



State of Washington Department of Ecology
Cruise Ship Memorandum of Understanding, Cruise Operations in Washington State Inspection Report

Northwest Regional Office

3190 160th Ave SE
 Bellevue, WA 98008

Phone: (425) 649-7000
 Fax: (425) 649-7098

Inspection Date September 21, 2015	Permit Number NA	County King	Receiving Waters Marine Waters	Ecology Inspector Amy Jankowiak
Entry Time 8:47 am	Photos Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Samples Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Inspection Announced <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Discharges to: <input checked="" type="checkbox"/> Surface Water <input type="checkbox"/> Ground Water <input type="checkbox"/> Dewater <input type="checkbox"/> POTW
Exit Time 10:35 am				

Name and Location of Site Inspected: STATENDAM, Holland America Line Pier 91 Seattle, Washington	Additional Participants/Inspectors:
On-Site Representative(s): Name/Title/Phone/e-mail Joe Parks, Safety, Environmental & Health Officer SADM-SEH_Officer@HollandAmerica.com	
Responsible Official(s): Name/Title/Address/Phone/e-mail Michael D. Inman, Vice President – Safety and Environmental Management Systems Holland America Line 300 Elliott Ave. West, Seattle WA 98119 206-281-3535 Minman@hollandamerica.com	Other Facility Data: Notification made to John Turvey and Dan Grabb on September 17, 2015 IMO Number 8919245

Section A: Areas Evaluated

<input checked="" type="checkbox"/> Black/Gray Wastewater System	<input checked="" type="checkbox"/> Residual Solids	<input checked="" type="checkbox"/> Records/Reports	<input checked="" type="checkbox"/> Hazardous Waste/ Solid Waste	<input type="checkbox"/> Sampling/Monitoring
<input checked="" type="checkbox"/> Discharge Locations	<input checked="" type="checkbox"/> Operation & Maintenance	<input checked="" type="checkbox"/> Sludge Handling/ Disposal	<input checked="" type="checkbox"/> Oily Bilge Water	<input checked="" type="checkbox"/> Other

Section B: For Vessels Discharging ≥ 1nm from Berth and ≥ 6 Knots Only [2.1.3(A)]

<input type="checkbox"/> Schematics Match Black/Gray Wastewater System	
<input type="checkbox"/> Operations as Described in Submitted Documentation	
<input type="checkbox"/> Daily 24-hour Continuous Monitoring for Turbidity or Equivalent Monitoring	
<input type="checkbox"/> Turbidimeter or Equivalent Monitoring Equipment Functioning Properly	
<input type="checkbox"/> Auto Shut Down or Operational Controls to Insure System Shut Down if High Turbidity Occurs	
Turbidity or Equivalent: Last Calibration: Trigger Level for Early Alarm: NOT APPLICABLE Trigger Level for Shutdown: Recorded Turbidity/Equivalent Levels Above Triggers:	
<input type="checkbox"/> Daily 24-hour Continuous Monitoring for Disinfection Effectiveness	
<input type="checkbox"/> Disinfection Effectiveness Monitoring Equipment Functioning Properly	
Disinfection Effectiveness Monitoring:	
<input type="checkbox"/> Auto Shut Down or Operational Controls to Insure System Shut Down if Disinfection System Upset Occurs	
<input type="checkbox"/> Disinfection System Operated and Maintained Properly	
Disinfection System:	

<input checked="" type="checkbox"/>	Solid Waste Managed Properly (zero garbage discharge)	Solid waste appears to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Photo/X-Ray Waste Managed Properly (fluids, cartridges,...) and landed ashore	Photo and x-ray waste appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	Dry-Cleaning Wastes and Byproducts (fluids, sludge, filter materials...) Managed Properly (PERC – haz waste – landed ashore)	Dry cleaning appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	Unused/Outdated Pharmaceuticals Managed Properly (safely disposed of)	Unused or outdated pharmaceuticals appear to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Fluorescent and Mercury Vapor Lamp Bulbs Managed Properly (prevent release of mercury)	Fluorescent and mercury vapor lamp bulbs appear to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Waste Reduction/Reuse/Recycling Opportunities Maximized (glass, cardboard, aluminum & steel cans)	Waste reduction/reuse/recycling opportunities appear to be maximized per MOU requirements.
<input checked="" type="checkbox"/>	Batteries Managed Properly (recycled, reclaimed, disposed of properly)	Batteries appear to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Incinerator Ash Managed Properly and minimized volume (haz waste segregation and annual testing)	Incinerator ash appears to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Oily Bilge Water Managed Properly (<15 ppm, no visible sheen and underway)	Oily bilge water appears to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Ballast Water Managed Properly (per Wash regs –reporting, treated or if open sea exchange >200 nm from outside EEZ, 50nm if not EEZ)	Ballast water appears to be managed properly per MOU requirements.
<input checked="" type="checkbox"/>	OCNMS rules and regs followed	The discharge protocol appears to be consistent with MOU requirements to not occur in the OCNMS.

Additional General Questions

<input checked="" type="checkbox"/>	How is deck runoff and hull cleaning handled (scuppers...) (non-toxic/phosphate free cleaners, biodegradable)	Deck runoff and hull cleaning appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	How is maintenance performed on the outside of the vessel (paint chipping, painting, etc)	Outside vessel maintenance appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	Sculleries and Galleys – type of detergents and degreasers used (phosphate free and non-toxic)?	Galleys appear to use phosphate free and non-toxic detergents and degreasers.
<input checked="" type="checkbox"/>	How are food waste discharges handled (prevention of erroneous materials)?	Food waste appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	Medical sinks/floor drains, chem. stor areas wastes go where (plugged, blackwater, bilge)?	Medical sinks/floor drains appear to be handled per MOU requirements.
<input checked="" type="checkbox"/>	Where is pool and spa water discharged? Dechlorinated/debrominated and underway?	Pool and spa water appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	What type of fuel is used and percent sulfur content?	Fuel sulfur content meets requirements.

Other:

Section F: Sampling Results

Parameter	Results
Biochemical Oxygen Demand 5-Day (BOD ₅)	NOT APPLICABLE
Total Suspended Solids (TSS)	
Fecal Coliform	
Residual Chlorine	
pH	
Ammonia, Nitrogen	

Section G: Summary of Findings/Comments

Introduction

Amy Jankowiak, Washington State Department of Ecology (Ecology) Northwest Regional Office, Water Quality Program (NWRO-WQ), conducted the inspection of the Carnival Cruises STATENDAM on September 21, 2015. Chris Smith NWRO-WQ observed. The main contact on board the STATENDAM was Joe Parks, Safety, Environmental & Health Officer (SEH) for the STATENDAM. Prior notification of the visit was given on September 17, 2015 for security protocol. The purpose of the inspection was to evaluate compliance with the *Memorandum of Understanding Cruise Operations in Washington State* (MOU), as amended. The STATENDAM is not approved to discharge wastewater in MOU waters.

The STATENDAM was completed in 1993 and is 719 feet long with 14 decks. Passenger capacity is currently about 1250, with about 550 crew.

The STATENDAM is scheduled for this one call in Seattle as the vessel repositions from its Vancouver BC/Alaska route to California and then Singapore with stops.

Inspection

We arrived and boarded the ship (photo #01) at 8:47 am and first met with Joe Parks, SEH, and Dan Grabb, Manager, Environmental Systems and Testing Holland America Group. We briefly discussed the purpose and plan for the inspection. We first discussed discharge protocols for the various wastestreams and reviewed certain records. We then did a walk-through of the garbage and recycling room, and hazardous waste storage (photo #09). We then went to the Engine Control Room (ECR) (photos #10, #11, and #12) and then viewed the oily water separators, the Zenon marine sanitation device (MSD), discharge ports and the desalination systems. We concluded with a review of notification documents on the bridge and a brief debriefing. We disembarked the vessel at 10:35 am.

Discharge Types and Protocols:

A plan for the season is done at the beginning of the season and voyage for each discharge type per location. The matrix plan is very clean that there are no discharges of any kind in Washington waters. This includes MOU waters, Washington State waters and the Olympic Coast National Marine Sanctuary (OCNMS) (MOU related waters) for Zenon permeate, gray water, biomass, oily bilge water, food waste, pool and Jacuzzi water, and ballast water. Incinerators are stopped 1 hour prior to arriving and started one hour after departing and not permitted in Admiralty Inlet and Elliott Bay. The plan has a detailed description of the MOU related waters. The matrix is posted in both the ECR and on the bridge. If a discharge is to occur, the process includes having the ECR contact the bridge for permission. Both the ECR and the bridge detail the discharges and any discrepancies are tracked and worked out. The SEH verifies any alarms and discharges. There are also electronic recordings of any discharges. Discharge ports are sealed and any opening of the seals are logged with approval. For black water and gray water, the latitude and longitude coordinates are recorded in the *Sewage and Graywater Discharge Record Book* electronically. The date, time and location of both the start and the stop of the discharges are recorded, along with port location, effluent type, and volumes. The wastewater discharge records for this cruise season to date showed no discharges in MOU related waters based on a visual review of coordinates.

Discharge Types:

Screened residual solids from the screens are collected (approximately 20 cubic meters) and offloaded about once a month. Solids from the bioreactor, called biomass, is collected, held, and discharged outside of MOU related waters.

Oily bilge water is treated first with a SERAP oily water separator (OWS) (photo #15) that treats to <50 parts per million (ppm) oil content. The water is then treated by a FACET OWS (photo #14) to less than 15 ppm. If the content is >15 ppm for 10 seconds, it is automatically recirculated for reprocessing with the white box. The OWS is monitored in the ECR. The white box (photo #16) is used for secure discharges and the discharge port is padlocked with keys held by the SEH and Chief Engineer. Oil sludge is offloaded as non-hazardous waste.

The STATENDAM has 4 fresh water Jacuzzis and 2 freshwater pools, using bromine. The pools are discharged outside of MOU related waters and the Jacuzzi water is emptied to the graywater tanks and discharged outside of MOU related waters.

The STATENDAM uses various tanks for ballast, only does exchanges in open water and does not have ballast treatment on board. The bridge contacts the ECR for any tank changes.

Food waste goes to pulpers in the galleys which then go to the garbage/recycling room. Pulped food waste less than the screened 1 inch square is discharged outside of MOU related waters. Bones and other items that can't be pulped are collected and offloaded. Grease collected from the grease traps is offloaded and used cooking oil (photo #07) is recycled and used as fuel oil on the vessel. The food waste chute is locked with permission required from the SEH.

Any deck runoff is handled per the Vessel General Permit (VGP). Vessel cleaning is done with water only. Vessel maintenance such as paint chipping and painting is not being done in Seattle. If any paint chipping or painting is to be done, there are best management practices for use including catchments with permission.

Laundry water is sent to the graywater collection tanks and phosphate free and non-toxic detergents and degreasers are used. Dry cleaning is done with a wet cleaning method using banana oil type products. Therefore, no chemical such as perchloroethylene (Perc) are used on the vessel.

Hazardous waste is not offloaded in Seattle. Hazardous waste includes items such as oily rags, photo waste, sharps, solvents and paints. A process following hazardous waste items from cradle to grave is used to assure that materials are handled properly. Incinerator ash and oil sludge are offloaded as non-hazardous waste.

X-rays are done digitally and therefore do not have a waste product. Photo waste is collected and processed with a silver recovery unit to less than 5ppm, recorded and is then offloaded. Fluorescent bulbs are crushed with a mercury removal system and offloaded ashore. Hazardous waste is stored until offloaded.

Drains in the medical facility go to the blackwater tanks.

Solid waste (garbage, recyclables, etc) is sorted at the source with color-coded bins (photo #08) and is sorted in the garbage and recycling room (photo #04) and is either reused, recycled, incinerated or offloaded to shore as appropriate. Some materials are stored in a cold storage room (photo #03). Paper, cardboard (photo #2), plastics, metals, glass and aluminum are compacted and crushed (photo #05) and recycled. Cartridges, toners and filters are recycled or offloaded. Batteries without fluid are recycled. Items including food contaminated cardboard, wood, red-bagged medical waste are incinerated (photo #06). Incinerators are stopped 1 hour prior to arriving and started one hour after departing and not permitted in Admiralty Inlet and Elliott Bay. Incinerator ash (photo #21) is tested annually and recent results are in compliance. Materials are tracked and monitored for effective minimization of wastes. There has been a large increase in recycling and fewer offloads of waste in recent years. Vessels compare results and review what works for implementation. Garbage records were reviewed and appear to be in compliance with the MOU.

The STATENDAM uses fuel with a sulfur content of 0.1% MGO in MOU related waters and can use approximately 3.5% (typically about 1.5%) sulfur content in other areas. The vessel was bunkering fuel at this port call. Fresh water was also being bunkered and can be produced on board with either a reverse osmosis system (photos #18 and #19) or evaporators (photo #13) with chlorine (photo #17) and stored (photo #20). The vessel does not use shore power.

A copy of the current MOU was available in the SEH office and on the bridge including notification procedures.

Black water System:

Blackwater, which includes toilet waste and most graywater, which includes accommodation and crew sink and shower water and laundry water is collected (photos #22 and #23) and combined and treated with one of two Zenon membrane bioreactor, which is an advanced wastewater treatment system. Discharges take place outside of MOU related waters. The Black/ Gray Water Discharge Record book was reviewed and there were no discharges in MOU related waters observed. The systems operate continuously. Excess graywater is held untreated and discharged outside of MOU related waters.

Black water is collected by vacuum and combined with graywater to an equalization tank. Flow then goes to the screens where solids are separated and sent to a solids tank. Liquid moves to the bioreactor tank (photo #28) for biological treatment with air circulation. Solids from the bioreactor, biomass, is sent to the solids tank. Solids are discharged outside of MOU related waters. Liquid from the bioreactor goes through the membranes for ultrafiltration. Permeate then moves to the ultraviolet disinfection system (photo #30) to permeate tanks for holding until discharged (photo #31) outside of MOU related waters. Turbidity is monitored on the permeate (photo #29). The system is operated, maintained and monitored by the Zenon engineer (photos #24, #25, and #26).

The SEH provided electronic copies of requested documents following the inspection.

Conclusions and Recommendations

The protocols and procedures for discharge are clear and inclusive of verification.

The records were very organized, with electronic securities and complete with details.

The staff was very knowledgeable of the systems and procedures related to compliance with the MOU.

Attachments:

Matrix, electronic records

Photographs

Copies to:

Joe Parks, STATENDAM

Jonathan Turvey, HAL

Mark Toy, Health

Greg Wirtz, CLIA-NWC

Stephanie Jones Stebbins, Port of Seattle

Kevin Fitzpatrick, Ecology

Mark Henley, Ecology

Amy Jankowiak, Ecology

Central Files: Holland America Line – STATENDAM; WQ 6.1

<p><u>Name and Signature of Inspector:</u> Amy Jankowiak </p>	<p><u>Agency/Office/Telephone:</u> Department of Ecology Northwest Regional Office Water Quality Program Municipal Compliance Specialist 425-649-7195</p>	<p><u>Date</u> 9/25/15</p>
<p><u>Name and Signature of Reviewer:</u> Mark Henley </p>	<p><u>Agency/Office/Telephone:</u> Department of Ecology Northwest Regional Office Municipal Unit Supervisor 425-649-7103</p>	<p><u>Date</u> 9/28/15</p>



PHOTO #:01 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010048
DESCRIPTION: HOLLAND AMERICA LINE STATENDAM, PIER 91,
SEATTLE



PHOTO #:02 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010001
DESCRIPTION: CARDBOARD STORAGE FOR RECYCLING



PHOTO #:03 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010002
DESCRIPTION: COLD STORAGE FOR SOLID WASTES

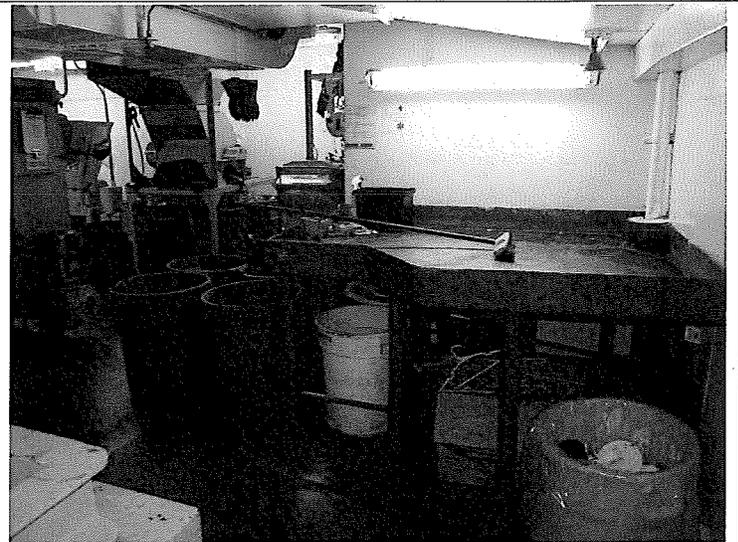


PHOTO #:04 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P10100005
DESCRIPTION: GARBAGE ROOM - SORTING

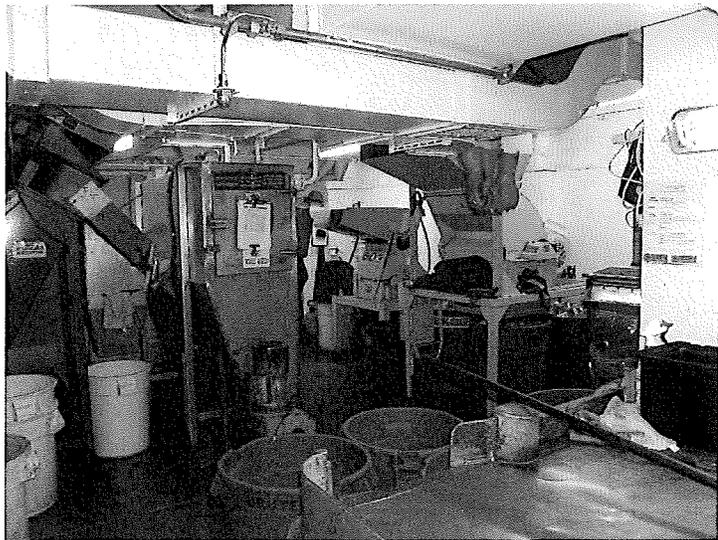


PHOTO #:05 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010007
DESCRIPTION: GARBAGE ROOM – COMPACTORS AND CRUSHERS
(LIGHT BLUE)



PHOTO #:06 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010008
DESCRIPTION: GARBAGE ROOM – INCINERATOR LOADING AREA

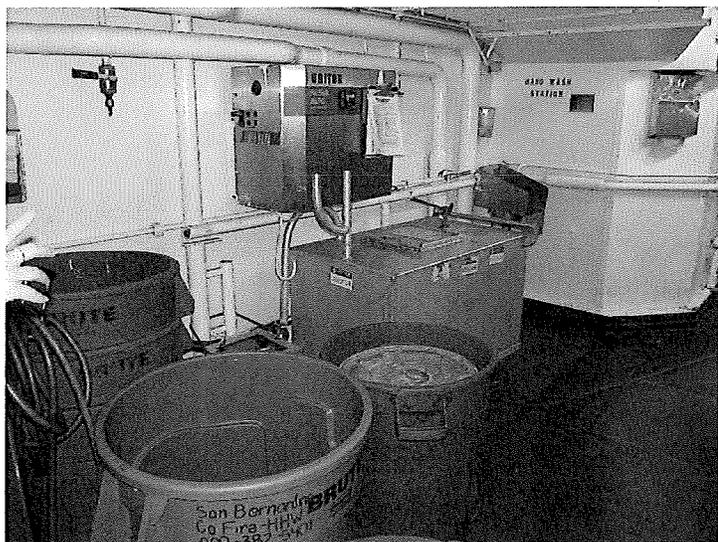


PHOTO #:07 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010009
DESCRIPTION: GARBAGE ROOM – USED COOKING OIL

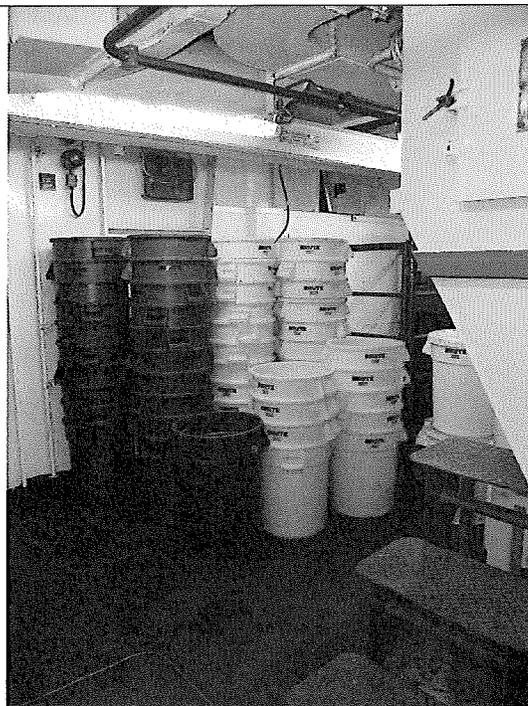


PHOTO #:08 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010010
DESCRIPTION: GARBAGE ROOM – SORTING BINS



PHOTO #:09 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010012
DESCRIPTION: HAZARDOUS WASTE STORAGE

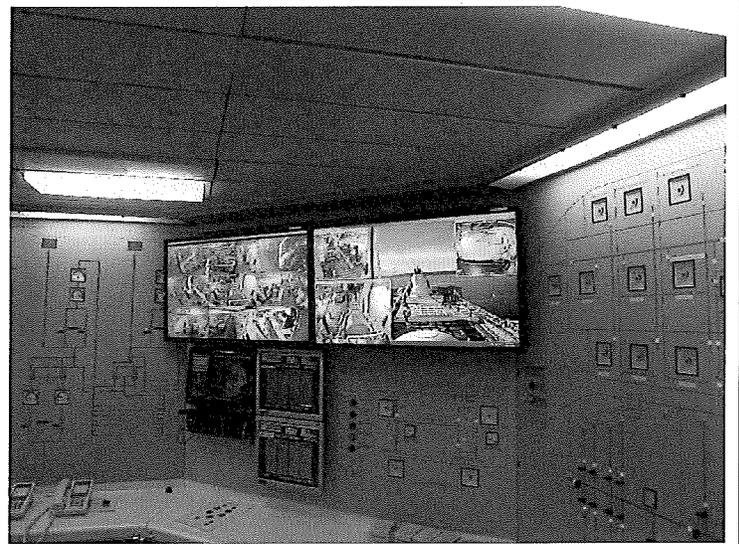


PHOTO #:10 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010013
DESCRIPTION: ENGINE CONTROL ROOM (ECR) MONITORING

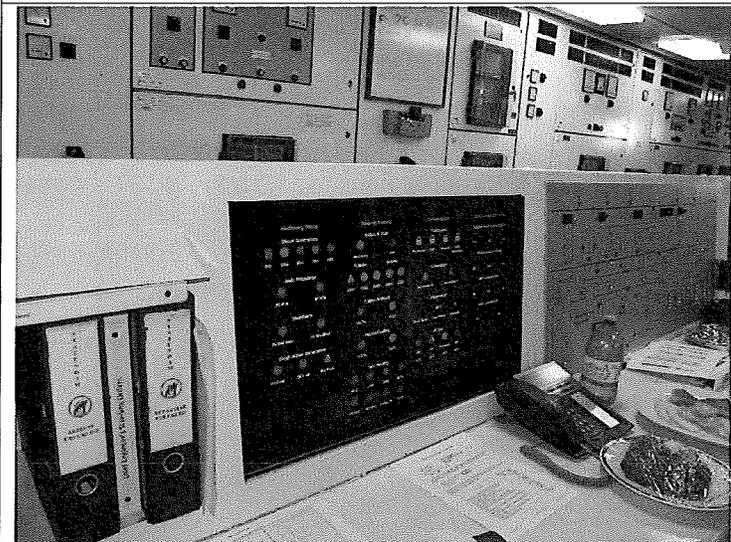


PHOTO #:11 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010015
DESCRIPTION: ECR SYSTEMS/PORTS MONITORING



PHOTO #:12 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010016
DESCRIPTION: ECY SYSTEMS/PORTS MONITORING

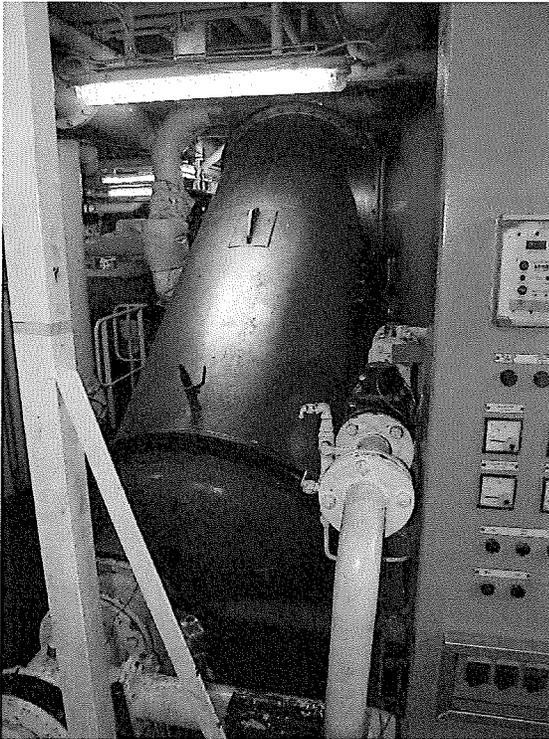


PHOTO #:13 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010019
DESCRIPTION: EVAPORATOR FOR WATER PRODUCTION

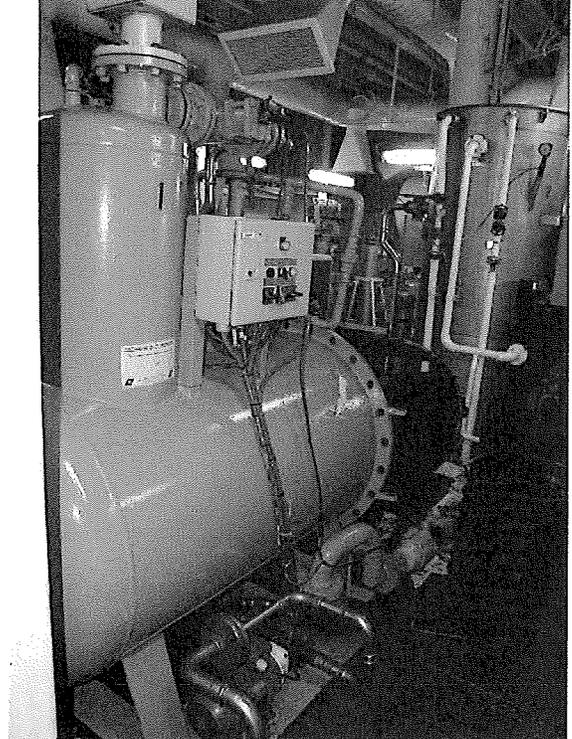


PHOTO #:14 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010020
DESCRIPTION: OILY WATER SEPARATOR (OWS) FACET SYSTEM

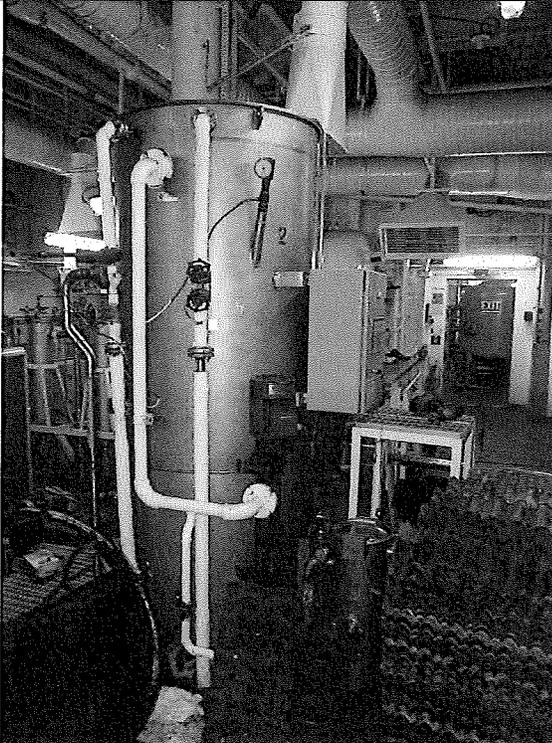


PHOTO #:15 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010022
DESCRIPTION: OWS SERAP SYSTEM

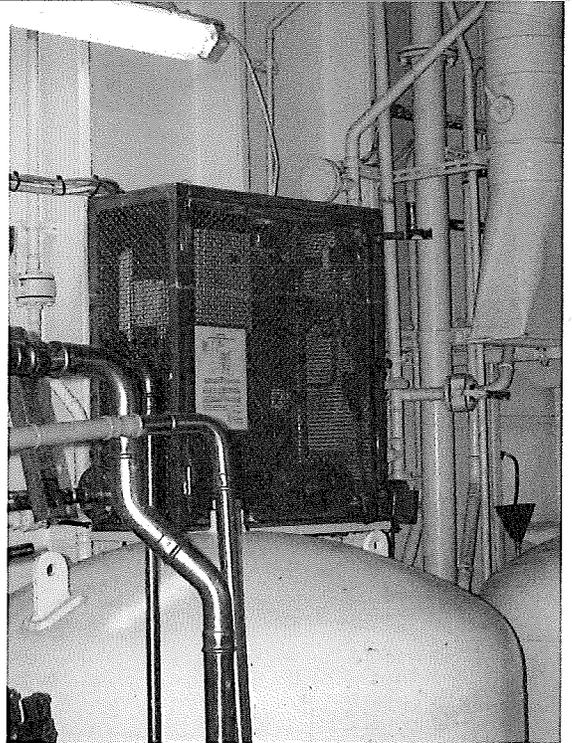


PHOTO #:16 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010024
DESCRIPTION: OWS WHITE BOX

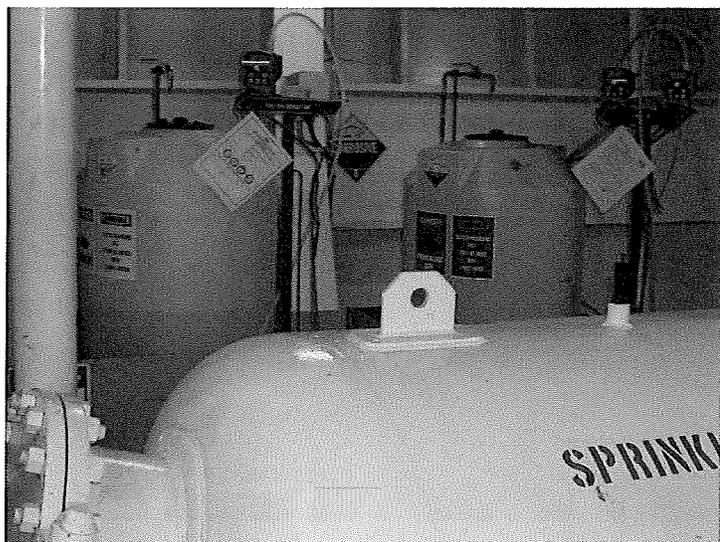


PHOTO #:17 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010025
DESCRIPTION: CHLORINE FOR POTABLE WATER

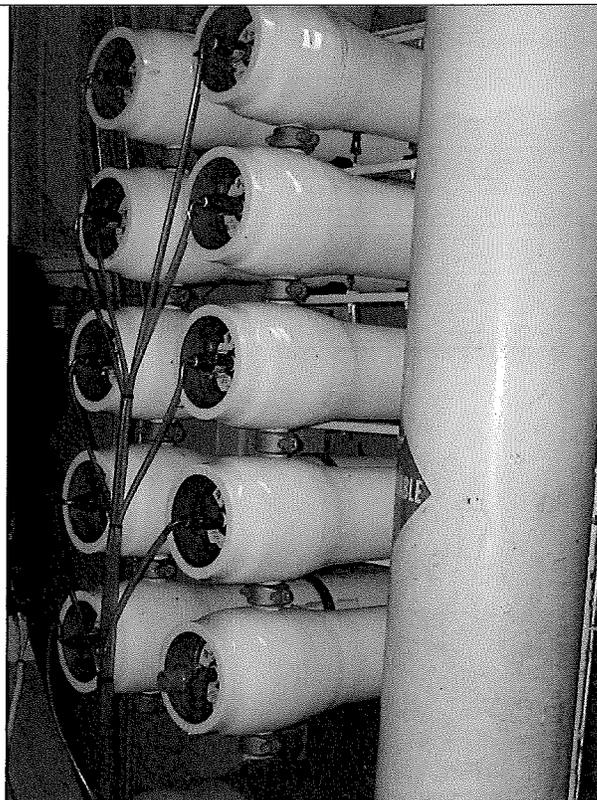


PHOTO #:18 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010026
DESCRIPTION: REVERSE OSMOSIS FOR WATER PRODUCTION

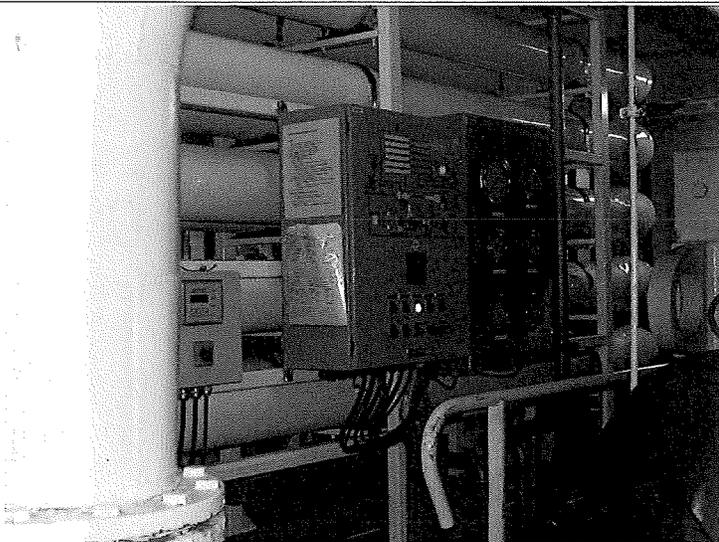


PHOTO #:19 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010027
DESCRIPTION: REVERSE OSMOSIS SYSTEM

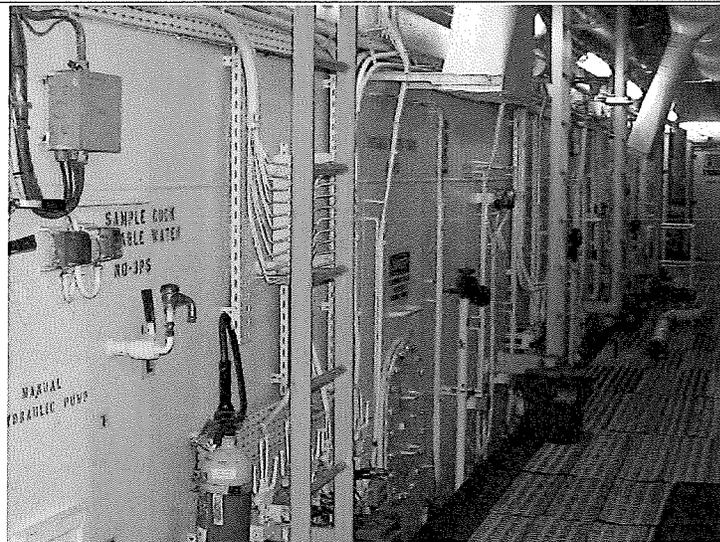


PHOTO #:20 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010029
DESCRIPTION: POTABLE WATER STORAGE TANK

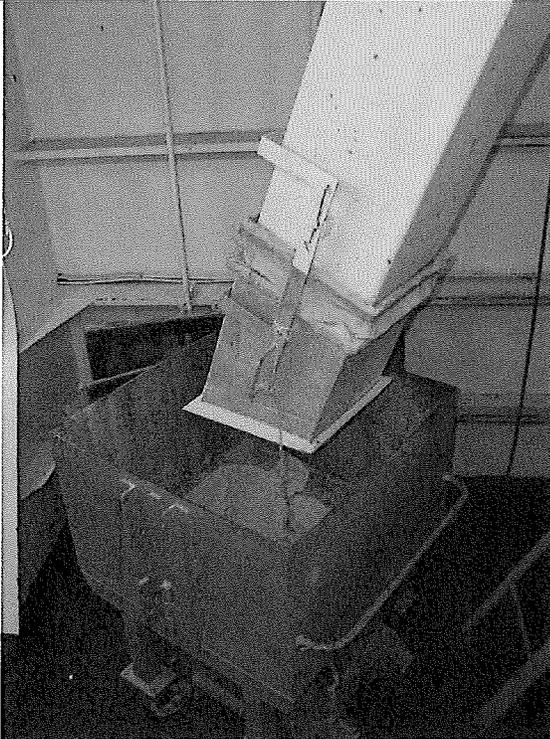


PHOTO #21 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010031
DESCRIPTION: INCINERATOR ASH

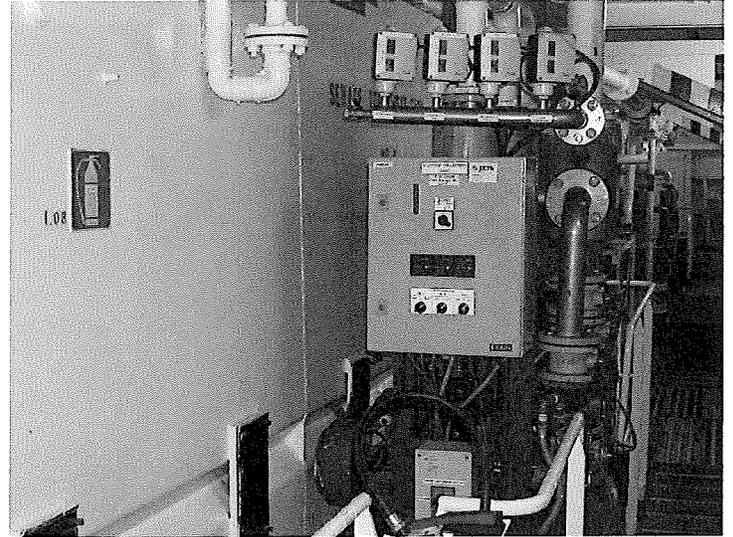


PHOTO #:22 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010030
DESCRIPTION: BLACKWATER HOLDING TANK

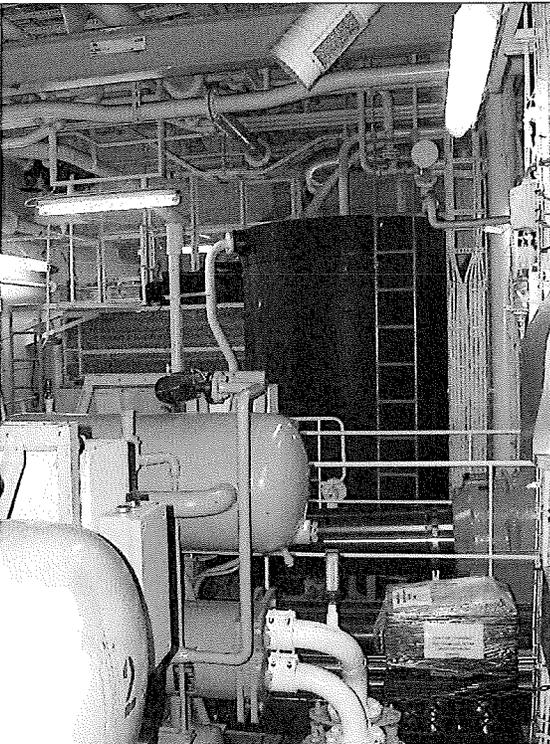


PHOTO #23 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010035
DESCRIPTION: SEWAGE/GRAYWATER HOLDING – BLACK TANK

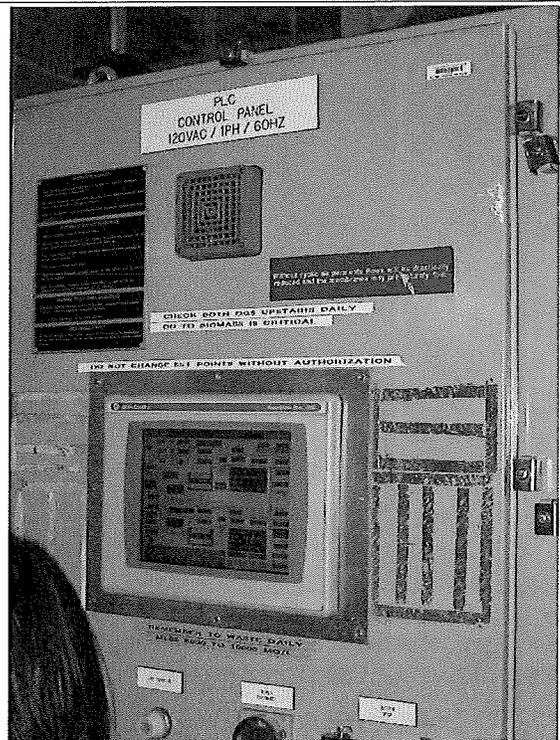


PHOTO #:24 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010036
DESCRIPTION: ZENON CONTROLS



PHOTO #:25 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010037
DESCRIPTION: ZENON CONTROLS



PHOTO #:26 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010045
DESCRIPTION: ZENON CONTROLS

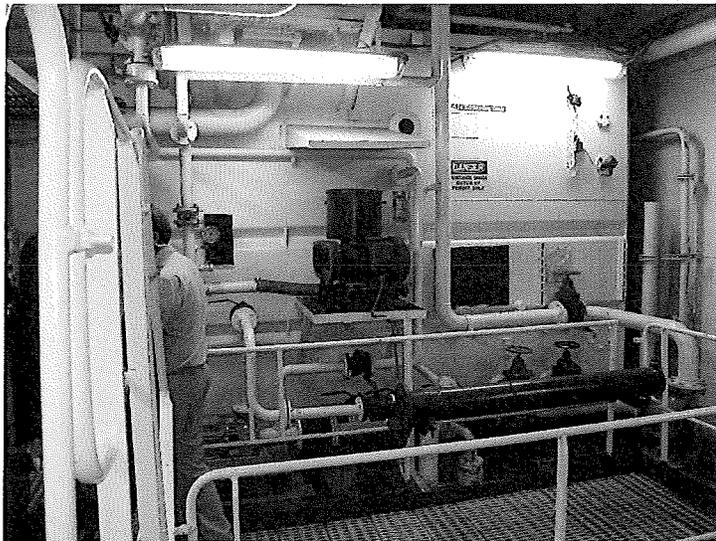


PHOTO #:27 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010038
DESCRIPTION: ZENON TANK



PHOTO #:28 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010039
DESCRIPTION: ZENON BIOREACTOR/MEMBRANE TANK

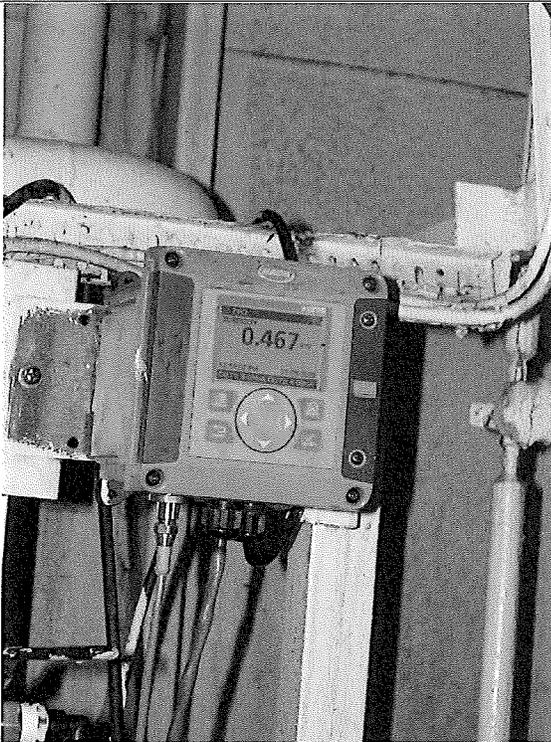


PHOTO #:29 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010042
DESCRIPTION: ZENON TURBIDITY METER

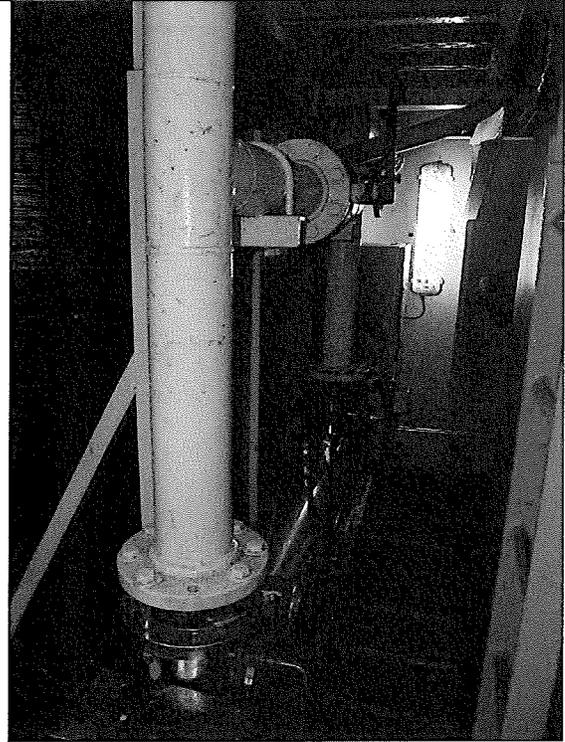


PHOTO #:30 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010043
DESCRIPTION: ZENON ULTRAVIOLET LIGHT DISINFECTION

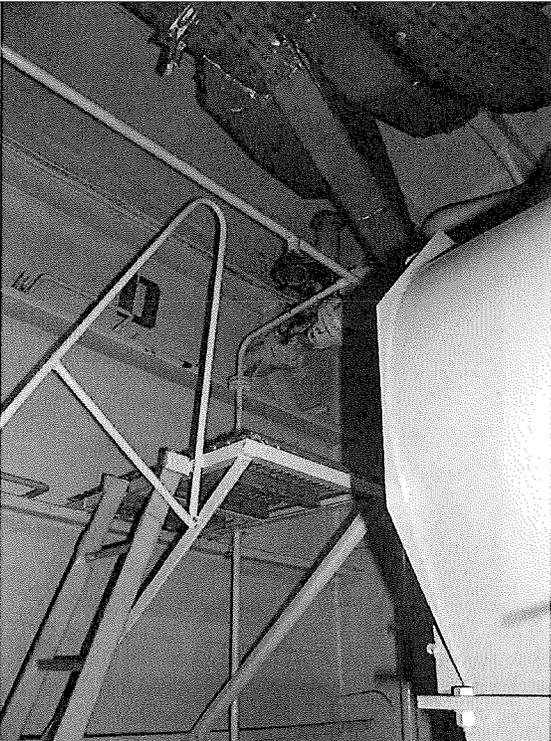


PHOTO #:31 DATE: SEPTEMBER 21, 2015
TAKEN BY: AMY JANKOWIAK FILE No.: P1010046
DESCRIPTION: ZENON DISCHARGE PORT



ms Statendam Seattle - Alaska Voyages 2015



What → Where ↓	Zenon Permeate A-condition	Stored Permeate A-condition	Gray Water	Biomass	Black Water	Oily Water Separator	Processed Food Only	Pool and Jacuzzi	Ballast Water	Incinerator Operations	Fuel Type & Quality
Washington Waters	NO DISCHARGES OF ANY KIND. This includes the Olympic Coast Marine Sanctuary (Out to 25 nm from West Coastal Washington) Designated as an area to be avoided by the IMO. Washington Waters: "waters subject to this Memorandum of Understanding (MOU)" include the Puget Sound and the Strait of Juan de Fuca south of the international boundary with Canada										
Canada	24/7	Outside 4 NM >6 knots	Outside 12 NM >6 knots	Outside 12 NM >6 knots	No Discharge without permission of the Senior V.P. Fleet Ops.	Ship is proceeding "en route" per MARPOL I	Outside 12 NM >6 knots MARPOL Annex V	Ship is proceeding "en route" per MARPOL I	MR 704 See note 2	Not permitted in Admiralty Inlet & Elliott Bay	North American ECA < 200 NM Max. 0.1% MGO Sulphur SEE NOTE 4
Alaska Waters	NO	Outside 4 NM >6 knots	Outside 12 NM >6 knots	Outside 12 NM >6 knots	Senior V.P. Fleet Ops.	Outside 4 NM >6 knots	MARPOL Annex V	Outside 4 NM >6 knots	MR 704 See note 3	Inhibit 90 min. before 1st line until 90 min. after last line, departing from pier or anchorage.	North American ECA < 200 NM Max. 0.1% MGO Sulphur SEE NOTE 4
Alexander Archipelago See note 1	DISCHARGE in Alaska Ports. ----- 24/7	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Tracy Arm & Yakutat Bay, Hubbard Glacier	DISCHARGE in Alaska Ports. ----- 24/7	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<p>Note 1: The Alexander Archipelago means all waters: (1) Beginning at a point 58°11-41 N, 136°39-25 W [near Cape Spencer Light], thence southeasterly along a line three nautical miles seaward of the baseline from which the breadth of the territorial sea is measured in the Pacific Ocean and the Dixon Entrance. See MR-130 page 33 for specific intersecting points. TRACY ARM is within the Archipelago.</p> <p>Note 2: Canada requires that only water ballasted within > 50 NM and >500m depth for coastal voyages can be discharged within Canadian waters. No discharge in ports without Canadian permission. Ballast Water reports required 24 hrs. prior to entering Canadian Waters.</p> <p>Note 3: Refer to MR 704 for mid ocean ballast water exchanges. Whenever possible > 200 NM & > 200 m depth. If above not practicable then > 50NM & > 200m depth if possible. (IMO Ballast Water Convention). Ballast reports required 24 hr.s prior to entering U.S.A. waters.</p> <p>Note 4: Print opacity graphs in ALL Alaska Ports.</p>											

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Time of entry	Name of entry	Details				Maker
September 20, 2015 00:00-07:00	Start continuous ZEN discharge	Latitude	49° 46.5' N	Longitude	127° 49.5' W	[automation]
		Discharge port(s)	D	Distance off land	over 12nm	
September 20, 2015 00:00-07:00	Start continuous ZEN discharge	Latitude	49° 46.5' N	Longitude	127° 49.5' W	Simoni, Tonci (T.Simoni)
		Discharge port(s)	D	Distance off land	over 12nm	
September 19, 2015 23:59-07:00	Start incinerator 2	Latitude	49° 46.7' N	Longitude	127° 49.9' W	[automation]
		Distance off land	over 12nm			
September 20, 2015 00:00-07:00	Start incinerator 2	Latitude	49° 46.7' N	Longitude	127° 49.9' W	[automation]
		Distance off land	over 12nm			
September 20, 2015 00:00-07:00	Start incinerator 2	Latitude	49° 46.5' N	Longitude	127° 49.5' W	[automation]
		Distance off land	over 12nm			
September 20, 2015 00:00-07:00	Start incinerator 2	Latitude	49° 46.5' N	Longitude	127° 49.5' W	Simoni, Tonci (T.Simoni)
		Distance off land	over 12nm			
September 20, 2015 00:20-07:00	Stop ZEN discharge from tanks	Start time	23:27 Sep 19 2015 -07:00	Latitude at start	49° 53.2' N	[automation]
		Longitude at start	128° 02.2' W	End time	00:20 Sep 20 2015 -07:00	
		Latitude	49° 42.4' N	Longitude	127° 41.6' W	
		Discharge port(s)	A	Tank(s)	1S	
		Volume	173.00 m³	Flow rate	3264.15 l/min	
		Minimum speed	19.90 kn	Distance off land	over 12nm	
September 20, 2015 00:20-07:00	Stop ZEN discharge from tanks	Start time	23:27 Sep 19 2015 -07:00	Latitude at start	49° 53.2' N	Simoni, Tonci (T.Simoni)
		Longitude at start	128° 02.2' W	End time	00:20 Sep 20 2015 -07:00	
		Latitude	49° 42.4' N	Longitude	127° 41.6' W	
		Discharge port(s)	A	Tank(s)	1S	
		Volume	173.00 m³	Flow rate	3264.15 l/min	
		Minimum speed	19.90 kn	Distance off land	over 12nm	
September 20, 2015 00:50-07:00	Start OTH discharge from tanks	Latitude	49° 36.4' N	Longitude	127° 30.1' W	[automation]
		Discharge port(s)	E,F	Tank(s)	6p, 6s	
		Distance off land	over 12nm	Remarks	6p 47 m3, 6s 25 m3	
September 20, 2015 00:50-07:00	Start OTH discharge from tanks	Latitude	49° 36.4' N	Longitude	127° 30.1' W	Simoni, Tonci (T.Simoni)
		Discharge port(s)	E,F	Tank(s)	6p, 6s	
		Distance off land	over 12nm	Remarks	6p 47 m3, 6s 25 m3	
September 20, 2015 01:59-07:00	Stop OTH discharge from tanks	Start time	00:50 Sep 20 2015 -07:00	Latitude at start	49° 36.2' N	[automation]
		Longitude at start	127° 29.7' W	End time	01:59 Sep 20 2015 -07:00	
		Latitude	49° 21.6' N	Longitude	127° 02.4' W	
		Discharge port(s)	E,F	Tank(s)	6p, 6s	
		Volume	64.00 m³	Flow rate	927.54 l/min	
		Minimum speed	19.00 kn	Distance off land	over 12nm	
		Remarks	6p 2 m3, 6s 6 m3			
September 20, 2015 01:59-07:00	Stop OTH discharge from tanks	Start time	00:50 Sep 20 2015 -07:00	Latitude at start	49° 36.2' N	Simoni, Tonci (T.Simoni)
		Longitude at start	127° 29.7' W	End time	01:59 Sep 20 2015 -07:00	
		Latitude	49° 21.6' N	Longitude	127° 02.4' W	
		Discharge port(s)	E,F	Tank(s)	6p, 6s	
		Volume	64.00 m³	Flow rate	927.54 l/min	
		Minimum speed	19.00 kn	Distance off land	over 12nm	
		Remarks	6p 2 m3, 6s 6 m3			
September 20, 2015 05:02-07:00	Environmental status	US - Untreated Sewage	not discharging	TS - Treated Sewage	not discharging	[automation]
		OTH - Other	not discharging	Ground Food Waste (Chute)	not discharging	
		Liquid Food Waste (Pulp)	not discharging	GW - Gray Water	not discharging	
		OWS - Oily Water Separator	not discharging	ZEN - Harmworthy AWWPS	not discharging	
		Incinerator 1 (A)	not discharging	Incinerator 2 (B)	not discharging	
		Offloading garbage	not discharging			

Time of entry	Name of entry	Details				Maker
September 20, 2015 05:02 -07:00	Environmental status	US- Untreated Sewage	not discharging	TS - Treated Sewage	not discharging	Tisliar, Drazen (DTisliar)
		OTH - Other	not discharging	Ground Food Waste (Chute)	not discharging	
		Liquid Food Waste(Pulp) .	not discharging	GW - Gray Water	not discharging	
		OWS - Oily Water Separator	not discharging	ZEN - Hamworthy AWWPS	discharging	
		Incinerator 1 (A)	not discharging	Incinerator 2 (B)	discharging	
		Offloading garbage	not discharging			
September 20, 2015 05:45 -07:00	Stop continuous ZEN discharge	Start time	00:00 Sep 20 2015 -07:00	Latitude at start	49° 46.5' N	[automation]
		Longitude at start	127° 49.5' W	End time	05:45 Sep 20 2015 -07:00	
		Latitude	48° 36.8' N	Longitude	125° 34.5' W	
		Discharge port(s)	D	Volume	42.00 m³	
		Flow rate	121.74 l/min	Minimum speed	19.80 kn	
		Distance off land	over 12nm			
September 20, 2015 05:45 -07:00	Stop continuous ZEN discharge	Start time	00:00 Sep 20 2015 -07:00	Latitude at start	49° 46.5' N	Tisliar, Drazen (DTisliar)
		Longitude at start	127° 49.5' W	End time	05:45 Sep 20 2015 -07:00	
		Latitude	48° 36.8' N	Longitude	125° 34.5' W	
		Discharge port(s)	D	Volume	42.00 m³	
		Flow rate	121.74 l/min	Minimum speed	19.80 kn	
		Distance off land	over 12nm			
September 20, 2015 05:48 -07:00	Stop incinerator 2	Latitude	48° 36.1' N	Longitude	125° 32.8' W	[automation]
		Distance off land	over 12nm			
September 20, 2015 05:48 -07:00	Stop incinerator 2	Latitude	48° 36.1' N	Longitude	125° 32.8' W	Tisliar, Drazen (DTisliar)
		Distance off land	over 12nm			
September 20, 2015 05:49 -07:00	VMS - Special Area	Latitude	48° 36.0' N	Longitude	125° 32.3' W	Tisliar, Drazen (DTisliar)

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Time of entry	Name of entry	Details				Maker
September 21, 2015 00:04 - 07:00	Environmental status	US - Untreated Sewage	not discharging	TS - Treated Sewage	not discharging	[automation]
		OTH - Other	not discharging	Ground Food Waste (Chute)	not discharging	
		Liquid Food Waste(Pulp)	not discharging	GW - Gray Water	not discharging	
		OWS - Oily Water Separator	not discharging	ZEN - Hamworthy AWWPS	not discharging	
		Incinerator 1 (A)	not discharging	Incinerator 2 (B)	not discharging	
		Offloading garbage	not discharging			
September 21, 2015 00:04 - 07:00	Environmental status	US- Untreated Sewage	not discharging	TS - Treated Sewage	not discharging	Boltje, Hylke (H Boltje)
		OTH - Other	not discharging	Ground Food Waste (Chute)	not discharging	
		Liquid Food Waste(Pulp)	not discharging	GW - Gray Water	not discharging	
		OWS - Oily Water Separator	not discharging	ZEN - Hamworthy AWWPS	not discharging	
		Incinerator 1 (A)	not discharging	Incinerator 2 (B)	not discharging	
		Offloading garbage	not discharging			
September 21, 2015 05:01 - 07:00	Environmental status	US - Untreated Sewage	not discharging	TS - Treated Sewage	not discharging	[automation]
		OTH - Other	not discharging	Ground Food Waste (Chute)	not discharging	
		Liquid Food Waste(Pulp)	not discharging	GW - Gray Water	not discharging	
		OWS - Oily Water Separator	not discharging	ZEN - Hamworthy AWWPS	not discharging	
		Incinerator 1 (A)	not discharging	Incinerator 2 (B)	not discharging	
		Offloading garbage	not discharging			
September 21, 2015 05:01 - 07:00	Environmental status	US- Untreated Sewage	not discharging	TS - Treated Sewage	not discharging	Tisliar, Drazen (DTisliar)
		OTH - Other	not discharging	Ground Food Waste (Chute)	not discharging	
		Liquid Food Waste(Pulp)	not discharging	GW - Gray Water	not discharging	
		OWS - Oily Water Separator	not discharging	ZEN - Hamworthy AWWPS	not discharging	
		Incinerator 1 (A)	not discharging	Incinerator 2 (B)	not discharging	
		Offloading garbage	not discharging			

