Statement of Compliance

This is to confirm that the undernoted product has been tested in accordance with the relevant requirements of MEPC.395(82) and MRV Regulation 2015/757/EU in respect of direct emission testing.

Protea Marine Mass Emissions System

Company **Protea Ltd.**
2 Venture Park, Stirling Way, Peterborough, PE38YD
United Kingdom

Product Description: Direct Continuous Emission Monitoring System for reporting into EU MRV

Type **Protea Marine Mass Emissions System**

Vessel Disney Dream
DNV Id: 40002; IMO No.: 9434254
managed by Magical Cruise Co. Ltd.; FL 34747-4600 USA

This is to Confirm: The "Protea Marine Mass Emissions System" installed onboard "Disney Dream" (IMO 9434254) is found to be suitable as a direct CO_2 emission monitoring system of according to MEPC.395(82) "2024 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)" and MRV Regulation 2015/757/EU ("Method D") in respect of direct GHG emissions measurements.

The functional testing has been demonstrated under surveillance and to the satisfaction of DNV in accordance with MEPC.340(77), MEPC.395(82), MRV Regulation 2015/757/EU ("Method D") as well as with relevant requirements of Revised MARPOL Annex VI and NO_X Technical Code 2008.

Onboard the cruise vessel "Disney Dream", direct CO_2 emissions were measured by calculating the product of the exhaust gas CO_2 concentration and exhaust gas flow rate.

These measurements were thoroughly validated against emissions derived from fuel consumption data and the specific emission factor for the fuel type used, as well as parent engine tests, confirming that the measurements are validated.

Technical Data

Equipment	Type
Gas Analyser	Protea P2000 Gas Analyser Model: 1-0002 and variants Measurement principle for CO_2: NDIR Arrangement: In-situ / by-pass
Exhaust gas flow measurement	AtmosFlo Model: 1-0355 Measurement principle: Averaging Pitot tube Arrangement: In-situ

Statement of Compliance

Documents:

- Protea, Test Report
  "Test Report for Application Form Assessment of direct CO_2 emission measurement"; Version: 3

- P2000 Test report
  "Procal 2000 compliance with the requirements of MEPC.184(59)"; dated 2015-02-03

- Protea, Protea Onboard Monitoring Manual – Direct CO_2 measurement; "Protea Onboard Monitoring Manual (MEPC.340(77))"; Version: 4,

- Protea P2000 Operating Manual;
  Doc. No.: 18-0004, Revision: 11

- Protea atmosFlo Operating Manual;
  Doc. No.: 18-0023, Revision: 3

This is to Note

1. The analyser "P2000" is fitted with an electrical heater and fan which enables the analyser to operate in ambient temperatures of -20°C to +50°C (sample temperature up to 350°C).

2. The calibration Interval for CO_2 is defined as follows:
   - Daily automatic zero point calibration (with instrument air or nitrogen).
   - Span point calibration is recommended every 2 months.
   The UV source should be replaced every two years subsequently followed by a calibration check.

3. The AtmosFlo (differential pressure transmitter, pressure transducer etc) have to be supplied with a certificate of calibration and the calibration achieved using them should not be discarded lightly.

4. The "Protea Marine Mass Emissions System" shall be installed, calibrated and operated in compliance with the manufacturer's instructions.

5. The calibration interval should be selected in a way to ensure that the difference between the responses to the zero gas and to the span gas between the interval is less than 2% of the initial span gas concentration.

6. The diameter of the exhaust funnel at the measurement point of the exhaust gas flow should be determined with an accuracy of ±3mm.

7. A symmetrical flow profile must be ensured at the installation point of the AtmosFlo.

8. In the following events the external Data Collection System (DCS) should not report the CO2 emissions:
   - Data during automatic zero point calibration (every 8 – 24hours)
   - Data where velocity is v<3 m/s or v>50 m/s
   - Data where exhaust gas temperature at measuring point is >350°C (unless a bypass is used)