



TECHNICAL CIRCULAR No. 604 of 08th January 2020

To	All Surveyors/Auditors
Applicable to flag	All Flags
Title	EGCS Initial Inspection and Survey Process
Reference	Exhaust Gas Cleaning Systems

SOx EGCS Initial Inspection and Survey Process

General

The Surveyor is advised to pay due attention to the safety implications related to the handling and proximity of exhaust gases, the measurement equipment and the storage and use of pressurized containers of pure and calibration gases together with any hazardous chemicals associated with the washwater process. Sampling positions and permanent access platforms for monitoring should be safe.

Data Recording and Processing Device

The Surveyor is to verify that the proposed data recording and processing device meets the requirements of section 7 of MEPC.259(68). The guidelines require that monitored data is recorded with the Global Navigational Satellite System (GNSS) position and Universal Time Coordinated (UTC). Since the required data to be collected covers the three basic areas of SO₂/CO₂ emissions monitoring, washwater discharge monitoring and SO_x EGCS parameters this may be achieved by a single data logging system or by the accumulation of data from different control systems.

Washwater Discharge Criteria

pH

The IMO MEPC.259(68) guidelines allow two options for the verification of pH under 10.1.2.1, either at the overboard discharge or at 4m in the water discharge plume. The difficulties in measuring in the plume are well known, e.g. using divers or sample heads from boats, and have been recognized with papers to IMO, driven largely through the European Sustainable Shipping Forum (ESSF) expert group on scrubbers. This has led to the development of revised text for the water discharge plume in the current guidelines which gives the option to apply a calculation-based methodology in determining the value at the overboard discharge with respect to the pH value at 4m. For US VGP, pH verification at the overboard discharge is the only permitted option.

PAH

The maximum continuous PAH concentration in the washwater should not be greater than 50 µg/L

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PAHphe (phenanthrene equivalence) above the inlet water PAH concentration. For the purposes of this criteria, the PAH concentration in the washwater should be measured downstream of the water treatment equipment, but upstream of any washwater dilution or other reactant dosing unit, if used, prior to discharge. The 50 µg/Limit is normalized for a washwater flow rate through the EGC unit of 45 t/MWh where the MW refers to the MCR or 80% of the power rating of the fuel oil combustion unit.

Turbidity

The maximum continuous turbidity in washwater should not be greater than 25 FNU (formazin nephelometric units) or 25 NTU (nephelometric turbidity units) or equivalent units, above the turbidity of the inlet water to the SOx EGC system. For the purposes of this criteria, the turbidity concentration in the washwater should be measured downstream of the water treatment equipment, but upstream of any washwater dilution or other reactant dosing unit, if used, prior to discharge.

Nitrates

It is not possible to assess the nitrate discharge by online measurement and hence a sample has to be drawn and sent for analysis. Results should be available at each renewal survey with respect to a sample drawn within three months of the survey. The washwater treatment system should prevent the discharge of nitrates beyond that associated with a 12% removal of NOx from the exhaust, or beyond 60 mg/l normalized for washwater discharge rate of 45 tons/MWh, whichever is greater.

Washwater Additives

Closed loop water treatment systems typically use NaOH as a reactant and the washwater discharge criteria has been developed on this understanding. The use of other chemicals is permitted but would require an assessment of the washwater taking into account any relevant guidelines developed for ballast water management systems; therefore the designated Technical Office is to be contacted if any water treatment systems are proposed using chemicals other than NaOH.

Washwater Residues

Regulation 16 to Annex VI prevents the incineration of SOx EGCS residues on board and the MEPC guidelines require that the residues are to be collected in a dedicated residue tank or container and delivered ashore to appropriate facilities. The attending Surveyor is to verify the adequacy of the residue collection arrangements and record keeping.

REFERENCES:

- Exhaust Gas Cleaning Systems, MEPC 259(68)
- ATTACHMENTS: No

Kindest Regards,

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