



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

Northwest Regional Office  
 P.O. Box 330316  
 Shoreline, WA 98133  
 Phone: (425) 213-4230

<b>Inspection Date</b> September 9, 2025	<b>Permit Number</b> NA	<b>County</b> King	<b>Receiving Waters</b> Marine Waters	<b>Ecology Inspector</b> Evan Dobrowski
<b>Entry Time 9:00 AM</b>	<b>Photos Taken</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Samples Taken</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Inspection Announced</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Discharges to:</b> <input checked="" type="checkbox"/> Surface Water <input type="checkbox"/> Ground Water <input type="checkbox"/> Dewater <input type="checkbox"/> POTW
<b>Exit Time 11:00 AM</b>				

<b>Name and Location of Site Inspected:</b> OCEANIA RIVIERA, Oceania Cruises Norwegian Cruise Lines Pier 66, Seattle, Washington	<b>Additional Participants/Inspectors:</b>
<b>On-Site Representative(s): Name/Title/Phone/e-mail</b> Fevola Vincenzo, Environmental Officer e: rva_envofficer@oceaniacruises.com	
<b>Responsible Official(s): Name/Title/Address/Phone/e-mail</b> Sarah Brown, Sr. Director, Environmental Operations Norwegian Cruise Lines  e: sbrown@nclcorp.com	<b>Other Facility Data:</b> Notification made to Sarah Brown and Robert Wilkinson on August 26, 2025.  Flag: Marshall Islands

**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	
<u>Turbidity or Equivalent:</u> Last Calibration: Trigger Level for Early Alarm: <span style="font-size: 2em; opacity: 0.5;">NOT APPLICABLE</span> 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	
<u>Disinfection Effectiveness Monitoring:</u>	
<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	
<u>Disinfection System:</u>	



<input checked="" type="checkbox"/>	Photo/X-Ray Waste Managed Properly (fluids, cartridges,...) and landed ashore	Photo and x-ray waste is not generated on this vessel as everything is digital. Protocols are consistent with MOU requirements
<input checked="" type="checkbox"/>	Dry-Cleaning Wastes and Byproducts (fluids, sludge, filter materials...) Managed Properly (PERC – haz waste – landed ashore)	Dry cleaning protocols are consistent with MOU requirements.
<input checked="" type="checkbox"/>	Unused/Outdated Pharmaceuticals Managed Properly (safely disposed of)	Unused or outdated pharmaceuticals management protocols are consistent with MOU requirements.
<input checked="" type="checkbox"/>	Fluorescent and Mercury Vapor Lamp Bulbs Managed Properly (prevent release of mercury)	Fluorescent and mercury vapor lamp bulbs protocols for management are consistent with 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 management protocols are consistent with MOU requirements.
<input checked="" type="checkbox"/>	Incinerator Ash Managed Properly and minimized volume (haz waste segregation and annual testing)	Incinerator ash management is consistent with MOU requirements.
<input checked="" type="checkbox"/>	Oily Bilge Water Managed Properly (<15 ppm, no visible sheen and underway)	Oily bilge water protocols are consistent with 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)	When needed the vessel employs ballast water exchange outside 200 nm and treatment.
<input checked="" type="checkbox"/>	OCNMS rules and regs followed	The discharge protocols are consistent with MOU requirements and are not to occur in OCNMS waters.

**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 protocols are consistent with MOU requirements.
<input checked="" type="checkbox"/>	How is maintenance performed on the outside of the vessel (paint chipping, painting, etc)	Outside vessel maintenance protocols are consistent with MOU requirements.
<input checked="" type="checkbox"/>	Sculleries and Galleys – type of detergents and degreasers used (phosphate free and non-toxic)?	Restaurants and galleys use detergents and degreasers that are non-toxic and phosphate free.
<input checked="" type="checkbox"/>	How are food waste discharges handled (prevention of erroneous materials)?	Food waste discharge protocols are consistent with MOU requirements and records reviewed show no discharges in MOU related waters.
<input checked="" type="checkbox"/>	Medical sinks/floor drains, chem. stor areas wastes go where (plugged, blackwater, bilge)?	Medical sinks/floor drains were reported by the environmental officer as going to blackwater tanks consistent with MOU requirements.
<input checked="" type="checkbox"/>	Where is pool and spa water discharged? Dechlorinated/debrominated and underway?	Pool and spa water protocols are consistent with MOU requirements.
<input checked="" type="checkbox"/>	What type of fuel is used and percent sulfur content?	<0.1% sulfur fuel content used onboard this vessel; the vessel is not equipped with EGCS.

**Other:**

**Section F: Sampling Results**

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

**Section G: Summary of Findings/Comments**

## Introduction

Evan Dobrowski, Washington State Department of Ecology (Ecology) Northwest Regional Office, Water Quality Program (NWRO-WQ) conducted the inspection of the OCEANIA RIVIERA, a vessel owned by Oceania Cruises a subsidiary of Norwegian Cruise Lines on September 9, 2025. The main contact on board the OCEANIA RIVIERA was Fevola Vincenzo, Environmental Officer (EO) for the vessel. Prior notification of the visit was given on August 26, 2025, 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 OCEANIA RIVIERA is not approved to discharge wastewater in MOU waters.

The OCEANIA RIVIERA launched in 2011 and is 785 feet long with about a 24-foot draft. The passenger capacity is approximately 1328 with a crew capacity of 772. The vessel has four diesel generators and conventional fixed propellers. OCEANIA RIVIERA was scheduled for 9 port calls in Seattle from June 26, 2025 to September 18, 2025.

## Inspection

I arrived and boarded the ship at 9:00 am and began with introductions and a plan for the day with Fevola Vincenzo, EO. We headed to the Engine Control Room and discussed the various waste streams of the vessel and looked at the paper logbooks. We then discussed the vessel itinerary and locations where discharges would occur. We made a plan with Fevola Vincenzo, EO and two engineering officers regarding what systems we wanted to tour and we began the vessel tour. We then toured the blackwater marine sanitation devices, the oily bilge treatment, food waste systems, and the incinerator with the engineering staff and the EO. After this we continued the tour with Fevola Vincenzo, EO and we reviewed the trash and recycling sorting facility, hazardous and non-hazardous storage locations, and ended the inspection at the bridge discussing the route and discharge protocols before disembarking the vessel at 11:00 am.

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

The discharge protocols start with voyage plans for each itinerary prior to that route. A matrix is developed for each route upon a detailed review of locations for allowed discharges. The matrix for the Seattle/Alaska route details no discharges in MOU related waters, for

- bilge water;
- blackwater;
- graywater;
- food waste;
- ballast water; and
- pool and spa water.

The matrix also shows that Puget Sound is a designated No Discharge Zone for sewage. The matrix is overlaid onto the navigational screen to show the location where discharges stop just before the OCNMS and start upon entering Canadian waters when leaving Seattle.

The protocol for discharges is a closed-loop process. There is communication between the ECR Officer on Watch and the Bridge staff for approval from the Bridge that the vessel is in an area authorized for discharge. The overboard valves have a lock which is electronically controlled. Some valves also had manual keyed locks, the keys for the locks are found in the engine control room. For the discharge valves only engineering and environmental officers have access to these keys. The discharge valves are then controlled electronically after the locks are removed and the discharges are logged into the system. Any change to the logs shows who made the change by staff passcode. Any changes are reviewed by the Bridge. The GPS system is connected to the log for accurate logging of the discharge location. The discharges all to occur outside of MOU related waters (Washington State waters, the Strait of Juan de Fuca up to the border with Canada and the OCNMS). For black water and gray water, the latitude and longitude coordinates are recorded in the system along with all other logs. The date, time and location of both the start and the stop of the discharges are recorded, along with port location, effluent type, speed, tank name and volume, valve name, and status of valve. The maker of the entry and reviewer/signer is also included, along with any notes. Navigation on the bridge shows clearly marked electronic maps indicating discharges to stop 13 miles outside the OCNMS (12 miles from shore and a one-mile buffer).

Discharge Types:

Wartsila Membrane Bioreactor Wastewater Treatment System or Membrane Bioreactor (MBR):

There are two MBR's on the vessel and the system is designed to treat both black and grey water; but can be used in several methods to segregate black and grey water. The first step is a prescreening press which filters out coarse solids

for both black and grey water. The second step is an aerated blackwater/greywater holding tank which feed to the MBR 1st stage of antifoam dosing and mixing. After this is the biological processing (permeate tank) followed by a two stage MBR fine filtration process.

Black water, which includes toilet waste, and infirmity drains moves by vacuum to Evac collection tanks. From the collection tanks, it goes to the screener. Solids are sent to the biowaste tank, then can be sent to the incinerator but are currently only being discharged 12nm offshore and liquid moves to a tank and is then pumped through the system. Gray water consists of sink, shower, galley water, laundry water and potentially jacuzzi and pool water and is collected in one of two mixing tanks. From the mixing tanks, the liquid moves to the 5-step MBR for treatment. A defoamer can be used to control foam prior to the MBR treatment. Grease from the galleys is collected to prevent it from entering and interfering with the Wartsila MBR AWP.

Graywater, which includes accommodation and crew sink and shower water, galley water, laundry and possibly spa water is being mixed with ballast water and being discharged in this manner.

Dirty bilge water collected and is sent to one of two oily bilge tanks. Liquid moves to one centrifugal oily water separators (OWS).. The system includes two stages of filtration and recirculates at >5 parts per million (ppm) oil content with the oily content meter. Oily sludge is collected from the system and sent ashore by truck. Maintenance on the OWS's includes regular cleaning of the filters and other regular checks and maintenance. Prior to discharge, the liquid is sent through a white box which only allows discharges <15 ppm. The discharge protocol for this route is outside the MOU related waters. The Chief Engineer and the EO have the two separate keys and both need to be present to open the white box. There is a record each time the white box door is opened. The EO confirmed that he is not aware of any rerouting of oily bilge. The OWS was off and recirculating during the inspection and not discharging. If graywater tanks overflow or come in contact with oily bilge, the content is considered as oily bilge and treated through the OWS and the Captain and Chief Engineer are notified.

The OCEANIA RIVIERA uses graywater in various tanks for ballast and therefore does not do ballast water exchanges. Stability has not been an issue.

The OCEANIA RIVIERA has 1 salt water pool and 2 jacuzzies/spas which are fresh water. The pool is discharged >12nm and outside of MOU related waters and the water for the jacuzzies/spas can be sent to the graywater collection tanks for discharge outside of MOU related waters.

Food waste is screened for materials that would damage the pulper systems/biodigester such as utensils or large materials. The screened material is removed from the system. The rest of the food waste is fed into pulpers/biodigesters. The pulpers/biodigesters grind the food waste into liquid waste which is either reused through the system or sent to the greywater tanks. The effluent from the food waste pulper is deposited into the grey water tanks and is discharged outside of MOU related waters. Hard foods are either incinerated or landed ashore as USDA waste. Used cooking oil is sent ashore for recycling.

Deck runoff goes directly overboard. The VGP requirements are followed for prevention of any materials off the deck. Only non-toxic, phosphate free cleaners are used. Outside vessel maintenance is not being done at the Port of Seattle.

Laundry water is sent to the graywater collection tanks and discharged outside MOU related waters. Dry cleaning is conducted on this vessel using DF-2000.

No photo waste is generated onboard this vessel. X-rays are done digitally without any waste. Fluorescent bulbs are held for offloading ashore as hazardous waste. Hazardous waste materials are stored separately in various dedicated locations throughout the vessel and include items such as paints, thinners, oily rags and debris, incinerator ash, chemicals, aerosols photo waste, and some batteries. Bio-medical waste is incinerated with sharps being offloaded as biomedical waste ashore. Hazardous waste is not being offloaded in Seattle. At the time of this inspection there was no hazardous waste storage onboard due to a recent offload in Victoria.

Unused or outdated pharmaceuticals and narcotics are either destroyed onboard through incineration or are landed ashore via red medical bag waste. When medical waste is incinerated the Lead Nurse is required to transport the medical waste and witness incineration. Expired IV fluids, saline solution, and injectables are discarded down medical drains.

Garbage such as domestic and operational waste is offloaded. Some USDA wastes, some food waste, biomedical bagged waste, some plastics, cardboard, and paper is incinerated. Ash is tested annually and offloaded as hazardous waste. The garbage record book was reviewed and showed consistency with requirements.

Glass, heavier plastics, aluminum, tin and steel cans, batteries, used cooking oil and other items are recycled.

The OCEANIA RIVIERA is not equipped with an exhaust gas cleaning system (scrubber). While in MOU waters the vessel is switching over to MGO fuel < 0.1% sulfur.

The vessel has a clear process for notifications for any non-compliance incident.

Conclusions and Recommendations

The protocols for discharges are clear. Records were orderly and appeared consistent with the MOU.

Copies to:

Fevola Vincenzo, Environmental Officer, OCEANIA RIVIERA

Alex Adams, Port of Seattle

Amy Jankowiak, Ecology

Central Files: Norwegian Cruise Line – OCEANIA RIVIERA; WQ 6.1

**Section H: Signatures**

Name and Signature of Inspector:



Agency/Office/Telephone:

Department of Ecology  
Northwest Regional Office  
Water Quality Program  
206-594-0175

Date

November 20, 2025

**PHOTO ADDENDUM – OCEANIA RIVIERA  
OCEANIA CRUISES SEPTEMBER 9, 2025**



Photo # 1 Image: IMG\_3141 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of M/V OCEANIA RIVIERA



Photo # 2 Image: IMG\_3097 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of MBR treatment system mixing tank



Photo # 3 Image: IMG\_3103 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo Centrifugal Oil Water Separator filter.



Photo # 4 Image: IMG\_3106 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of UV filter component for the oily bilge filtration system.

**PHOTO ADDENDUM – OCEANIA RIVIERA  
OCEANIA CRUISES SEPTEMBER 9, 2025**



Photo # 5 Image: IMG\_3108 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of incinerator room.



Photo # 6 Image: IMG\_2807 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of sorting room and incinerator chute.

DISCHARGE DATE	TIME (GMT)	LAT	LONG	DISCHARGE PORT(S)	EFFLUENT TYPE	VOLUME (GAL)	FLOW RATE (GPM)	MINIMUM SPEED (KTS)	NOTES	PERSON-IN-CHARGE
START	18:20	02°02.2'N	102°21.1'W	A	Grey	251	600.19	14	12 min 100'	Evan
STOP	18:35	02°02.2'N	102°21.1'W							
REMARKS	22 AUGUST 2025									
DISCHARGE DATE <th>TIME (GMT)</th> <th>LAT</th> <th>LONG</th> <th>DISCHARGE PORT(S)</th> <th>EFFLUENT TYPE</th> <th>VOLUME (GAL)</th> <th>FLOW RATE (GPM)</th> <th>MINIMUM SPEED (KTS)</th> <th>NOTES</th> <th>PERSON-IN-CHARGE</th>	TIME (GMT)	LAT	LONG	DISCHARGE PORT(S)	EFFLUENT TYPE	VOLUME (GAL)	FLOW RATE (GPM)	MINIMUM SPEED (KTS)	NOTES	PERSON-IN-CHARGE
START	18:40	02°02.2'N	102°21.1'W							
STOP	18:57	02°02.2'N	102°21.1'W	C	Grey	79	110.74	14	12 min 100'	Evan
REMARKS	22 AUGUST 2025									
DISCHARGE DATE <th>TIME (GMT)</th> <th>LAT</th> <th>LONG</th> <th>DISCHARGE PORT(S)</th> <th>EFFLUENT TYPE</th> <th>VOLUME (GAL)</th> <th>FLOW RATE (GPM)</th> <th>MINIMUM SPEED (KTS)</th> <th>NOTES</th> <th>PERSON-IN-CHARGE</th>	TIME (GMT)	LAT	LONG	DISCHARGE PORT(S)	EFFLUENT TYPE	VOLUME (GAL)	FLOW RATE (GPM)	MINIMUM SPEED (KTS)	NOTES	PERSON-IN-CHARGE
START	19:20	02°02.2'N	102°21.1'W	D	Grey	230	120.15	14	12 min 100'	Evan
STOP	19:37	02°02.2'N	102°21.1'W							
REMARKS	22 AUGUST 2025									
DISCHARGE DATE <th>TIME (GMT)</th> <th>LAT</th> <th>LONG</th> <th>DISCHARGE PORT(S)</th> <th>EFFLUENT TYPE</th> <th>VOLUME (GAL)</th> <th>FLOW RATE (GPM)</th> <th>MINIMUM SPEED (KTS)</th> <th>NOTES</th> <th>PERSON-IN-CHARGE</th>	TIME (GMT)	LAT	LONG	DISCHARGE PORT(S)	EFFLUENT TYPE	VOLUME (GAL)	FLOW RATE (GPM)	MINIMUM SPEED (KTS)	NOTES	PERSON-IN-CHARGE
START										
STOP										
REMARKS										
NOTES										

Photo # 7 Image: IMG\_3116 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of blackwater/graywater paper record of discharge log.



Photo # 8 Image: IMG\_3118 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of key lock box

PHOTO ADDENDUM – OCEANIA RIVIERA  
OCEANIA CRUISES SEPTEMBER 9, 2025

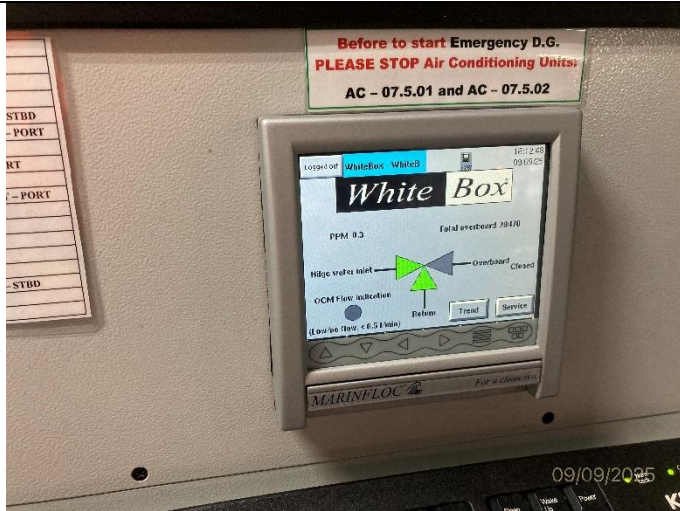


Photo # 9 Image: IMG\_3119 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of Marinfloc White Box readings inside the ECR.



Photo # 10 Image: IMG\_3120 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of food pulper/biodigester



Photo # 11 Image: IMG\_3123 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of battery and light bulbs collection buckets.



Photo # 12 Image: IMG\_3121 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo of glass crusher.

**PHOTO ADDENDUM – OCEANIA RIVIERA  
OCEANIA CRUISES SEPTEMBER 9, 2025**



Photo # 13 Image: IMG\_3124 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo showing hazardous waste storage location.



Photo # 14 Image: IMG\_3127 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo showing chemical storage room.



Photo # 15 Image: IMG\_3129 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo showing chemical storage area.

3. TYPE AND AMOUNT OF WASTE RECEIVED*		Quantity (m <sup>3</sup> )	Quantity (m <sup>3</sup> )
MARPOL Annex I - Oil			
City bilge water			
City residues (sludge)			
City tank washings			
City ballast water			
Scale and sludge from tank cleaning			
Other (please specify)			
MARPOL Annex II - NLS			
Category X substances			
Category Y substances			
OS - other substances			
MARPOL Annex IV - Sewage			
Blackwater / Greywater			
MARPOL Annex V - Garbage			
A. Plastics (NPL, PET)			
B. Food waste			
C. Domestic wastes (in 3 paper products, soap, glass, metal, bottles, crockery, etc. garbage & recycling)		49.8	
D. Cooking oil			
E. Insulator/foam			
F. Operational wastes (haz & non-haz)		2.36	
G. Animal carcasses		2.06	
H. Fishing gear			
I. E-waste			
J. Cargo residues (non-IME)			
K. Cargo residues (IME)			
MARPOL Annex VI - related			
Ozone-depleting substances and equipment containing such substances			
Exhaust gas-cleaning residues			

Photo # 16 Image: IMG\_3132 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo showing waste offload record.

PHOTO ADDENDUM – OCEANIA RIVIERA  
OCEANIA CRUISES SEPTEMBER 9, 2025



Photo # 17 Image: IMG\_3137 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo showing bunkering of fuel.

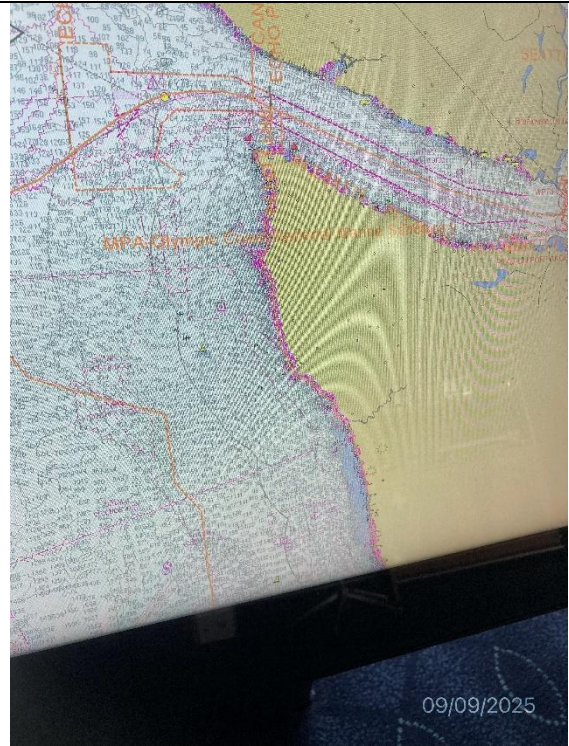


Photo # 18 Image: IMG\_3138 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo showing environmental control areas on navigational map.

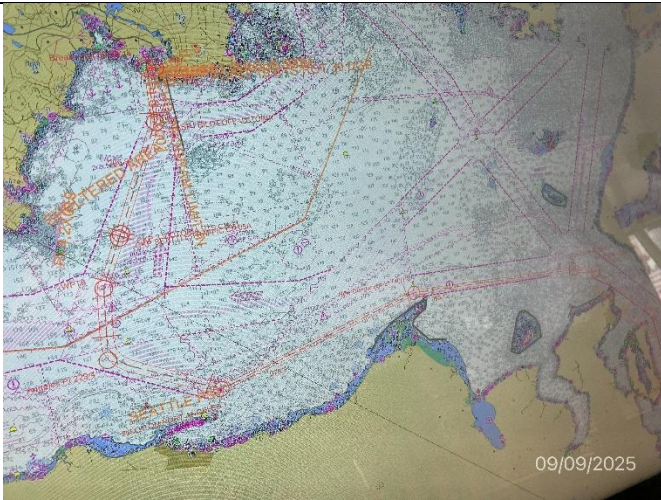


Photo # 19 Image: IMG\_3140 Date: 9/9/2025  
Taken by: Evan Dobrowski  
Description: Photo showing environmental control areas on navigational map.

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