

Statement of Compliance

This is to confirm that the undernoted product has been tested in accordance with the relevant requirements of MEPC.259(68) in respect of washwater monitoring.

Rivertrace Smart ESM

Company Rivertrace Limited
Unit P, Kingsfield Business Centre
Philanthropic Road
Redhill Surrey
RH1 4DP England

Product Description Washwater Discharge Analyser

Type Smart ESM

Range of Application: Smart ESM is intended for washwater monitoring of exhaust gas cleaning systems (EGCS).
Smart ESM is found to be in compliance with the requirements of Resolution MEPC.259(68) - 2015 Guidelines for exhaust gas cleaning adopted on 15. May 2015, Chapter 10 "Washwater"

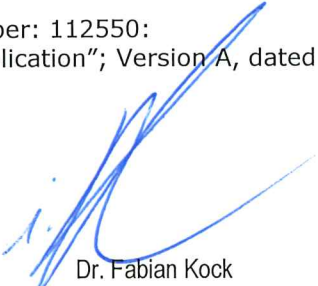
Smart ESM meets the following requirements:

- Principle of detection for PAH_{PHE Eq} (MEPC.259(68), 10.1.3.3)
- Measurement range for PAH_{PHE Eq} (MEPC.259(68), 10.1.3.3)
- Turbidity influences on PAH_{PHE Eq} (MEPC.259(68), 10.2.3)
- Principle of detection for pH (MEPC.259(68), 10.2.2)
- Resolution for pH (MEPC.259(68), 10.2.2)
- Temperature compensation for pH (MEPC.259(68), 10.2.2)
- Principle of detection for Turbidity (MEPC.259(68), 10.2.5)

General requirements regarding the influence on measurements by vibration, turbidity and UV absorption have been demonstrated under surveillance and to the satisfaction of DNVGL.

The effectiveness of the countermeasures to prevent incorrect readings due to air bubbles have been demonstrated under surveillance and to the satisfaction of DNVGL.

Documents: Test report
Rivertrace Document Number: 112550:
"Smart ESM –Approval Application"; Version A, dated 2019-11-25


Dr. Fabian Kock


Claus Kurok

Statement of Compliance

Technical Data

Smart ESM			
Component	Type(s)	Sensor type	Range
PAH _{PHE Eq}	Rivertrace Ltd. PAH Cassette	UV Fluorescence	0 – 4500 µg/L
Turbidity	Rivertrace Ltd. Turbidity Cassette	IR Scattering	0 – 500 NTU
pH	Rivertrace Ltd. pH Controller with Hamilton probe	pH electrode with built in temperature sensor	0 – 14
Temperature			0 – 100°C

This is to Note

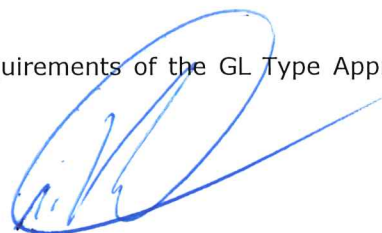
- Smart ESM shall be installed, calibrated and operated in accordance with the Smart ESM Exhaust Scrubber Washwater Monitor Instruction Manual.
- The measurements as well as the alarm and fault signals can be transmitted to a higher-level control system.
- In case ambient temperature is above 50°C Smart ESM may only be operated with the addition of external cooling.
- The recommended replacement interval for the Turbidity Cassette, the PAH Cassette and the pH probe is 12 months.
- The recommended PAH and Turbidity parameter accuracy check interval is 6 months using on-site check kits. The pH probe in the measurement cell should be calibrated every 3 months.
- The Turbidity correction provides PAH_{PHE Eq} with an accuracy of better than 5% across the range 0 - 500 NTU.
- Dissolved, light absorbing materials or dyes do not have an impact on the accuracy of the Turbidity Cassette.

Remark

The discharge concentration limit for PAH_{PHE Eq} is dependent on the washwater flow rate in accordance with the requirements of Resolution MEPC.259(68).

Smart ESM has been demonstrated to cover all ranges of PAH_{PHE Eq} concentration under surveillance and to the satisfaction of DNVGL.

The compliance with relevant requirements of the GL Type Approval System has not been tested.



Dr. Fabian Kock



Claus Kurok