



Consolidated Additional Observations

This questionnaire combines all standard Additional Observation Questions in one condensed questionnaire.

1. SOx Emissions Controls
2. Ballast Water Project
3. Combustion Source Project
4. Food Waste Project
5. Sea Intake Project

Findings can be reported in the spaces provided for each item; feel free to use additional space for notes and information. Sketches, diagrams, photos of handwritten notes, or copies of schematics are welcome.

Several questions are checks on previous Additional Observations, check these against the previous observations. If a ship is required to have an additional observation project on a section below, skip the section below. For example if a combustion source project is required leave the section in this project blank.

A: General Information

Report Start Date:	May 27, 2018
Ocean Ranger starting report:	jonathan.driggers
Ship Name:	Princess Golden
Ship Code:	PGL
Is this a revision of a previous report (Y/N)?	No

1: SOx Emissions Controls

1.1 Describe the SECA compliance plan.	This section not completed per ADEC instructions; SOx (Scrubber) Report not done in the past, and will be done this 2018 season.
1.1 Completed by:	Jonathan Driggers (jonathan.driggers)
1.3 Is the vessel operating or installing an exhaust gas scrubber system in the 2018 Alaska Cruise Season? If yes, complete section 1A. Otherwise skip to section 2.	No

1.a: SOx Emissions Controls

2: Ballast Water

2.1 Check the previous Additional Observation Reports (section 1.1) list of tanks used for Ballast Water storage. Including volumes and locations. List any changes.	This section not completed per ADEC instructions; Ballast Report not done in the past, and will be done this 2018 season.
2.1 Completed by:	Jonathan Driggers (jonathan.driggers)

3: Combustion Sources

3.1 Are there any changes from the previous Additional Observation projects (Section 2.1) on the propulsion system question on brief description of propulsion and power systems used on board (Diesel direct/reduction gears/PTO's DE, FP, CPP Azipod, etc.)?	<p>No; Information from 2015 Report is same and as follows:</p> <p>SIMAR DRIVE SYNCHRO PROPULSION SYSTEM Eight transformers, Each 6,000V/3000V, 6,200 KVA for supply to SIMAR DRIVE syncro converters in moulded resin. Four transformers for each shaft. Air/water cooled.</p> <p>SIMAR DRIVE SYNCHRO PROPULSION SYSTEM Propulsion Motors: Two SIEMENS 12 pulse type synchro-converter feeding motors, type 1DEQ6147-6DC08-Z. 2*9,500 Mega Watts each for speed of 143 rev/min: 2*4.05 kV/3 ph 19.067 Hz with brushless asynchronous</p>
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exciter and diodes (AC power control 690 V, 60 Hz). One motor for each shaft. It's possible to operate with HALF MOTOR (six pulse converter) Rotor at 143 rpm:
Rated field current at full load: 389A
Rated field voltage at full load: 248V
Rated stator voltage exciter machine: 522V
Rated stator current exciter machine: 152A
Cooling: Closed-circuit ventilation by forced air is applied with 2*2 fresh water air heat exchanger.

3.1 Completed by:

Jonathan Driggers (jonathan.driggers)

3.2 Are there any changes from the previous Additional Observation projects (Section 1.1) on the list of the combustion equipment used for Power/Propulsion (make/model/output)?

As far as changes from the 2015 Report, there are none except that DGs 1 and 2 now have EGCS installed.

Four Diesel Generator Engines.
GMT/SULZER 16 cylinder, 400mm bore, 560mm stroke, medium speed, 4-stroke Diesel engine type 16ZAV40S. Each set Turbocharged, intercooled, air started and direct-coupled to an SIEMENS alternator. Direction of rotation: anticlockwise. Maximum continuous rating(MCR): 11,520kW (15,488 hp)cylinder Speed : 514 rpm

Two GMT/SULZER 12 cylinder, 400 mm bore 560 mm stroke medium speed, 4-stroke Diesel engine type 12ZAV40S. Each set turbocharged, intercooled, air started and direct-coupled to an SIEMENS alternator. Direction of rotation anticlockwise. Maximum continuous rating (MCR) : 8,640 kW (11,586hp) Speed: 514 rpm

NOTE- as of the date of this report, and since vessel has been in AK for the 2018 season, DG1 has been out of service due to crankshaft being changed at last Dry Dock. DG1 will remain out of service until about the end of June 2018, once Technicians have come onboard and overhauled. Vessel's EGCS haven't been in operation at all during this season so far.

3.2 Completed by:

Jonathan Driggers (jonathan.driggers)

3.3 Are there any changes from the previous Additional Observation projects (section 3) on the incinerators make, model, fuel used, capacity?

The only change is that now vessel only has one Incinerator onboard, as the second was removed in order to have EGCS for DGs 1 and 2 installed.

DEERBERG type DESY 1624 incinerator system installed in the Incinerator room on Decks 2, 3 and 4.

3.3 Completed by:

Jonathan Driggers (jonathan.driggers)

3.4 Average Hotel power (kW) in port and underway?

Average in Port: 8,400kW
Average Underway: 25,000kW

3.4 Completed by:

Jonathan Driggers (jonathan.driggers)

3.5 Average fuel consumption in port and underway?

Average in Port: 2 tons per hour (MGO)
Average Underway: 5 tons per hour (MGO)
NOTE- as of the date of this report, vessel only using MGO, as EGCS currently not being operated.

3.5 Completed by:

Jonathan Driggers (jonathan.driggers)

4: Food Waste Garbage Handling

4.1 How is food waste handled and disposed of?

This section not completed per ADEC instructions; Food Waste Report not done in the past, and will be done this 2018 season.

4.1 Completed by:

Jonathan Driggers (jonathan.driggers)

5: Sea Water Intakes

5.1 List all of the seawater intakes (chests); include the locations, frame, side (PS/SB) or compartment.

Total of 6 sea chests onboard:

- *Compartment 6, Port side, Frame 64-68
- *Compartment 6, Starboard side, Frame 64-68
- *Compartment 8, Port side, Frame 108-112
- *Compartment 8, Starboard side, Frame 108-112
- *Compartment 12, Port side, Frame 196-200
- *Compartment 12, Starboard side, Frame 196-200

5.1 Completed by:

Jonathan Driggers (jonathan.driggers)

5.2 List filtration systems for each intake. Describe how filter systems are maintained. What is the frequency of cleaning? Is this performed in Alaska?

Sea chests have strainer baskets installed. Strainers pulled and cleaned at least monthly, per PM (preventive maintenance) schedule, or as needed. Strainers pulled and cleaned, if needed, in AK waters.

5.2 Completed by:

Jonathan Driggers (jonathan.driggers)

5.3 How is debris and mud from filtration/strainers handled?

Any debris or mud pulled from strainer baskets are placed in a plastic garbage bag, and is either incinerated onboard or is offloaded outside AK waters.

5.3 Completed by:

Jonathan Driggers (jonathan.driggers)

5.4 Marine Growth Protection Systems in the sea intakes. Description of the control systems and information on chemicals if used.

Vessel has two MGPS systems onboard:

- *EMCS Industries Ltd. MARELCO Impressed Current Anti Fouling and Corrosion Protection System- uses copper anodes, no chemicals;
- *Molecular Energy Systems SRL Ultrasonic Antifouling System- uses high frequency mechanical vibrations, no chemicals;

5.4 Completed by:

Jonathan Driggers (jonathan.driggers)

5.5 Hull cleaning in place in Alaska 2018?

Vessel has no plans to have hull cleaning done in place in AK waters. Vessel recently had Dry Dock period, in April 2018.

5.5 Completed by:

Jonathan Driggers (jonathan.driggers)

6: General

6.1 Is vessel crew cooperative on this project?

Yes

6.1 Completed by:

Jonathan Driggers (jonathan.driggers)

6.2 Do you feel the vessel has a clear understanding of compliance requirements?

Yes

6.2 Completed by:

Jonathan Driggers (jonathan.driggers)

6.3 Are there other remarks/ comments the OR wants to share?

Vessel hasn't been in AK since 2015; Since last time vessel was in AK, one Incinerator was removed to make space available for installation of EGCS for DGs 1 and 2; As of the date of this report, DG1 has been out of service due to having crankshaft replaced in last Dry Dock, and awaiting Technicians to do overhaul, which is estimated to be completed by end of June 2018; Vessel hasn't operated Scrubber System in AK waters yet this season, though may in the near future; Vessel currently only using MGO; As per instructions from ADEC concerning this Consolidated Observations

Report, only the "Combustion Sources" and
"Sea Water Intakes" sections of this report
were completed, due to no other reports
having been done in the past, as those
reports will be done this season.

jonathan.driggers

6.2 Completed by:

Z: Signature & Submit

Ocean Rangers contributing to this report:

Jonathan Driggers (jonathan.driggers)

Ocean Ranger Signature:

A handwritten signature in black ink, appearing to read "Jonathan Driggers". The signature is stylized with a large initial "J" and a long, sweeping underline.