complies with the state's requirements. OASIS recommends that DEC consider whether Ocean Rangers should take wastewater samples for ships approved for discharge and provide them to a laboratory upon arrival at the port of Juneau or other port with a laboratory capable of starting fecal coliform analysis within six hours of sampling. Samples collected by Ocean Rangers would be in addition to the currently required twice-monthly sampling and analysis done to comply with both DEC and USCG requirements.

3.1.3. Single Visit Cruise Ships

In 2007, three cruise ships operating in Alaska, the Asuka II, Pacific Venus, and Topaz, were not inspected by observers or Ocean Rangers. These ships are not members of Northwest Cruise Ship Association (NWCA) and were registered by DEC for the season as non-dischargers and non-off-loaders of hazardous materials and waste. Due to their limited schedules in Alaska, sometimes originating from non-US ports, DEC is currently considering using its own staff to visit/inspect these vessels.

3.1.4. Boarding Ocean Rangers at the Pilot Station

Given the nature of waste management practices on board ships and the fact that most ships are certified for underway or continuous wastewater discharge, OASIS does not recommend that Ocean Rangers board at the pilot stations. At-sea boardings from pilot stations carry a risk of injury. Boarding at the pilot stations, particularly in Fredrick Sound, adds 1–2 days to the deployment (i.e., the Ocean Ranger must fly to Kake and stay overnight) resulting in considerable extra expense.

3.2. Ocean Ranger Access and Conduct While On Board

Recommendations for Ocean Ranger conduct and access to restricted areas of ships and ship facilities are discussed in this section.

3.2.1. Security Escorts

Non-crew personnel cannot have unfettered and unescorted access to the areas of the ship that are designated as 'restricted' under the IMO International Ship and Port Security Code (ISPS). Thus, Ocean Rangers may need constant escort in crew-only areas. That escort is usually the EO. Because the EO has a demanding job, much of which is administrative, the Ocean Rangers duties and requirements can conflict with the duties of the EO. Some type of accommodation or other arrangement must be made for 2008. It is recommended, at a minimum, that the Ocean Rangers are granted unescorted access between their staterooms and the engine control room where they can be 'rung-in' by the engineer on watch. A member of the engineering watch or a day worker could be assigned to escort the Ocean Rangers during visits to the engine room to reduce direct oversight by the EO.

3.2.2. Accommodations

The Ocean Rangers will need staterooms and access to meals (crew's mess, passenger cafeteria, or informal dining hall). In mid-August, when OASIS attempted to book cabins in September for multi-day deployments, we found that only one cruise ship had one voyage/berth available. For the 2008 season, OASIS recommends that cabins be booked by January of 2008.

3.2.3. Conduct during Off-Hours

No potential problems with Ocean Rangers moving about the passenger spaces, eating in the informal, cafeteria-style passenger dining area, eating with the crew or officers in the crew or officer mess, and engaging in casual conversation with the passengers were identified. The Ocean Rangers should not engage in any of the following activities:

1. Consume alcoholic beverages while on board.
2. Eat in the formal dining halls (where waiters and wine stewards attend the tables).
3. Gamble in the casinos.
4. Visit the spa other than for inspection with the EO (Use of the exercise facilities in moderation while on prolonged voyages is acceptable.).

These procedures and guidelines are fully described in the Ocean Ranger *Ship Ride Checklists and Procedures*. (Appendix B).

DEC should determine how much time an Ocean Ranger may stay ashore on scheduled stopovers for cruise ships during prolonged deployments.

3.3. On-Board Work Routine for the Ocean Rangers

The Ocean Rangers will likely be underway for prolonged deployments (more than one port-to-port leg). For these deployments, the Ocean Ranger's daily routine should, at minimum, consist of the following activities:

1. Accompanying the environmental officer on daily rounds
2. Observing the daily wastewater laboratory analysis by the EO (only Princess currently conducts on-board lab analysis)
3. Frequently checking to ensure that wastewater outflow quality monitors, if installed, are functioning properly⁴
4. Observing any non-routine or non-automatic discharges (oily water separator discharge, ballast, or any discharges through valves that are usually locked)
5. Observing routine on-deck and shore-side maintenance activities to assure reasonable attention to health, safety and environmental issues
6. Reviewing observations with the EO and e-mailing daily reports to DEC

For multiple day deployments on one ship, the Ocean Ranger could adequately perform his/her duties in eight hours each day, on average. Depending upon ship activities and docking schedule, Ocean Rangers should have the flexibility to work more than eight hours on one day and less on another so that the average number of hours worked totals eight per day.

3.4. Assigning Ocean Rangers to Ships

An individual Ocean Ranger should rotate among ships with similar wastewater treatment systems (for example, an individual Ocean Ranger always assigned to ships with ZENON Advanced Wastewater Treatment System). However, Ocean Rangers could be rotated at least every three weeks to provide variety and minimize complacency (becoming too familiar with only one system, vessel, cruise line operations, or crew) while on board a ship for an extended period.

3.5. Uniform or Identifying Insignia

OASIS recommends that the only uniform necessary is a polo or button-down collar shirt and a wind-proof, water-resistant, fleece-lined jacket with insignia. Trousers should be chino or khaki, but not jeans. Safety shoes are not necessary, but shoes must be oil and slip resistant. We recommend four shirts minimum with at least two being long-sleeved. DEC or the contractor should begin the process of designing and procuring this apparel. We recommend the left breast embroidery contain a logo such as provided below:

⁴ Effluent monitors, usually turbidity monitors, at pre-determined detection readings, will stop over board discharge and redirect the effluent to a tank or back through the wastewater treatment system.



A shirt that labels the wearer as an Ocean Ranger might confuse passengers, given that they are accustomed to having Park Rangers/Interpreters on board in Glacier Bay.

During off-hours—the number and frequency of which should be determined by DEC—the dress should be casual.

3.6. Ocean Ranger Credentials

Ocean Rangers should have a Department of Homeland Security's (DHS) Transportation Worker Identification Credential (TWIC) and an authorizing letter from DEC. The TWIC should be displayed while the Ocean Ranger is operating in spaces not authorized for passengers.

3.7. Ship-Specific Notebook

During Phase I of the program (May–June), the observers collected a great deal of detailed information for the ships on which they rode. This information is contained within the *Ship Ride Checklists and Procedures* developed for the observer program. In addition, the DEC program has reports and documents for each ship. These records could be combined into a single, ship-specific notebook that is provided to the Ocean Ranger assigned to that ship in 2008. Because it is more practical, this notebook should be available for download and should be kept on the ship and available for each Ocean Ranger to review, consult, and update as necessary. Follow-up items and Ocean Ranger relief or hand-off notes should be filed in this notebook. (Note: Trip reports need not be filed in the notebook, but should be available for review via internal Web site or other media. See the following section of administration and logistics.)

At a minimum, the ship-specific notebook should contain the following information:

1. The *Observer's Ship Ride Checklists and Procedures*.

2. Relief or hand-off notes from the previous Ocean Ranger.
3. Any DEC requests for specific inspections.
4. Ship-specific information from the general discharge permit (AS 46.03.462) issued by DEC. Note: This information was not available on-line as of June 2007. For a list of the information required, see Attachment Three of the *Observer's Ship Ride Checklists and Procedures*.
5. The approved Vessel Specific Sampling Plan (18 AAC 69.030).
6. The approved *Non-Hazardous Solid Waste Offloading and Disposal Plan* (AS 46.03.475(e)(1) and 18 AAC 69.035).
7. The approved *Hazardous Waste and Substance Offloading Plan*. (HWSOP) (18 AAC 69.040(b)).
8. Current Alaska vessel registration and notarization papers.
9. Certification from antifouling paint supplier that Tributyl Tin (TBT)-free coatings have been applied to the vessel.
10. DEC inspection reports (if any).
11. DEC sampling audit reports (if any).
12. USCG approval letter for continuous discharge, if applicable.
13. Most recent U.S. CDC vessel sanitation program inspection report. See: <http://wwwn.cdc.gov/vsp/InspectionQueryTool/Forms/InspectionSearch.aspx>.

3.8. Training

The following observations were made regarding the level of training Ocean Rangers should receive:

1. The training topics outlined in Part IV of the *Ocean Ranger Implementation Report* (March 7, 2007) are appropriate.
2. Ocean Rangers should have at least one week (40 hours) of formal training.
3. If the training must be done in March or April, the 2008 contractor should consider holding the training classes in Seattle or other logistically convenient hub where cruise ships are in port. If an Alaska port is used, Juneau or Ketchikan is recommended.
4. Ocean Rangers should participate in crew training or receive shipboard orientation from the cruise lines when deployed on board ships. It will be important to communicate to the public that training with the crew does not imply DEC is relying on industry for verifying compliance.
5. Training by the manufacturers of the advanced wastewater treatment systems would be very useful. Perhaps one or two of the marine engineers employed as Ocean Rangers could receive the training and then provide other Ocean Rangers training in the salient components.

6. There are advantages to having Ocean Rangers trained, oriented, and assigned to one line because all the lines operate differently and operate different advanced wastewater treatment systems.

3.9. Cruise Industry Liaison and Cooperation

More routine interaction with cruise ship corporate management is needed, particularly given the number and level of Ocean Ranger activities anticipated for 2008. A scheduled biweekly teleconference with DEC, NWCA members, and the contract program manager could be a part of the program, beginning in March 2008.

Throughout the 2007 season, observers and Ocean Rangers often noted the importance of good interpersonal skills in effectively carrying out their duties, particularly in an industry that promotes a pervasive culture of courtesy and pleasant but professional interaction. The Ocean Ranger training program should contain a module on assertive but courteous communication in an international setting.

The cruise ship industry will likely ask the contract manager of the 2008 Ocean Ranger program to sign an agreement addressing liability. These issues were not resolved in 2007. Liability and insurance is covered in Section 3.11.

3.10. Administration and Logistics

The 2008 season will be much more complicated than the 2007 season. Several issues associated with administration and logistics were identified during the 2007 season:

1. A senior Ocean Ranger or qualified specialist should be assigned for on-the-job training, supervision, occasional Ocean Ranger audits or evaluation, and technical liaison with the cruise ship industry and MEBA.
2. Each Ocean Ranger must have a cell phone or equivalent. A smart phone with e-mail capability would be optimal. Areas of coverage should factor into the choice of a communications provider.
3. Single-leg deployments on cruise ships are much more difficult to manage than a multi-day deployment on one ship. For example, between ships, Ocean Rangers are required to wait several hours to check in to hotel rooms or several hours after hotel check-out to go to their ship. DEC or its contractor could consider leasing suites or guest houses for Ocean Rangers between deployments to avoid tedium of long waits in public areas.
4. Utilize a corporate credit card, debit card, or cash draw to avoid spending money out of pocket.
5. A dedicated coordinator, available 24/7, must be assigned to manage the number of Ocean Rangers that will be deployed in 2008. This coordinator must have the authority and knowledge to manage plane ticket purchases, pilot boat scheduling, hotels, cabs, and other in-port transportation. (Similar to the duties of Cruise Line Agencies of Alaska or the marine pilot dispatcher.) The coordinator should also be the logistical point of contact with the various cruise lines.

6. Use of a personal data assistant (PDA) to collect information should be considered. Safe access to some locations requires the use of two hands (descending a ladder), which is not possible when carrying a clipboard. We recommend that a test voyage be conducted using only a PDA. Specific standards need to be developed if electronic reporting is implemented to ensure each file has a unique name and can be associated with the proper vessel and date.
7. In 2008, under full program implementation, up to 30 Ocean Rangers generating daily reports for four or five months will produce approximately 4,500 reports. Managing and using this amount of data in real time would be very difficult without the use of a database. Ocean Rangers should file their daily reports using a Web-based application and database that will capture all the data required in an appropriate format. All reports or reports for specific vessels or time periods would then be accessible via database-generated reports. The Web application should contain a special report that would indicate when a violation was observed.
8. Medical monitoring of cruise ship engineers generally follows the guidelines for International Maritime Organization Standards of Training, Certification & Watchkeeping (IMO STCW). A Princess Cruises medical officer told us that engineers receive only the hepatitis A inoculation, not hepatitis B. She told us an individual cannot get hepatitis B from sewage exposure. Thus, it seems appropriate that Ocean Rangers should be required to receive, at a minimum, the hepatitis A vaccination with a booster follow-up within a year.

3.11. Liability and Insurance

Both liability associated with deployment of contracted personnel and insurance costs need to be evaluated.

Insurance requirements and the allocation of potential liabilities for Ocean Rangers while they are aboard vessels during the 2007 season were topics of discussion for the state, OASIS, and the cruise lines. An agreement covering these matters was not finalized for the 2007 season. Discussions regarding both will likely resume for the 2008 Ocean Ranger season.

TABLES

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TABLE 1. PHASE I VOYAGES

Vessel	Start Date	End Date	Observer or Ocean Ranger	Comments	Embarkation Port	Dis-embarkation Port
Mercury	6 May	7 May	Mayers	Complete	Juneau	Skagway
Golden Princess	8 May	10 May	Mayers	Multi-Day Voyage	Skagway	Ketchikan
Zuierdam	14 May	15 May	Mayers	Complete	Juneau	Skagway
Serenade of the Sea	16 May	17 May	Mayers	Complete	Skagway	Juneau
Statendm	22 May	23 May	Mayers	Complete	Ketchikan	Juneau
Norwegian Star	7 May	8 May	Fredriksson	Complete	Ketchikan	Juneau
Ryndam	8 May	9 May	Fredriksson	Complete	Juneau	Skagway
Vision of the Seas	6 May	7 May	Hock	Complete	Juneau	Skagway
Sun Princess	9 May	10 May	Hock	Complete	Juneau	Skagway
Zaandam	11 May	12 May	Hock	Complete	Juneau	Skagway
Dawn Princess	14 May	15 May	Hock	Complete	Sitka	Juneau
Island Princess	17 May	18 May	Hock	Complete	Juneau	Skagway
Summit	19 May	20 May	Hock	Complete	Ketchikan	Juneau
Seven Seas Mariner	26 May	27 May	Hock	Complete	Juneau	Sitka
Amsterdam	22 May	23 May	Hock	Complete	Sitka	Ketchikan
Diamond Princess	14 May	15 May	Conway	Complete	Ketchikan	Juneau
Volendam	15 May	16 May	Conway	Complete	Juneau	Sitka
Radiance of the Sea	20 May	21 May	Conway	Complete	Ketchikan	Juneau
Sapphire Princess	22 May	23 May	Conway	Complete	Juneau	Skagway
Oosterdam	9 May	10 May	Kirk	Complete	Sitka	Ketchikan
Infinity	13 May	14 May	Kirk	Complete	Ketchikan	Sitka
Norwegian Pearl	15 May	16 May	Kirk	Complete	Juneau	Skagway
Noordam	16 May	17 May	Hill	Complete	Juneau	Sitka
Norwegian Sun	8 May	9 May	Short	Complete	Ketchikan	Juneau
Carnival Spirit	13 May	14 May	Short	Complete	Skagway	Ketchikan
Coral Princess	23 May	24 May	Short	Complete	Ketchikan	Juneau
Pacific Princess	16 Jun	17 Jun	Eley	Complete	Skagway	Juneau

TABLE 2. PHASE II VOYAGES

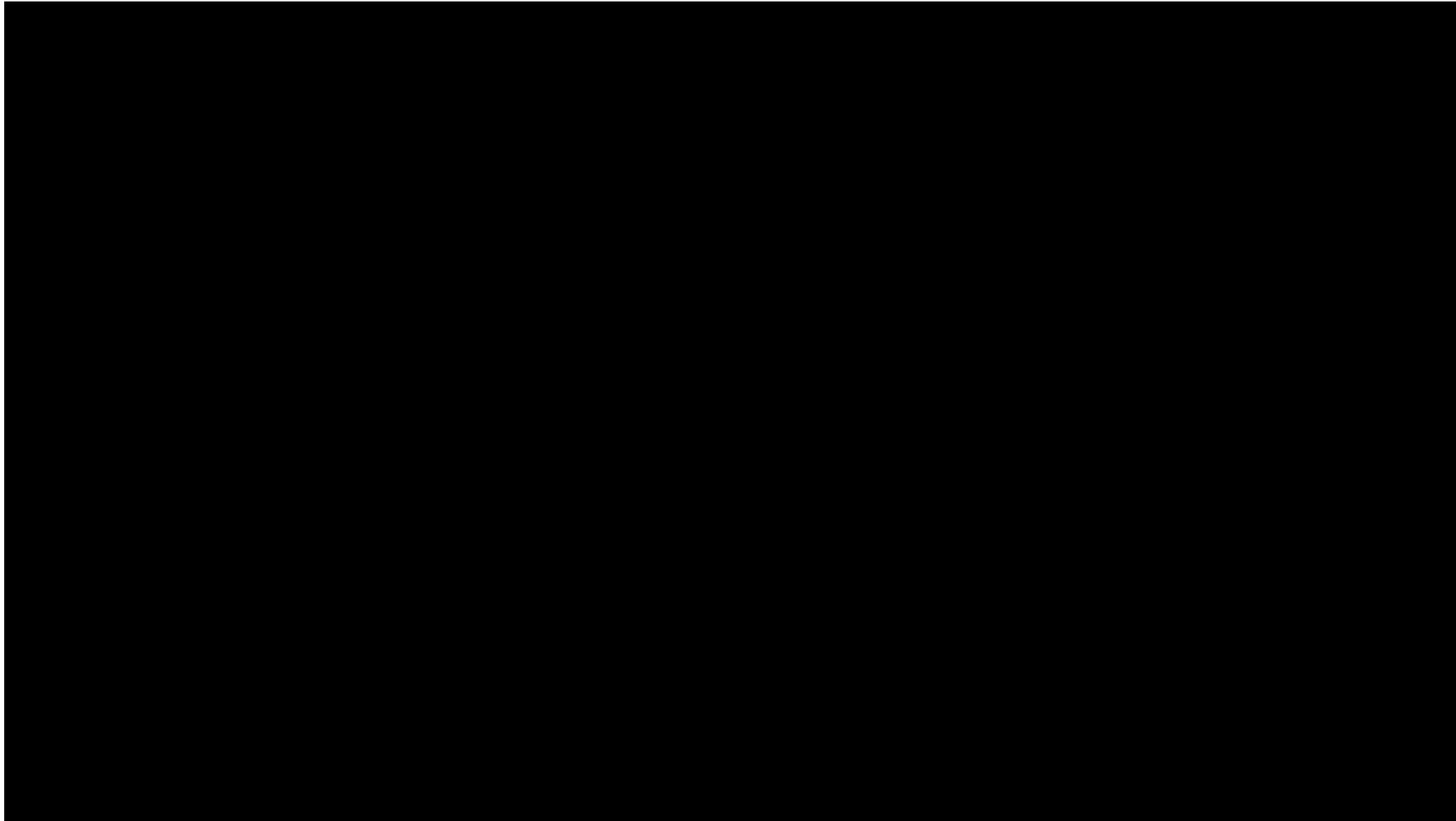


TABLE 3. PHASE III VOYAGES

Vessel	Start Date	End Date	Observer or Ocean Ranger	Comments	Embarkation Port	Dis-embarkation Port
Amsterdam	11 Sep	12 Sep	Webster	Complete	Sitka	Ketchikan
Amsterdam	19 Sep	20 Sep	Young	Complete	Sitka	Ketchikan
Carnival Spirit	1 Sep	2 Sep	Webster	Complete	Juneau	Skagway
Carnival Spirit	9 Sep	10 Sep	Young	Complete	Skagway	Ketchikan
Coral Princess	13 Sep	14 Sep	Webster	Complete	Juneau	Ketchikan
Coral Princess	21 Sep	22 Sep	Moore	Complete	Juneau	Skagway
Coral Princess	24 Aug	25 Aug	Webster	Complete	Juneau	Ketchikan
Diamond Princess	29 Aug	30 Aug	Young	Complete	Juneau	Ketchikan
Diamond Princess	3 Sep	4 Sep	Webster	Complete	Ketchikan	Juneau
Golden Princess	27 Aug	28 Aug	Fredriksson	Complete	Juneau	Skagway
Golden Princess	10 Sep	11 Sep	Hock	Complete	Juneau	Skagway
Infinity	20 Sep	21 Sep	Young	Complete	Juneau	Skagway
Island Princess	30 Aug	31 Aug	Webster	Complete	Skagway	Juneau
Island Princess	6 Sep	7 Sep	Young	Complete	Juneau	Skagway
Island Princess	14 Sep	15 Sep	Webster	Complete	Juneau	Ketchikan
Mercury	2 Sep	3 Sep	Young	Complete	Juneau	Skagway
Mercury	9 Sep	10 Sep	Eley	Complete	Juneau	Skagway
Mercury	16 Sep	17 Sep	Moore	Complete	Juneau	Skagway
Noordam	5 Sep	6 Sep	Webster	Complete	Juneau	Sitka
Noordam	19 Sep	20 Sep	Webster	Complete	Juneau	Sitka
Noordam	26 Sep	27 Sep	Young	Cancelled - Weather	Juneau	Sitka
Norwegian Pearl	11 Sep	12 Sep	Conway	Complete	Juneau	Skagway
Norwegian Pearl	18 Sep	19 Sep	Moore	Cancelled - No Berth	Juneau	Skagway
Norwegian Star	3 Sep	4 Sep	Moore	Complete	Ketchikan	Juneau
Norwegian Star	18 Sep	19 Sep	Conway	Complete	Juneau	Skagway
Norwegian Sun	4 Sep	5 Sep	Eley	Complete	Ketchikan	Juneau
Norwegian Sun	11 Sep	12 Sep	Young	Complete	Ketchikan	Juneau
Pacific Princess	25 Aug	26 Aug	Fredriksson	Complete	Skagway	Juneau
Pacific Princess	1 Sep	2 Sep	Moore	Cancelled - schedule change	Ketchikan	Skagway
Pacific Princess	9 Sep	10 Sep	Webster	Complete	Juneau	Ketchikan
Radiance of the Sea	26 Aug	27 Aug	Webster	Complete	Ketchikan	Juneau
Radiance of the Sea	2 Sep	3 Sep	Conway	Complete	Juneau	Skagway
Radiance of the Sea	16 Sep	17 Sep	Young	Complete	Ketchikan	Juneau
Ryndam	30 Aug	31 Aug	Moore	Complete	Juneau	Ketchikan
Ryndam	13 Sep	14 Sep	Young	Complete	Juneau	Ketchikan
Sapphire Princess	4 Sep	5 Sep	Young	Complete	Skagway	Juneau
Sapphire Princess	15 Sep	16 Sep	Kirk	Cancelled - Weather	Whittier	Kodiak
Serenade of the Sea	5 Sep	6 Sep	Moore	Complete	Skagway	Juneau
Serenade of the Sea	27 Sep	28 Sep	Moore	Complete	Skagway	Juneau
Seven Seas Mariner	25 Aug	26 Aug	Young	Complete	Juneau	Skagway
Seven Seas Mariner	31 Aug	32 Aug	Young	Complete	Ketchikan	Juneau
Seven Seas Mariner	12 Sep	13 Sep	Kirk	Complete	Seward	Kodiak
Statendam	28 Aug	29 Aug	Moore	Complete	Ketchikan	Juneau
Statendam	5 Sep	6 Sep	Short	Complete	Haines	Juneau
Statendam	19 Sep	20 Sep	Short	Cancelled - Weather	Haines	Juneau
Summit	7 Sep	12 Sep	Moore	Complete	Seward	Ketchikan
Sun Princess	29 Aug	30 Aug	Hock	Complete	Juneau	Skagway
Sun Princess	18 Sep	19 Sep	Hock	Complete	Ketchikan	Juneau
Vision of the Seas	26 Aug	27 Aug	Moore	Complete	Juneau	Skagway
Vision of the Seas	23 Sep	24 Sep	Moore	Cancelled - No Berth	Juneau	Skagway
Volendam	28 Aug	29 Aug	Webster	Complete	Juneau	Ketchikan
Volendam	23 Sep	24 Sep	Webster	Complete	Juneau	Skagway
Zaandam	24 Aug	25 Aug	Moore	Complete	Juneau	Skagway
Zaandam	7 Sep	8 Sep	Webster	Complete	Juneau	Skagway
Zaandam	21 Sep	22 Sep	Webster	Complete	Juneau	Skagway
Zuiderdam	27 Aug	28 Aug	Young	Complete	Juneau	Skagway
Zuiderdam	17 Sep	18 Sep	Webster	Complete	Juneau	Skagway
Zuiderdam	24 Sep	27 Sep	Young	Complete	Juneau	Skagway

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APPENDIX A

Industry Best Practice and Innovation

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APPENDIX A INDUSTRY BEST PRACTICE AND INNOVATION

Each trip report filed by observers and Ocean Rangers included observations of Innovative or Commendatory Practices and Best Practices. Those observations are listed here. This list is not exhaustive and items are not listed in order of importance. Unless indicated, the best practices described refer to a single vessel.

1. EQUIPMENT

1. All ships were observed to use some type of advanced treatment system that provides tertiary treatment of wastewater. Many of the ships are certified for continuous discharge under U.S. Coast Guard and State of Alaska standards.
2. All the member companies of the Northwest Cruise Ship Association (NWCA) operated ships with very clear, well-documented, widely accessible policies and procedures governing ship practices that might result in the release of solid or liquid wastes to the marine environment or engine exhaust stack emissions to the atmosphere.
3. Several ships are equipped to accept shore-based electrical power while in port, which can eliminate exhaust emissions from its engines.
4. Ships use ultra-sonic vibration to prevent build up of soot in the stacks, thereby decreasing incidences of excess emissions or stack fires.
5. The stack emissions log is displayed in graph format to help the environmental officer (EO) review daily emissions levels. It is also tied in with the ship's alarms system. This procedure allows the EO to compare elevated emission levels with the daily operations of the ship.
6. Dry cleaning is performed using environmentally friendly and safe, natural cleaners. Tetrachloroethene is not handled, stored, or used on the vessel.
7. The medical x-rays are digital, eliminating the production of hazardous waste by-products associated with film development.
8. The propeller shaft seal and bearing system use sea water and plastics, not lube oil.
9. Steam atomizers are employed on boilers to obtain more efficient fuel combustion.
10. Several ships have gas turbine engines that burn bio-fuel.
11. One cruise line incorporates a standing Safety & Environment Committee chaired by the Staff Captain and includes officers and supervisors from multiple departments. It meets monthly to openly identify issues and resolve problems expeditiously. Members' photos are posted in crew areas to encourage communication.
12. One ship's Engine Room was upgrading insulation for cold water piping to reduce insulation volume, improve insulating capability, and reduce pipe sweating of source water contributions to bilges.

13. The installation of a smoke stack scrubber on board one ship was completed this summer to improve stack emissions. Performance evaluations are underway through the end of the year (2007) and involve the Environmental Protection Agency (EPA), the contractors, and the cruise line.
14. One cruise line has the EO complete a self-evaluation involving 150 questions related to environmental performance on a monthly basis and submits this report to the corporate office. The report also involves the Chief Engineer and Captain.
15. One cruise line utilizes a program of financial rewards offered to the crew who identify the best health/environment/safety & security improvements.

2. TESTING

1. Ships operated by one cruise line conducted on-board wastewater effluent sampling and analysis a minimum of once per week. Some ships conducted analysis each day. EOs employed by this cruise line use the same equipment and follow the same procedures employed by the Alaska Department of Environmental Conservation (ADEC) consultant, Admiralty Environmental.
2. The ship has a third-party sampling program in-place for the advanced wastewater treatment systems. Admiralty Environmental performs sampling and testing twice monthly, in addition to the two unannounced sampling events performed by the State of Alaska. Testing is performed on many vessels even though some companies chose not to discharge in Alaska waters.

3. MANAGEMENT

1. Several ships have environmental committees chaired by the EO and attended by a representative from every department, plus the wastewater engineer and waste handling foreman. These meetings include a round table discussion of events and recommendations.
2. Most ships employ a beneficial suggestion awards program for environmental management. For example, one ship rewarded a worker in the deck department who developed a safe method of removing the valve from spent compressed gas bottles. Removing the valve allows the bottle to be stored safely and off-loaded as scrap metal, rather than as hazardous material waste.
3. On most ships, recycled cans, cardboard, bottles, and plastics are donated to charities or sold with the proceeds returned to the morale fund for the crew. Given that recycling cans, bottles, and plastics is an “all-hands” effort, this incentive program fits perfectly with the corporate waste minimization goals.
4. All cooking oil is recycled.
5. A/C condensation is recycled to the laundry.

6. Incinerators are not used in port.
7. Video monitoring of all overboard discharge valves and purifiers is employed. Overboard valves are sealed and checked on a schedule.
8. Cruise lines have computer assisted training modules including advanced training for wastewater treatment, ballast water management, general environmental compliance, and safety/health. The EOs have offered observers and Ocean Rangers the opportunity to take these online courses. During prolonged voyages, the Ocean Rangers should take advantage of this offer, taking the one- to two-hour audio-visual modules with test.
9. One cruise line has combined its safety management system with the environmental management system. This single system with intranet accessibility to current directives, plans, and procedures is the backbone of the company's safety, security, and environmental programs.
10. Several ships are ISO 14001 certified. ISO 14000 is a series of international standards on environmental management. It provides a framework for the development of both the system and the supporting audit program. The program is voluntary and external auditors certify the ship or company as meeting the extensive and comprehensive requirements.
11. Several ships have developed tables or matrices listing discharge requirements for ships in Alaska waters (and for other states as well), which is on display on the bridge and the engine control room (ECR). From this matrix, the EO develops voyage waste disposal plans and a discharging schedule for the Alaska season. These documents are on display on the bridge and ECR.
12. Corrective action reports are completed weekly on the ship using the onboard computer system. These reports are forwarded to the master, who comments and forwards the report to corporate.
13. On one cruise line, we noted the EO was the only one to have a key to the padlocked discharge valves and must be present to unlock secure valves. This policy is in addition to the overboard discharge alarm system used to monitor discharges. The EO must always be present for the operations of the overboard discharge valves.
14. On several navigation bridges, we noted a large tabletop conveniently available to the bridge watch that is covered with quick reference information for environmental programs, plans, procedures, and schedules (documents covered in Plexiglas). Included on this table are the items listed below:
 - Discharge requirements for ships in Alaska
 - Voyage-specific waste disposal plan
 - Alaska season 2007 discharge schedule
 - Oil spill procedures and contact information

15. The EO makes entries in the “Waste Record Log,” which consolidates tracking of the various discharge/disposal records kept throughout the ship.
16. Weekly mandatory training is held for the crew on environmental programs. New crew members must pass a comprehensive environmental awareness exam in the first month of their employment to remain an employee.
17. The environmental officer attends all department meetings to reinforce environmental policy and take suggestions for improvement.
18. The environmental officer is constantly thinking up new ways to promote an environmental protection ‘culture’ aboard the ship using incentives, catch phrases of the week, and constantly changing posters and placards.
19. The ship and corporate office employs several methods to ensure waste is not discharged improperly or in prohibited areas. These include matrices and change-out placards (prominently displayed) and concurrent permission for discharge between the bridge and the engine control room.
20. The environmental officer has developed a system of triple-checking discharge records to ensure that discharges occur as allowed and are promptly and accurately recorded on the bridge and in the ECR.
21. The Environmental Committee meeting summaries are written in a manner that prompts follow-up action and serves as excellent relief notes for the oncoming EO.
22. One cruise line has developed a comprehensive matrix for each of the vessel waste streams. For each waste stream, the matrix describes the following requirements and policies:
 - Company policy
 - Record book kept
 - Data recording required
 - Exceptions and required deck log entry for those exceptions
 - EO’s responsibilities
 - Automated maintenance operating systems
23. Most companies have developed self-assessment checklists to ensure compliance with International Maritime Organization (IMO), United States, and State of Alaska regulations in addition to company policy.
24. Internal environmental audits conducted under the Safety Management System (SMS) and ISO 14001 programs often take 2–3 auditors over two days to complete.
25. Some EOs have degrees in marine environmental protection. The position of EO on some ships is viewed as a career position; persons to fill them are hired accordingly.
26. Cruise lines have mottos (ex. “Save the Waves”) and mission statements that are widely promoted not only within the crew but among the passengers. The duties of the EO include conducting informative presentations on environmental practices to the ship’s passengers on every voyage. The ship’s environmental practices are

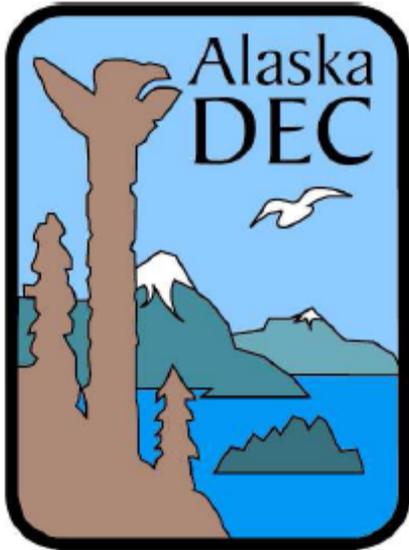
- explained to the passengers in addition to the general environmental policies of the cruise line including how passengers can help by following the basic rules of separating garbage, not throwing things overboard, and reporting observed pollution.
27. The ship employs energy conservation practices, which includes environmental inspections by the EO of the ship's common areas and crew staterooms.
 28. The ship promotes hand washing and use of hand sanitizers among passengers and crew. This procedure was quite evident. The practice helps break virus transmissions, particularly Norovirus.
 29. Several EOs work hard to make mandatory crew training in environmental awareness interesting. One EO used an interactive presentation style complimented with a personalized company Power Point presentation. This technique works quite well in keeping a diverse group attentive and engaged.
 30. The EO stands watch on the bridge during docking and un-docking in order to monitor and record stack emissions. The EO provides feedback for the master and pilot when it appears emissions are becoming excessive. Emissions that by degree and duration have opacity readings falling outside of Alaska standards (which are few) are self-reported to ADEC.
 31. Throughout the Alaska season, the waste and recycling division has worked to find new ways to reduce the amount of waste offloaded in Vancouver. After the first transit of the season, the ship filled six barges of waste. Since then, they have employed many methods to reduce that load size, including better separation, condensing plastics, and increased training for the ship's crew in correctly identifying wastes. Their efforts have yielded great success in reducing more and more with each return stop in Vancouver. During their most recent visit, the ship only required one and a half barges.
 32. In addition to the overboard discharge alarm system to monitor discharges in the ECR and on the bridge, the EO and EOW are the only ones to have a key to the padlocked discharge valves and both keys must be used to unlock the valves and secure the valves.
 33. Employee and contractor training is a high priority for the EO. He uses a tracking system to ensure new crew and contractors accomplish the intranet training courses soon after reporting to the ship. His tenacious follow-up to get people to complete the course within the first 24 hours of reporting to the ship was observed.
 34. The EO completes a self-assessment checklist that covers all departments and all waste streams or potential pollutants.
 35. There is unusually large capacity for storing treated wastewater and garbage (14 days holding capacity) on board for extended periods of time. The company is extremely cautious about having an unauthorized discharge or release and has opted to have internal controls in place that give an extra level of protection against having an unauthorized discharge or release.
 36. Bedding and furniture is donated to local charities.

APPENDIX B

Ocean Ranger Program Handbook (draft)

Ship Ride Checklists and Procedures

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Ocean Ranger Program Handbook (draft)

Ship Ride Checklists and Procedures

Last Edit: March 3, 2008

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Note: This handbook is a work in progress. This document should be reviewed, edited, and improved as the program is implemented.

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1. ALASKA STATUTE SEC. 46.03.476

***Sec. 7.** AS 46.03 is amended to include new provisions as follows: **Sec. 46.03.476. Ocean Rangers.**

- a. An owner or operator of a large commercial passenger vessel entering the marine waters of the state is required to have a marine engineer licensed by the United States Coast Guard hired or retained by the department on board the vessel to act as an independent observer for the purpose of monitoring state and federal requirements pertaining to marine discharge and pollution requirements and to insure that passengers, crew and residents at ports are protected from improper sanitation, health and safety practices.
- b. The licensed marine engineer shall monitor, observe and record data and information related to the engineering, sanitation and health related operations of the vessel, including but not limited to registration, reporting, record keeping and discharge functions required by state and federal law.
- c. Any information recorded or gathered by the licensed marine engineer shall be promptly conveyed to the Alaska Department of Environmental Conservation and the United States Coast Guard on a form or in a manner approved by the commissioner of Environmental Conservation. The Commissioner may share information gathered with other state and federal agencies.

2. SHIP-SPECIFIC NOTEBOOK

The observer program, which was a precursor to the fully implemented Ocean Ranger program, placed environmental and maritime specialists on board cruise ships in May 2007. Observers rode one port-to-port leg of the first voyage for each cruise ship operating in Alaska in 2007. They collected much detailed information for the ships on which they rode. This information is contained within the *Ship Ride Checklists and Procedures* developed for the observer program. The gathered information is used for further implementation of the Ocean Ranger program. In addition, the DEC cruise vessel environmental compliance program has ship reports and documents. This documentation is combined into a single notebook for each specific cruise ship. These ship-specific notebooks must be reviewed by the Ocean Ranger prior to boarding, carried by the Ocean Ranger while on board, and updated by the Ocean Ranger as necessary. Each ship-specific notebook may contain as a minimum:

- The *Observer's Ship Ride Checklists and Procedures*.
- Notes and reports from prior Ocean Ranger rides.

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- Ship-specific information from the general discharge permit (AS 46.03.462) issued by DEC. Note: Not online as of June 2007. For a list of the information required see Attachment Three of the *Observer's Ship Ride Checklists and Procedures*.
- The approved Vessel Specific Sampling Plan (18 AAC 69.030).
- The approved Non-Hazardous Solid Waste Offloading and Disposal Plan (AS 46.03.475(e)(1) and 18 AAC 69.035).
- The approved Hazardous Waste and Substance Offloading Plan¹ (HWSOP) (18 AAC 69.040(b)).
- Current Alaska vessel registration and notarization papers.
- Certification from antifouling paint supplier that TBT-free coatings have been applied to the vessel.
- DEC inspection reports (if any).
- DEC sampling audit reports (if any).
- USCG approval letter for continuous discharge, if applicable.
- Most recent US CDC vessel sanitation program inspection report. See: <http://wwwn.cdc.gov/vsp/InspectionQueryTool/Forms/InspectionSearch.aspx>

3. OCEAN RANGER ACCESS WHILE ON BOARD

The Ocean Ranger's primary liaison while on board is the ship's environmental officer. However, the environmental officer cannot be a constant escort. It is understood that the Ocean Ranger cannot have unfettered and unescorted access to the areas of the ship that are designated as 'restricted' under the IMO International Ship and Port Security Code (ISPS). Restricted areas include but are not limited to: engine room spaces; navigational control spaces, including bridge; and areas where key communications and electronic equipment are maintained. However, to do their job the Ocean Ranger will need unescorted access between their stateroom and the engine control room where they can be 'rung-in' by the engineer on watch.

4. OCEAN RANGER CONDUCT WHILE ON BOARD

Note: The following standards of conduct were developed during the initial environmental observer phase of the program. These rules and policies incorporate requirements of the Ocean Ranger program in addition to standard policies that apply to contractors and vendors retained by cruise lines.

¹ Few, if any, ships discharge waste in Alaska. There may not be a plan but a letter to DEC stating as such.

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Ocean Rangers will conduct themselves responsibly and be of good moral character. This means no acts of discrimination or harassment based on race, sex, religion, age, national origin, creed, color, marital status, or sexual orientation.

Ocean Rangers shall not have maritime liens on the vessel for any payments or amounts due to them in connection with their services for DEC.

Ocean Rangers will usually be assigned staterooms. Ocean Rangers shall turn off lights and powered devices when not in use and not leave water running unattended in their cabins.

Ocean Rangers may move about the passenger spaces, eat in the informal cafeteria-style passenger dining area, eat with the crew or officers in the crew or officer mess, and engage in casual conversation with the passengers. When not working, Ocean Rangers must be properly dressed as specified in the daily program and neatly groomed.

While on board, the Ocean Rangers must not:

- Linger in public areas in work clothes when not working.
- Eat in the formal dining halls (where waiters and wine stewards attend the tables).
- Bring on board or use non-prescription narcotics or any controlled substances.
- Bring on board or consume alcohol.
- Enter any staterooms (other than the one assigned), occupied or unoccupied, unless accompanied by ship security.
- Sell merchandise to anyone on board.
- Bring any firearms or other weapons on board the vessel.
- Create an unseaworthy condition while on board.
- Harm, damage, deface, or destroy any vessel equipment. Damaged equipment will be repaired or replaced at the Ocean Ranger's expense.
- Discuss ship's operational issues with passengers.
- Buy or purchase alcohol, tobacco, or other items that must be declared for payment of duties upon departure.
- Gamble in the casinos or engage in gambling with crew members/passengers.
- Visit the spa other than for inspection with the environmental officer. (Using the exercise facilities in moderation while on prolonged voyages is acceptable.)

5. OCEAN RANGER HEALTH AND SAFETY WHILE ON BOARD

Ocean Rangers shall attend a passenger lifeboat/abandon ship briefing their first day on board and weekly thereafter. The briefing will include emergency signals, lifejacket donning, abandoning ship (attend the boat drill if scheduled), smoking rules, and response to a fire. In case of an emergency, Ocean Rangers are to follow the

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emergency instructions listed on the back of their stateroom door or the instructions otherwise provided by officers and crew.

Ocean Rangers are subject to the authority of the Master for purposes of health, safety, and discipline. The Master has the discretion to require an Ocean Ranger to remove him or herself and belongings from the vessel at any time, when the vessel is in port. The vessel or cruise line will not bear the cost of any repatriation expense should this action be warranted.

Ocean Rangers shall safely stow for sea all their personal belongs and other equipment brought on board before departure. Personal protective equipment will include, at a minimum:

- Small flashlight
- Digital camera (pictures appreciated for developing the training program)
- Ear protection
- Slip resistant safety shoes
- Eye protection
- Hand protection (leather gloves and latex gloves)

Ocean Rangers will only be permitted to enter a machinery space if they are wearing safety shoes, eye protection, hearing protection, hand protection, and proper identification.

Ocean Rangers shall be medically fit before boarding. DEC will develop medical standards for serving on board a ship.

Ocean Rangers may be provided passenger service medical care while on board at the passenger compensation rate.

To prevent contraction or spread of infectious illness, Ocean Rangers shall:

- Wash their hands with soap and warm water thoroughly and regularly during the cruise, especially after using the restroom and before eating, drinking, or smoking.
- Use paper towels when opening the restroom door to exit after washing their hands.
- Regularly use the hand sanitizers located throughout the ship.
- Contact the Hospital or Front Office if they experience vomiting or diarrhea.
- Observe sanitary practices for sampling as set out in the QA/QC.

6. PREPARATION FOR THE SHIP RIDE

Three days before boarding, verify that an e-mail has been sent to the ship contact alerting them to the visit. The e-mail should include the Ocean Ranger’s full name, date of birth, identifying credentials, location and approximate time of arrival, and time and location of disembarkation.

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Review thoroughly the ship-specific notebook developed during the initial ‘observer’ program in May–June 2007. Note information items within the notebook that need to be updated or completed.

If boarding in an Alaska port, try to schedule embarkation in the early afternoon or before, allowing time to visit and conduct a walk-through with the ship’s staff during normal working hours. Note: The hour before departure, staff, including the environmental officer, will be occupied with undocking. Ocean Rangers should not expect the ship’s staff to attend to them during that time.

Upon boarding, receive an emergency briefing, assigned lifeboat/emergency station, and any other safety briefings. This may require 30 minutes to an hour.

7. UPON DISEMBARKATION

The following activities should be performed upon disembarkation:

- If any papers, documents, copies/drawings, or procedures are obtained, mark the date and ask for authorization to take them off the ship. Later, follow-up with an e-mail to the company representative thanking him or her for his or her help. In this follow-up e-mail, list all the documents for which you were given copies.
- Conduct a short exit interview with the environmental officer or appropriate ship’s representative.
- Complete a U.S. Customs and Border Protection (CBP) Declaration Form 6059B (See attachment one).
- See the U.S. CBP agent. (No exceptions.) Be prepared to show the agent a passport, luggage/personal effects, and instruments/gear used for the program.
- Complete/check out at security and sign of release forms, etc (ship company).
- Drop off the vessel company issued name badge/identification badge.

8. UNIFORM OR IDENTIFYING INSIGNIA

The only uniform necessary is a polo or button-down collar shirt with name tag and embroidered logo. Trousers should be chino or khaki, but not jeans. Safety shoes are not necessary, but shoes must be slip-resistant. DEC will provide up to four shirts with at least two being long sleeved. The left breast embroidery will have the wording illustrated below and the DEC logo.²

² A shirt that labels the wearer as an ‘Ocean Ranger’ would be confusing. Passengers are accustomed to having Park Rangers/Interpreters on board in Glacier Bay. Therefore, unless the Ocean Ranger is prepared to answer questions about the ecology and natural
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State of Alaska

Environmental Compliance Observer

9. SHIPBOARD SECURITY

Cruise ship security is set by the International Maritime Organization's (IMO) International Ship and Port Security Code and SOLAS Chapter XI-2, Part B. The security officer and the environmental officer shall confer and coordinate security procedures for the Ocean Ranger visit.

Essentially, the Ocean Ranger must:

- Carry and present proper identifying credentials: passport, DEC Identity Card, merchant mariners document (MMD), and Transportation Worker Identity Credential (TWIC).
- Follow the procedures set by the ship's security plan.
- Be escorted while in restricted areas of the ship: engine control room (ECR), engine room, bridge, and other areas designated as restricted in the Ship Security Plan (SSP).
- Receive security awareness training as required by *33 CFR 104.225 and SOLAS Chapter XI-2, Part B, paragraph 13.4*. This includes knowledge of the following:
 - Relevant provisions of the Vessel or Ship Security Plan.
 - The different MARSEC Levels and the possible change in responsibilities for each level.
 - Current security threats and patterns.
 - Methods of recognition and detection of dangerous substances and devices.
 - Characteristics and behavioral patterns of persons who are likely to threaten security.
 - Techniques used to circumvent security measures on board a ship.

history of Alaska, we recommend that the term 'Ocean Ranger' not appear on the uniform.

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10. INITIAL MEETING AND TOUR WITH SHIP'S STAFF

10.1. Introductions

Ideally, the Ocean Ranger should have access to the environmental officer, if assigned. The Ocean Ranger should also meet the chief engineer and staff captain or chief officer. (The staff captain or first officer is equivalent to the chief mate—second in command—on other merchant ships.) It is not necessary for the Ocean Ranger to meet the master or captain, although he/she may want to. It is not necessary to go to the bridge during any part of this visit.

During this initial meeting, the Ocean Ranger should work with the environmental officer to develop a work plan or observation schedule that includes the following:

- Minimizes disruptions to other shipboard operations during critical operations or maneuvers.
- Includes routine and mutually scheduled update meetings during the course of a voyage.
- Incorporates discussion and transmission of daily observation reports.

Note: The Ocean Ranger may conduct unannounced inspections and observations, which would not be discussed with the environmental officer during the initial meeting.

10.2. Explaining the program and the role of the Ocean Ranger

The Ocean Ranger should assume that the ship's staff knows little about the ballot initiative and Ocean Ranger program. If they are interested, the Ocean Ranger might cover the following program elements:

- What is an Ocean Ranger? Discuss the ballot initiative and subsequent statutes.
- Provide a concise overview of the ballot measure and provide a copy of the rule. See Section 1.

The Ocean Ranger's enforcement authority. The ship's officers should know that the Ocean Ranger is a contractor for the State of Alaska. As such, they are not enforcement officers of the State of Alaska. If the Ocean Ranger observes conditions that appear to be discrepancies, he/she will discuss them with the ship's staff and DEC. Examples include but are not limited to the following:

- Off-loading hazardous waste in an Alaska port. All cruise ships have reported to DEC that they will not off-load hazardous waste in Alaska.
- Discharging any wastewater in a prohibited water body like Glacier Bay.
- Alarm logs that indicate possible difficulties with emissions, wastewater treatment, etc.
- An apparent oil spill or unpermitted discharge.

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- If carrying a digital camera, the Ocean Ranger should ask if photographs can be taken for enhancing the Ocean Ranger training program. Allow the ship's staff to review any pictures before disembarkation. Pictures should note time, date, and location.
- Provide the ship's staff the address and contact information (business card preferred) for the DEC program office:

Alaska Dept. of Environmental Conservation Division of Water Commercial Passenger Vessel Environmental Compliance Program Office 410 Willoughby Avenue, Suite 303 PO Box 111800 Juneau, AK 99811-1800	Albert Faure 907-465-5279 Albert_Faure@dec.state.ak.us
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10.3. Initial Observations and Ship Tour

If this is the Ocean Ranger's first visit to a particular ship, he/she should ask for a walk-through of the ship, accompanied by ship's staff, that includes as a minimum the following areas, equipment, stations, and procedures:

- Garbage handling and recycling.
- Hazardous waste processing including pesticides, photo labs and dry cleaning.
- Hazardous waste and tank storage / container strategy
- Medical facilities and bio-hazard handling.
- Sewage and gray water treatment and discharge, including tank storage (ship) systems.
- Observe overboard valve operation and crossover piping regime (if applicable).
- Waste incineration and sludge handling.
- Food preparation.
- Production and handling of potable water.
- Oily water separator (OWS).
- Bunkering stations, if applicable³. (Note: Bunkering manifolds are usually collocated with the sewage pump out manifold.)
- Stack emissions minimization and monitoring.
- Ballast discharge, if any.
- Overboard piping, valves, and overboard valve monitoring systems.
- Boiler blow down, if applicable.
- On board wastewater sampling, if any.

³ Cruise ships rarely, if ever, take on fuel in Alaska.

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- General condition of sample valves.
- All records related to these programs including discharge logs and SMS.⁴

11. WHILE UNDERWAY

11.1. Review the Ship-Specific Notebook

The ship-specific notebook is the best source for ship familiarization. It must be reviewed by the Ocean Ranger prior to boarding, carried by the Ocean Ranger while on board, and updated by the Ocean Ranger as necessary.

11.2. On-Board Work Routine for Ocean Rangers

11.2.1. Underway Routine

The Ocean Ranger's daily routine should, at minimum, consist of the following:

- Accompanying the environmental officer on daily rounds.
- Observing the daily wastewater lab analysis by the environmental officer (Princess only).
- Cross-checking automated overboard discharge alarm records against log entries made in the Oil Discharge Record Book and the State of Alaska Black Water and Gray Water Discharge Record.
- Frequently checking to ensure that wastewater outflow quality monitors, if installed, are functioning properly⁵.
- Observing any non-routine or non-automatic discharges (oily water separator discharge, ballast or any discharges through valves that are usually locked).
- 'Tracing-out' major components of the overboard discharge systems once a day—from input through treatment to overboard valve—to ensure the system functions according to the manufacturer's instructions⁶. If an engineer has been assigned for service and maintenance of the advanced wastewater treatment system, then accompanying the engineer on his/her daily maintenance round is the best way to conduct this inspection.

⁴ Ship Management System (SMS). The International Safety Management Code (ISM Code) requires written procedures for waste management.

⁵ Effluent monitors, usually turbidity monitors, at pre-set detection readings, will stop overboard discharge and redirect the effluent to a tank or back through the wastewater treatment system.

⁶ Each of the five advanced wastewater 'brands' operate fundamentally the same way. However, they are each complex. Ideally, the Ocean Ranger should receive training from the specific manufacturers (Hyroxyl, Hamworthy, ScanShip, Zenon, Ro-Chem).

Note: This handbook is a work in progress. This document should be reviewed, edited, and improved as the program is implemented.

- E-mailing daily reports to DEC.

11.2.2. In-Port Routine

When the ship is moored, the Ocean Ranger should check and observe:

- Waste management, waste off-load, and condition of the off loaded pallets and other carriers. Review manifests and pickup arrangements.
- If the ship is at anchor, initial boat lowering and operations.
- Potable water hookups. Are they following appropriate procedures for the ship and the supplier?
- Observe special actions to prevent spills, overflows of tanks, etc.
- Observe wastewater sampling by the contractor, if done.
- Observe discharge of wastewater to shore connection (volume/procedures). This is only done at the South Franklin Dock in Juneau.
- Observe repairs, maintenance, cleaning, and other operations that may affect the wastewater treatment plant effluent quality (ex., back flush cleaning with chemicals).

11.3. Review Relevant Documents

The following documents should be available on board. The Ocean Ranger should review the plans and permits during the course of a prolonged ride.

11.3.1. Safety Management System

The Ocean Ranger should ask to examine the relevant parts of the Safety Management System (SMS) that describe the operation and maintenance of the various pollution control devices. This will provide a more complete overview of operations, maintenance, emergency procedures, and reporting.

11.3.2. Plans and Permits

- The general discharge permit (AS 46.03.462) issued by DEC. *Note: Not online as of June 2007.*
- The approved Vessel Specific Sampling Plan (18 AAC 69.030).
- The approved Non-Hazardous Solid Waste Offloading and Disposal Plan (AS 46.03.475(e)(1) and 18 AAC 69.035).
- Hazardous Waste and Substance Offloading Plan (HWSOP) (18 AAC 69.040(b)).
- Current Alaska vessel registration and notarization papers.
- The approved Hazardous Waste and Substance Off-loading Plan⁷.

⁷ Few, if any, ships discharge waste in Alaska. There may not be a plan but a letter to DEC stating as such.

Note: This handbook is a work in progress. This document should be reviewed, edited, and improved as the program is implemented.

- Certification from antifouling paint supplier that TBT-free coatings have been applied to the vessel.
- Tank plan and tank operation plan and records.
- Overboard valve “opening plans” discharge procedure.
- Procedure to notify agencies for non-conformities, etc.
- Non-tank vessel spill plans, both Alaska and US.
- Garbage management plan.
- Recycling policy.

11.3.3. Agency Reports and Inspection Records

- DEC inspection reports (if any).
- DEC sampling audit reports (if any).
- Last USCG quarterly exam. Note deficiencies listed, if any.

11.3.4. Reports and Logs

- Discharge reporting
- Alarm records reports (ex. Wastewater opacity, stack emissions)
- Oil record book.
- Oil–sea interface log

11.4. Daily Reports to DEC

Reports should be filed daily to DEC through the contractor. Ideally, reports should be filed in an electronic format.

See Attachment Two for an example of a daily report template.

12. USEFUL WEBSITES

US Centers for Disease Control: Vessel Sanitation Program, Cruise Ship Reports

<http://wwwn.cdc.gov/vsp/InspectionQueryTool/Forms/InspectionSearch.aspx>

North West Cruise Ship Association (NWCA): Trade association that supports most of the cruise ships operating in Alaska.

<http://www.nwcruiseship.org/>

Alaska Department of Environmental Conservation (DEC) Cruise Ship Home Page

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

Note: This handbook is a work in progress. This document should be reviewed, edited, and improved as the program is implemented.

ATTACHMENT TWO: DAILY REPORTS

To: Albert Faure, DEC (Fax 1-907- 465 – 5180/5274)

Subject: Daily Ship Ride Report to DEC

M/V _____

O.N. _____

Date:

Ranger/Observer:

- Embarked: Time: Location:
- Disembarked: Time: Location:
- Accommodations provided?
- Primary liaison was:

Name:

E-mail:

Other contacts and assistance:

Regulatory Compliance

- No illegal discharges, safety concerns, or other activities at variance with federal and state regulations were noted or observed, or
- _____

Full report to follow in event of observed apparent violations.

- Comments:

Practices observed that were innovative or commendatory.

Spaces inspected

- Advanced wastewater treatment systems (black water, grey water, galley waste).
- Oily Water Separator (OWS).
- Incinerator room.
- Solid waste handling space.
- Food waste processing space.
- Chemical stores.
- Hazardous waste lockers.
- Wet garbage storage.
- Photo shop.
- Dry Cleaning shop.
- Bunkering stations.
- Mooring stations.
- Potable water production and treatment system.
- Overboard discharge valves.
- Medical facilities.
- Bridge: Activities related to environmental monitoring
- Topside equipment (winches, motors, etc.) housekeeping, pools, and lifeboat material condition.
- Boatswain's Paint locker.
- Other:

Activities observed or attended

- Seal checks
- Rounds in the engine room, focusing on checklist items and observing underway conditions.
- EO work routine (SMS, EMS, ISO 14001)
- Underway evolution in the engine control room
- Crew training or briefing (list all):
- AWTS sampling by 3rd party contractor.
- AWTS sampling and analysis by EO.
- Tender activation and/or boat launches.
- Drills:
- Other:

Records reviewed

- Ship-specific Checklist developed after reviewing previous Observer's completed checklist of May 2007.
- Sewage/gray water discharge record book.
- AWTs manufacturer's manuals.
- Oil Discharge Record.
- Oil/Sea Interface log.
- Automated alarm records of overboard discharges.
- Stack emission opacity logs.
- USCG continuous wastewater discharge approval letter.
- Non-hazardous waste disposal records.
- Hazardous waste disposal records.
- Ballast Water discharge reports.

Recent wastewater sample results performed by 3rd party (Admiralty Environmental letter dated 30 July 2007).

- US CDC sanitation inspection report (April 2007).
- EO's Waste Record Log.

Items for Follow-up

List reports, records, activities, current repairs to equipment, or issues that the observer/Ranger on the next visit might check or review on subsequent rides.

Brief narrative or diary of time on board (attach additional sheet if necessary)