



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

Northwest Regional Office

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 Bellevue, WA 98008

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Inspection Date August 5, 2013	Permit Number NA	County King	Receiving Waters Marine Waters	Ecology Inspector Amy Jankowiak
Entry Time 9:01 am	Photos Taken	Samples Taken	Inspection Announced	Discharges to: <input checked="" type="checkbox"/> Surface Water
Exit Time 10:55 am	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Ground Water <input type="checkbox"/> Dewater <input type="checkbox"/> POTW

Name and Location of Site Inspected: REGATTA, Oceania Cruises Pier 66 Seattle, Washington On-Site Representative(s): <i>Name/Title/Phone/e-mail</i> Davor Dragojevic, Environmental Officer REG_EnvOfficer@regatta.oceniacruz.com Responsible Official(s): <i>Name/Title/Address/Phone/e-mail</i> James S. Mitchell, Director – Environment & Public Health Prestige Cruise Holdings (Oceania Cruises ~ Regent Seven Seas Cruises) 8300 NW 33 rd St, Suite 100, Miami, FL 33122 305-514-4836; JMitchell@prestigecruiseholdings.com	Additional Participants/Inspectors: Other Facility Data: Notification made to James S. Mitchell on July 31, 2013
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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 checked="" 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: 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:	

NOT APPLICABLE

<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 waste products appear to be managed 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 exchanges are reported to not occur on this route.
<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?	<2% sulfur content is used throughout the route.

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 Oceania Cruises REGATTA on August 5, 2013. The main contact on board the REGATTA was Davor Dragojevic, Environmental Officer (EO) for the REGATTA. Prior notification of the visit was given on July 31, 2013 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 REGATTA is not approved to discharge wastewater in MOU waters.

The REGATTA was built in 1998, and is 593.7 feet long with a width of 83.5 feet. The passenger capacity is approximately 780 with a crew capacity of about 370 (currently about 684 passengers).

The REGATTA is scheduled for 7 port calls in Seattle and conducts a variety of length cruises between 1 week and 20 days between Seattle Port Calls and sometimes calls in Vancouver, B.C. between June 4, 2013 and August 5, 2013. This is the first season that Oceania Cruises has called on Seattle.

Inspection

I arrived and boarded the ship (photo #01) at about 9:01 am and began with introductions and a plan for the day with Davor Dragojevic, EO. We discussed various waste streams and discharge protocols. We toured the garbage and recycling areas, food waste pulper, the Triton Water Membrane Bio-Reactors (MBR) advanced wastewater treatment system (AWTS) and the oily bilge water separator. We reviewed the various discharge and environmental records in the Engine Control Room (ECR) and on the Bridge. The inspection was then finalized with a debriefing and I disembarked the vessel at about 10:55 am.

Discharge Types and Protocols in MOU waters, Washington State waters or the Olympic Coast National Marine Sanctuary (OCNMS) (MOU related waters):

The discharge protocol starts with a plan before departure to be consistent with company rules and local requirements. Discharges of blackwater, wastewater residual solids, oily bilge, and food waste occur outside of 12 nautical miles from land (outside of MOU related waters). Graywater is discharged outside of 4 miles. The discharge protocol includes the Bridge staff logging when they enter and exit both 12 miles and 4 miles from shore (photo #24). The Bridge staff calls the ECR notifying the ECR staff when they are in these discharge locations which are all confirmed by signatures. The discharge ports or chutes are padlocked and the Bridge staff only have access to the keys (photo #25). All discharges are logged and reviewed by the EO. There have been no reported problems with the communications between the Bridge and the ECR or with any discharges. No discharges of any kind occur in the Olympic Coast National Marine Sanctuary OCNMS. For black water and gray water, the latitude and longitude coordinates are recorded in the *Sewage and Graywater Discharge Record Book*. 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. All wastewater discharge records that were reviewed appeared to be in compliance with the MOU and did not occur in MOU waters, Washington State waters or the Olympic Coast National Marine Sanctuary (OCNMS) (MOU related waters).

Residual solids from the AWTS are collected in and then discharged 12 miles outside of MOU related waters.

Oily bilge water is treated with a Westfalia oily water separator (photo #23). A white box (photo #22) is used to only allow discharges at less than 15 ppm oil content maximum. The discharge protocol is to discharge treated oily bilge at less than 10 ppm outside of MOU related waters.

Ballast water exchanges do not occur on this route, but if an emergency arose, permission to exchange would be requested.

There is one swimming pool and three spas on the vessel. Pool and spa water is discharged overboard outside of MOU related waters approximately every 72 hours. Spa water is discharged overboard outside of MOU related waters every 72 hours.

Food waste is collected in various locations, is sorted and then sent through a pulper (photo #09). Pulped food waste and galley water is discharged outside of MOU related waters. A food chute is used for food waste including bones and other food waste which the pulpers can't take. Records reviewed were consistent with this protocol. Sorting is periodically checked and monitored to ensure only allowed food waste gets discharged. Coffee grounds are separated prior to the pulper to prevent blockage. Galleys use phosphate free and non-toxic detergents and degreasers. Used cooking oil is discharged with food waste.

Decks runoff goes to scuppers and then overboard. There is no chemical storage on the decks. NPDES Vessel General

Permit (VGP) requirements are followed for deck runoff. Above water hull cleaning is done with fresh water only. Paint chipping and painting is rarely done in port upon and is done with port approval and best management practices (BMPs).

Dry cleaning is only with PERC which is collected, labeled and offloaded to shore as hazardous waste.

Any photo waste is collected and offloaded to shore as hazardous waste. Fluorescent bulbs (photos #06 and #08) are offloaded as hazardous waste and not crushed on board. Hazardous waste materials include items such as oily sludge, incinerator ash, some aerosols which punctured with aerosol removal system (photo #04), sharps, used cartridges and filters, electronics and batteries (photo #07). Hazardous waste is typically offloaded in Canada. Hazardous waste logs were reviewed and appear to be consistent with MOU requirements.

Unused or outdated pharmaceuticals and narcotics are typically incinerated, although some may be sent back to the manufacturer. There are no drains in the medical facility. Sharps are off-loaded as bio-hazardous waste and red bagged medical waste is incinerated. Oily rags, dry garbage, paper, and some cardboard are incinerated. Incinerators are only operated once 4 miles from land (photo #10). Incinerator ash is offloaded as hazardous waste and tested annually to ensure non-metals status. Recent results have passed for non-metals.

Solid waste (garbage, recyclables, etc) is collected (photo #02) sorted (photo #03) and either reused, recycled, incinerated or offloaded to shore as appropriate. The garbage record book was reviewed and showed consistency with requirements.

Glass, broken china, some plastics, scrap metals, aluminum (photo #05), some cardboard, wood pallets and paper and other items are recycled.

Less than 2% sulfur content fuel is used throughout the route.

Freshwater is bunkered in and produced on board via evaporators.

Black water and Gray water System:

The REGATTA uses a Triton Water MBR AWTS (photo #12) for blackwater and the majority of graywater. Some graywater is held untreated and discharged outside of MOU related waters. The vessel has 850 cubic meters of holding capacity for graywater which is about 3 days worth and 86 cubic meters of holding capacity for blackwater which is about 5 days worth. There are two separate Triton MBR units on the vessel with control panels for operation (photo #13). Black water and graywater are sent to separate holding tanks (photo #11) by gravity. Wastewater is then sent to one of two screens (photo #21). The solids from the screen are held (photo #20) and later discharged outside of 12 miles and outside of MOU related waters along with any solids removed from the MBR units. From the screens, blackwater and graywater (typically 20% blackwater) is sent to the MBR tanks (photo #14) where air is added for biological treatment. Wastewater then flows through the membrane filters and is sent out as permeate. The permeate is then sent to a ultraviolet light (UV) disinfection unit. There are two Trojan UV units (photos #15 and #16) for the vessel, one for each Triton train. From the UV, effluent is either discharged out the discharge port (photo #18) if in an area where discharge is allowed, or it is sent to a holding tank to pass through the Triton system again. Currently, effluent from the UV is held and discharged outside of MOU related waters.

There is one dedicated engineer who operates and maintains the Triton systems along with the EO. The Triton system includes continuous monitoring of pH (photo #17) and turbidity (photo #19)/total suspended solids (TSS). If the system has a TSS greater than 24, the system shuts down and does not allow discharges to occur. This has reportedly not occurred in recent history. There is also a lab on site (ECR) for sampling and analyzing chlorine, TSS, coliform, biochemical oxygen demand (BOD) and chemical oxygen demand (COD). The ability to monitor and analyze on the vessel allows for quick adjustments for process control of the system.

The Triton system was installed in 2011, however, the membranes had to be replaced recently due to an event of high chlorine/chemical cleaners to the system which caused foaming and bacteria to die off. The staff is now more careful about how chlorine and chemicals are added to the Triton system. The EO also had some questions about the chlorine limits identified in the Alaska discharge permit and how recent results from Admiralty should be compared to the limit. As this is a question about the Alaska permit, I deferred to ADEC for those questions, however, it appears that it is a question of the chlorine test's detection limit and the permit and ADECs interpretation of those results.

Conclusions and Recommendations

It is recommended that staff continue to work towards high functioning wastewater treatment systems. The protocols for discharges are very clear. Records were orderly and appeared consistent with the MOU. Staff was very knowledgeable

of protocols and treatment systems.

Attachments:
Photographs

Copies to:

James S. Mitchell, Director – Environment & Public Health, Prestige Cruise Holdings

Davor Dragojevic, Environmental Officer, REGATTA

Mark Toy, Health

Greg Wirtz, NWCCA

Stephanie Jones Stebbins, Port of Seattle

Kevin Fitzpatrick, Ecology

Mark Henley, Ecology

Amy Jankowiak, Ecology

Central Files: Oceania Cruises – REGATTA; WQ 6.1

Section H: Signatures

Name and Signature of Inspector:

Amy Jankowiak



Agency/Office/Telephone:

Department of Ecology
Northwest Regional Office
Water Quality Program
Municipal Compliance Specialist
425-649-7195

Date

8/6/13

Name and Signature of Reviewer:

Mark Henley



Agency/Office/Telephone:

Department of Ecology
Northwest Regional Office
Municipal Unit Supervisor
425-649-7103

Date

8/6/13



PHOTO #01 . DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050255
DESCRIPTION: REGATTA VESSEL

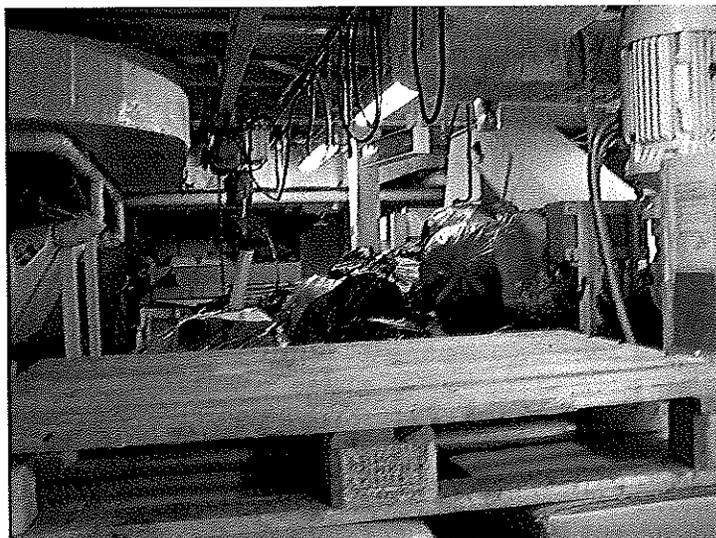


PHOTO #02 . DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050256
DESCRIPTION: GARBAGE/RECYCLING ROOM



PHOTO #03 . DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050258
DESCRIPTION: GARBAGE/RECYCLING COLOR CODING



PHOTO #04. AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050259
DESCRIPTION: GARBAGE/RECYCLING - AEROSOL REMOVAL SYSTEM

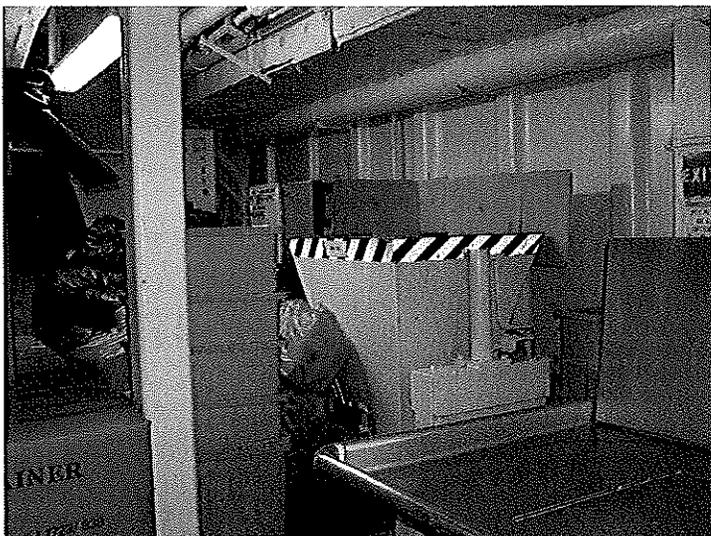


PHOTO #:05 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050260
DESCRIPTION: GARBAGE/RECYCLING -ALUMINUM COMPACTOR



PHOTO #:06 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050261
DESCRIPTION: GARBAGE/RECYCLING - LIGHT BULB COLLECTION

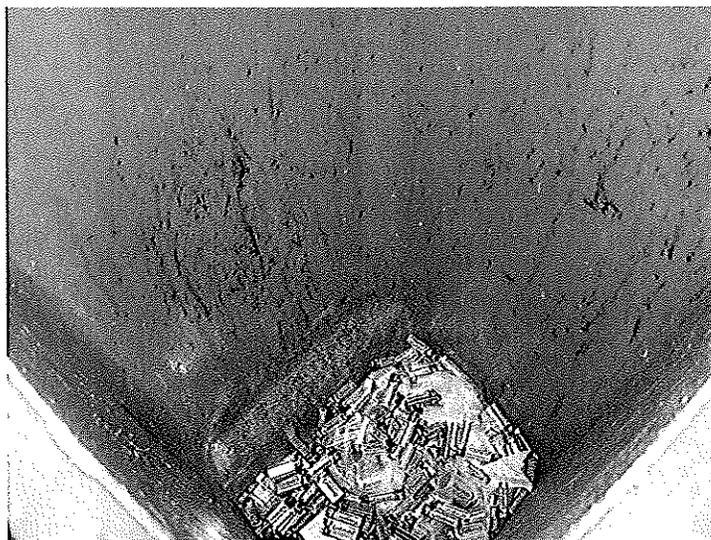


PHOTO #:07 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050262
DESCRIPTION: GARBAGE/RECYCLING - BATTERY COLLECTION



PHOTO #:08 AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050263
DESCRIPTION: GARBAGE/RECYCLING - LARGE BULB COLLECTION

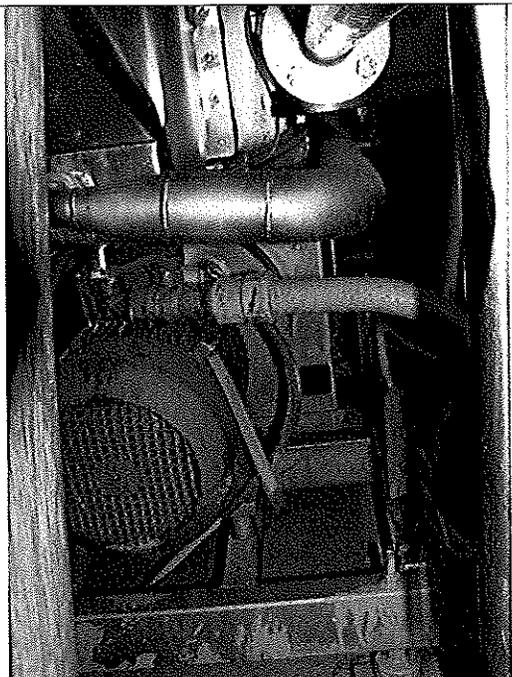


PHOTO #:09 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050264
DESCRIPTION: FOOD PULPER



PHOTO #:10 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050265
DESCRIPTION: GARBAGE/RECYCLING – SIGNAGE ON
INCINERATION USE

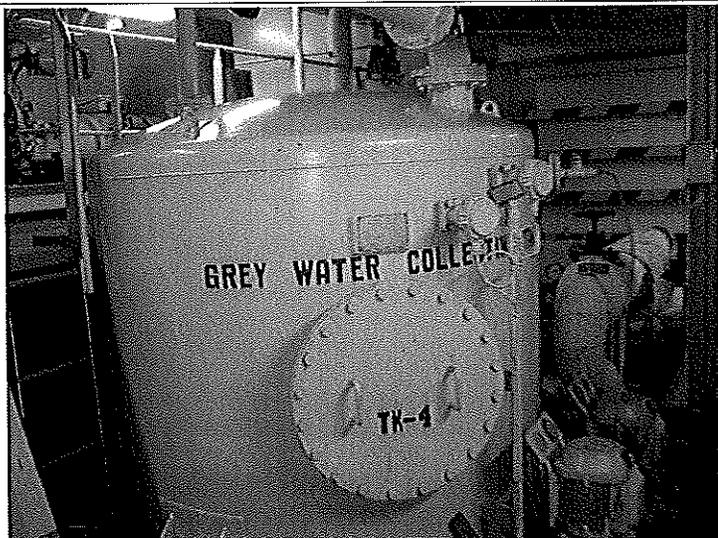


PHOTO #:11 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050266
DESCRIPTION: TRITON – GRAY WATER COLLECTION TANK

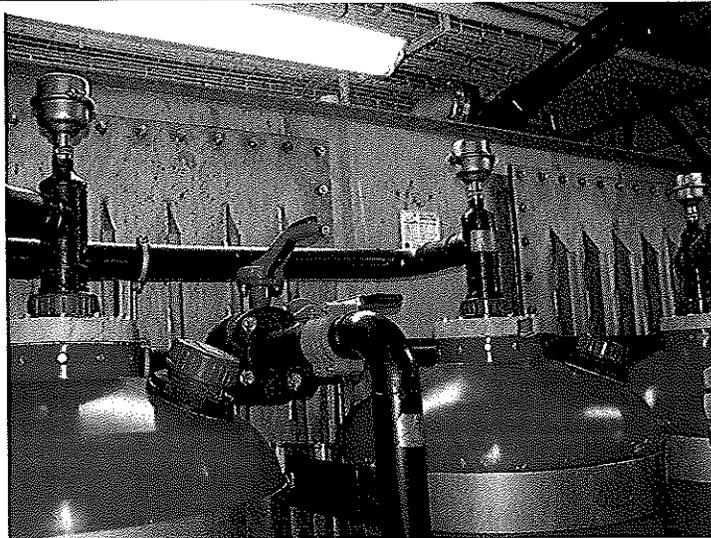


PHOTO #:12 AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050267
DESCRIPTION: TRITON – MAIN TANKS/MEMBRANES BEHIND

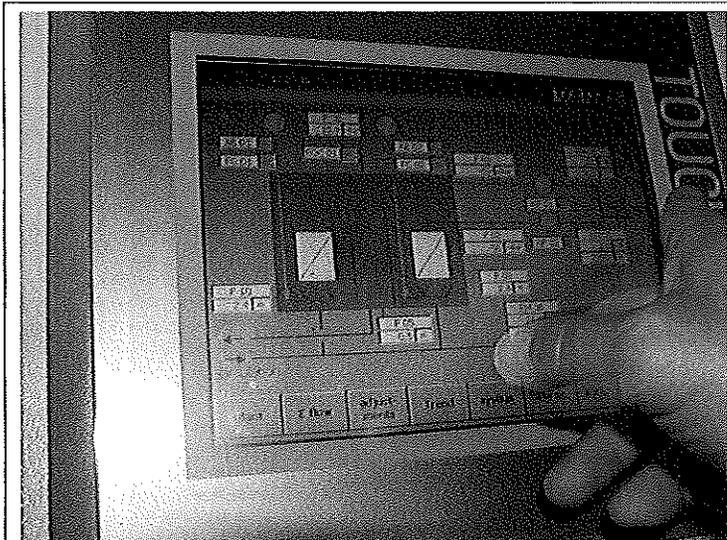


PHOTO #:13 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050268
DESCRIPTION: TRITON – CONTROL PANEL

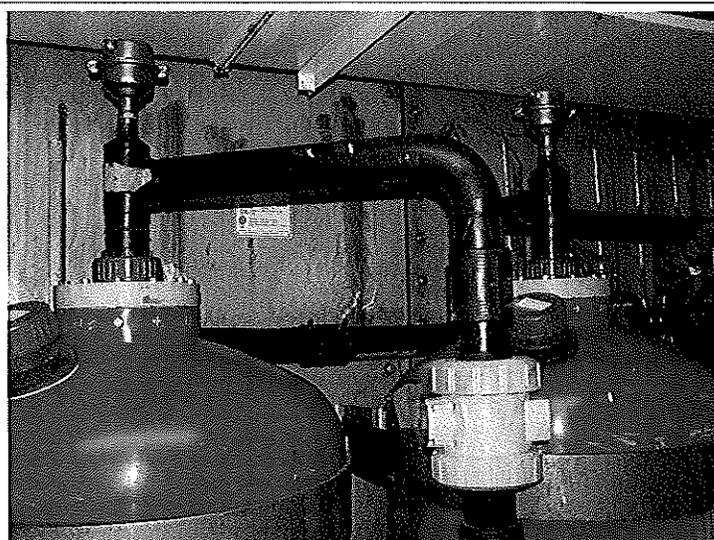


PHOTO #:14 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050269
DESCRIPTION: TRITON – 2ND SYSTEM

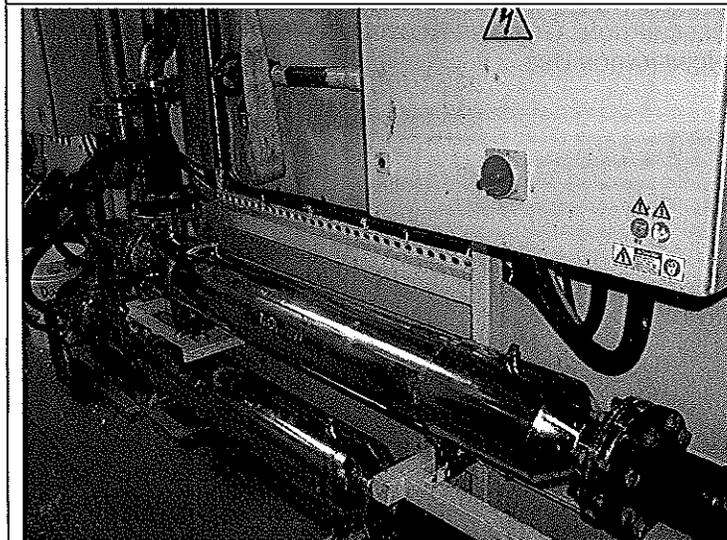


PHOTO #:15 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050270
DESCRIPTION: TRITON – TROJAN - ULTRAVIOLET DISINFECTION
UNITS (2)

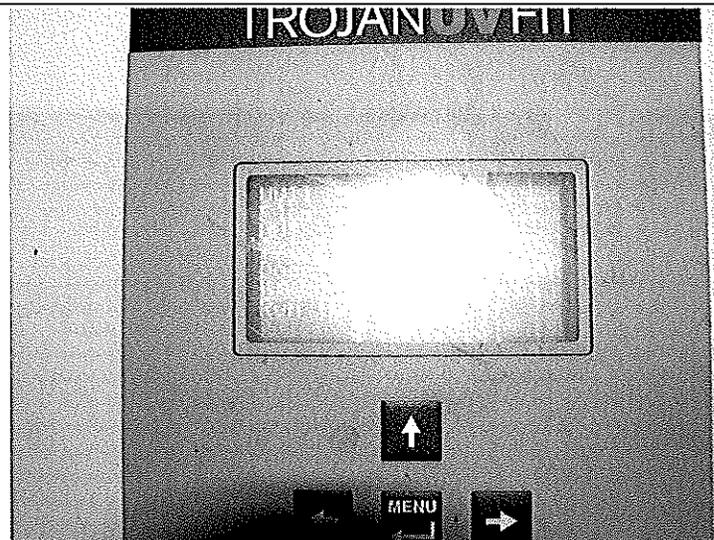


PHOTO #:16 AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050271
DESCRIPTION: TRITON – TROJAN UV CONTROL PANEL

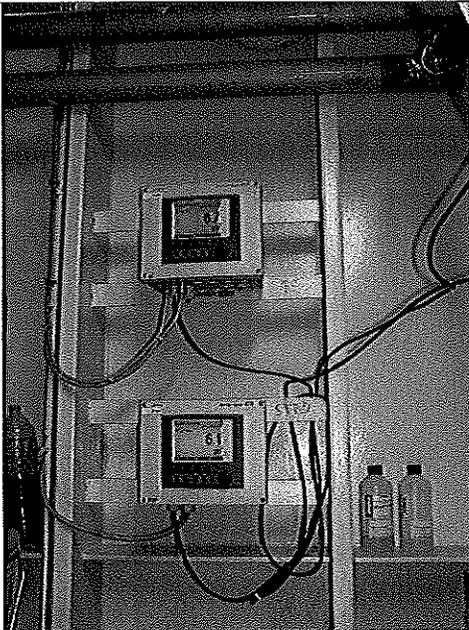


PHOTO #:17 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050272
DESCRIPTION: TRITON - PH METERS

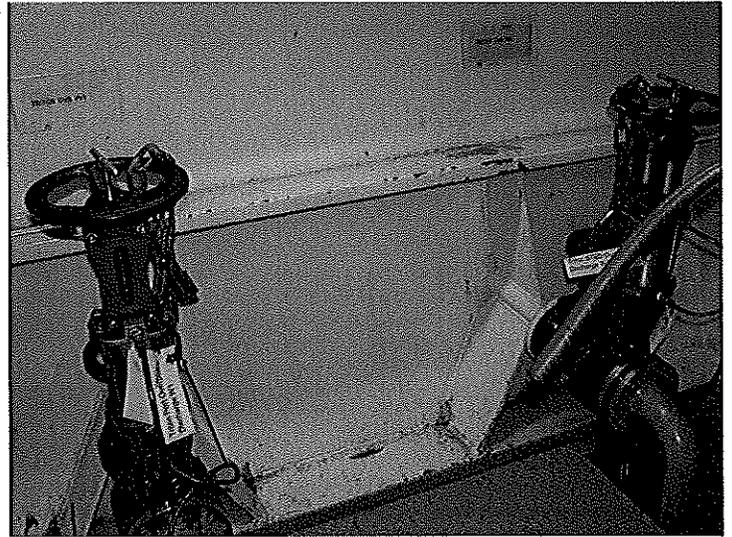


PHOTO #:18 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050273
DESCRIPTION: TRITON - TSG DISCHARGE PORTS

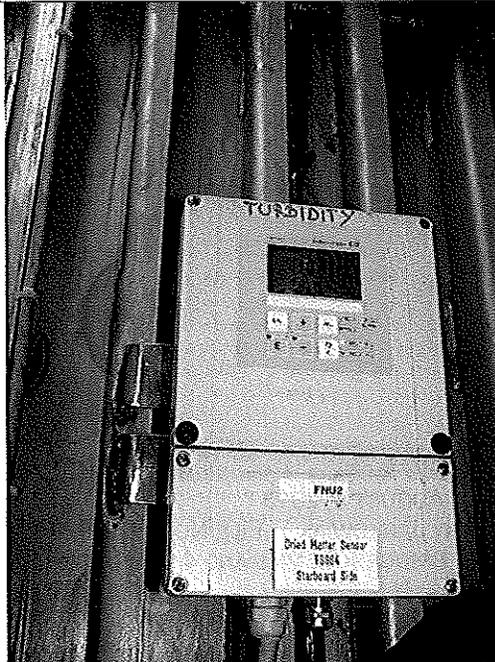


PHOTO #:19 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050274
DESCRIPTION: TRITON - TURBIDIMETER



PHOTO #:20 AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050275
DESCRIPTION: TRITON - SCREENINGS

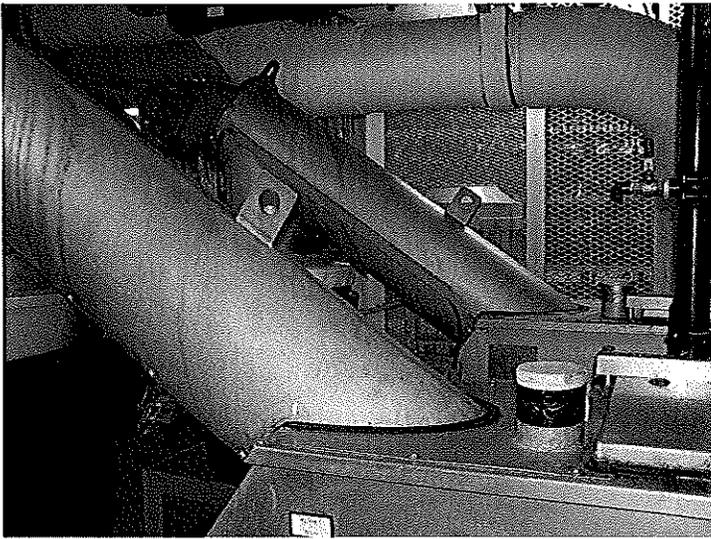


PHOTO #:21 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050276
DESCRIPTION: TRITON – SCREENINGS

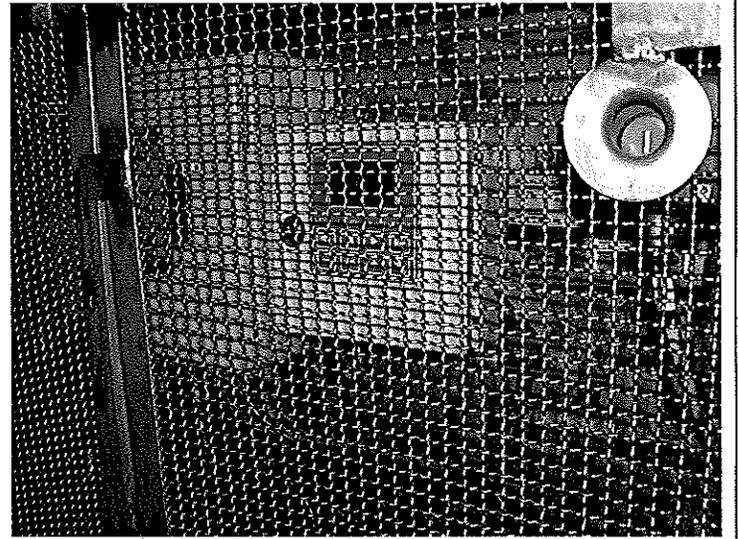


PHOTO #:22 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050277
DESCRIPTION: OILY WATER SEPARATOR – BILGE – WHITE BOX



PHOTO #:23 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050278
DESCRIPTION: OILY WATER SEPARATOR – OILY BILGE WATER

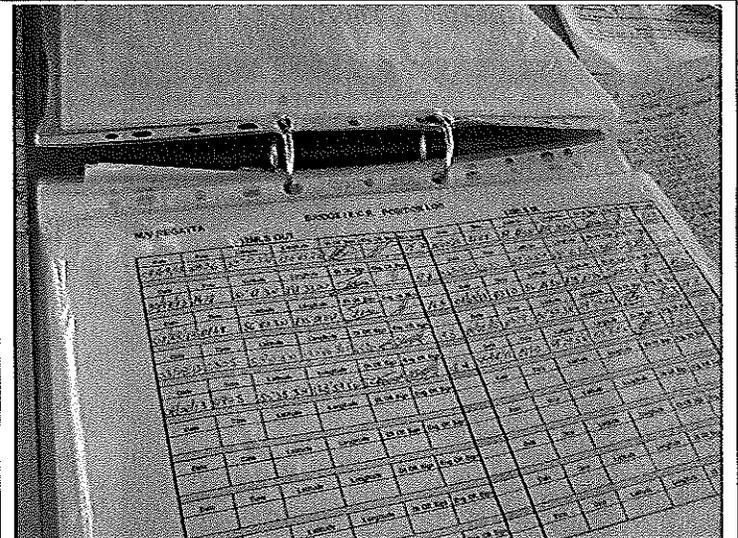


PHOTO #:24 AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050279
DESCRIPTION: BRIDGE – 12 MILS AND 4 MILS LOG BOOK

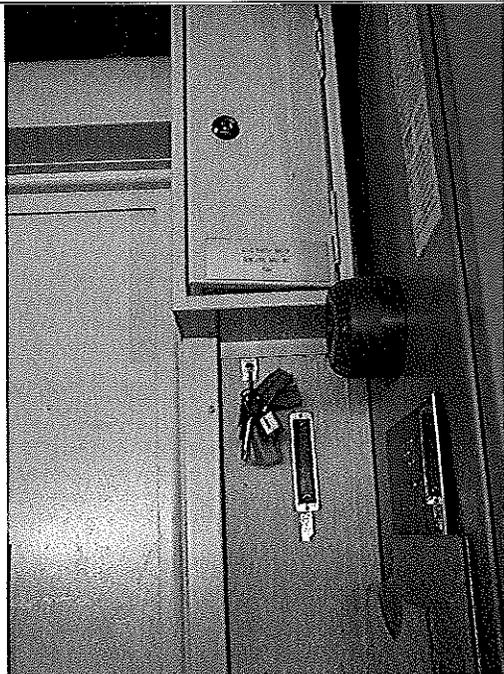


PHOTO #:25 DATE: AUGUST 5, 2013
TAKEN BY: AMY JANKOWIAK FILE No.: P8050281
DESCRIPTION: BRIDGE – DISCHARGE PORT (CHUTE) PADLOCK
KEYS

