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#### COVER NOTE

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From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
date of receipt:	9 December 2020
To:	Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of the European Union

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No. Cion doc.:	SWD(2020) 343 final
Subject:	COMMISSION STAFF WORKING DOCUMENT Union submission to the 8 <sup>th</sup> session of the Sub-Committee for Pollution Prevention and Response of the International Maritime Organization, date and place to be announced, on aspects to consider for the scope of work for the evaluation and harmonisation of rules and guidance on the discharges and residues from EGCS into the aquatic environment, including conditions and areas

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Delegations will find attached document SWD(2020) 343 final.

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Brussels, 9.12.2020  
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## COMMISSION STAFF WORKING DOCUMENT

**Union submission to the 8<sup>th</sup> session of the Sub-Committee for Pollution Prevention and Response of the International Maritime Organization, date and place to be announced, on aspects to consider for the scope of work for the evaluation and harmonisation of rules and guidance on the discharges and residues from EGCS into the aquatic environment, including conditions and areas**

**COMMISSION STAFF WORKING DOCUMENT**  
**For the Council Shipping Working party**

**IMO—Union submission to the 8<sup>th</sup> session of the Sub-Committee for Pollution Prevention and Response (PPR 8) of the International Maritime Organization (IMO), date and place to be announced, on aspects to consider for the scope of work for the evaluation and harmonisation of rules and guidance on the discharges and residues from EGCS into the aquatic environment, including conditions and areas**

**PURPOSE**

The document in Annex contains a draft Union submission to the 8<sup>th</sup> session of the Sub-Committee on Pollution Prevention and Response (PPR 8) of the IMO.

It relates to certain aspects of the ongoing work on the output “Evaluation and harmonisation of rules and guidance on the discharges and residues from Exhaust Gas Cleaning Systems (EGCS) into the aquatic environment”. It was included by the 74<sup>th</sup> session of the Marine Environment Protection Committee (MEPC 74) in the 2020-2021 agenda of the Pollution Prevention and Response Sub-Committee. MEPC 74 decided to include this new output, based on discussions on EU document MEPC 74/14/1.

Different studies and data on the impact of EGCS operations on the environment, in particular of discharge waters from open-loop mode operation, as well as on the need to conclude on the required risk assessment framework, are now available.

The present document builds upon previous EU document PPR7/11 and proposes draft guidelines and regulations for the consideration of PPR which identify areas where further clarification and scientific support is required in order to develop globally harmonised rules, as appropriate.

The present Staff Working Document is thus submitted with a view to establish the Union position ahead of it being transmitted to the IMO by the deadline of 18 December 2020<sup>1</sup>.

Article 8 and Annex II of Directive 2016/802/EU relating to a reduction in the sulphur content of certain liquid fuels lay down conditions for the use of EGCS by cross-referencing the 2009 Guidelines on Exhaust Gas Cleaning Systems (adopted as IMO Resolution MEPC.184(59)).

According to this IMO Resolution, wash-water resulting from EGCS shall not be discharged into the sea, including enclosed ports, harbours and estuaries, unless it is demonstrated by the ship operator that such wash-water discharge has no significant negative impacts on and does not pose risks to human health and the environment.

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<sup>1</sup> The submission of proposals or information papers to the IMO, on issues falling under external exclusive EU competence, are acts of external representation. Such submissions are to be made by an EU actor who can represent the Union externally under the Treaty, which for non-CFSP (Common Foreign and Security Policy) issues is the Commission or the EU Delegation in accordance with Article 17(1) TEU and Article 221 TFEU. IMO internal rules make such an arrangement absolutely possible as regards existing agenda and work programme items. This way of proceeding is in line with the General Arrangements for EU statements in multilateral organisations endorsed by COREPER on 24 October 2011.

Furthermore, in relation to water quality, Member States have to meet the result obligations stemming from existing EU rules (notably, Directives 2000/60/EC establishing a framework for Community action in the field of water policy, the 'Water Framework Directive', 2008/56/EC establishing a framework for community action in the field of marine environmental policy, the 'Marine Strategy Framework Directive', and 2008/105/EC<sup>2</sup> on environmental quality standards in the field of water policy).

In addition, on-board EGCS are listed in the Commission Implementing Regulation (EU) 2020/1170, which lays down the design, construction, performance requirements and testing standards for equipment falling within the scope of application of Directive 2014/90/EU<sup>3</sup> on marine equipment.

This Implementing Regulation also refers to the IMO Resolution MEPC.259(68) on page 44. Therefore, any amendments to that IMO Resolution will affect the relevant binding requirements contained in Directive 2014/90/EU<sup>4</sup>.

In light of all of the above, the present draft Union submission falls under the EU exclusive competence and is in line with the Union's ambitions as outlined in the European Green Deal, notably on Sustainable Transport and Zero Pollution.

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<sup>2</sup> As amended by Directive 2013/39/EU.

<sup>3</sup> OJ L 264, 12.8.2020, p. 1–269

<sup>4</sup> OJ L 257, 28.8.2014, p. 146.

SUB-COMMITTEE ON POLLUTION  
PREVENTION AND RESPONSE  
8th session  
Agenda item XX

PPR 8/XX  
22-26 March 2021  
Original: ENGLISH  
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**EVALUATION AND HARMONIZATION OF RULES AND  
GUIDANCE ON THE DISCHARGE OF DISCHARGE WATER FROM EGCS INTO THE  
AQUATIC ENVIRONMENT, INCLUDING CONDITIONS AND AREAS**

**Aspects to consider for the scope of work for the evaluation and harmonization of  
rules and guidance on the discharges and residues from EGCS into the aquatic  
environment, including conditions and areas**

**Submitted by the European Commission on behalf of the European Union**

**SUMMARY**

*Executive summary:* This document outlines key aspects, to be considered by the Sub-Committee, related to the evaluation and harmonization of rules and guidance on the discharges and residues from Exhaust Gas Cleaning Systems (EGCS) into the aquatic environment, including conditions and areas. It aims at providing some guiding principles and relevant elements for developing and completing Parts 1-4 of the scope of work assigned to the Sub-Committee outlined in Annex 11 to documents PPR 7/22/Add.1.

*Strategic direction, if applicable:* 1

*Output:* 1.23

*Action to be taken:* Paragraph 9

*Related documents:* PPR 7/12, PPR 7/12/1, PPR 7/12/2, PPR 7/12/3 and Corr.1, PPR 7/12/4, PPR 7/12/5, PPR 7/12/6, PPR 7/12/7, PPR 7/22, PPR 7/22/Add.1, MEPC 74/14/1, MEPC 74/14/7, MEPC 74/14/8, MEPC 74/14/9, PPR 7/INF.9, PPR 7/INF.18, PPR 7/INF.22, PPR 7/INF.23, MEPC 74/INF.10, MEPC 74/INF.24, MEPC 74/INF.27, PPR 6/INF.20, MEPC 73/INF.5, MEPC 75/INF.10 and MEPC 75/INF.13.

**Background**

1 MEPC 74 approved a new output on "Evaluation and harmonization of rules and



guidance on the discharge of liquid effluents from EGCS into waters, including conditions and areas" in the 2020-2021 biennial agenda of the PPR Sub-Committee with a target completion year of 2021. The GESAMP EGCS Task Team for assessing the available information on environmental effects of EGCS discharge water also submitted a comprehensive report, including valuable recommendations.

2 After a significant debate at PPR 7, the Sub-Committee agreed to the revision of the title and the draft scope of work for output as set out in Annex 11 to document PPR 7/22/Add.1, with a view to approval by MEPC 75. In addition, the Sub-Committee also invited interested Member Governments and international organizations to submit proposals and comments to PPR 8 in accordance with the scope of work. In view of this, this paper aims at suggesting specific criteria and recommendations that need to be considered when developing risk assessments (Part 1-A), impact assessments (Part 1-B), guidance on delivery of EGCS residues (Part 2), regulatory measures and instruments (Part 3), as appropriate, and a database (Part 4) to facilitate and contribute to the work.

3 This paper, in the main document and its Annexes, provides a series of principles, criteria and guidance for Parts 3 and 4 of the scope of work being proposed by the IMO. In particular, the Annexes present framework guidelines for risk and impact assessment (Part 1-A and Part 1-B of the scope of work) as well as for delivery of EGCS residues to port reception facilities (Part 2 of the scope of work).

### **General principles**

4 In order to progress this work, some guiding principles should be established and followed. In all aspects of the development of possible new regulatory measures and guidance for the discharge water from EGCS, the precautionary approach should be applied [as appropriate also taking into account the sensitivity of the specific marine area and of assessment of impacts related to that marine area].

5 Due to the need for a harmonised approach in the implementation of the regulatory measures, to be adopted as appropriate, on the EGCS discharge waters including conditions and areas, a harmonised guidance for a common risk and impact assessment should be used. The principles adopted for this guidance should then be applied at the different levels in question (regional, national, local, port, etc.) to assess the impact of discharge water discharges. Impacts of the discharge should be identified and evaluated with respect to the environment, human populations, and the crew.

6 As set out in Paragraph 10.4.1 of the "2015 Guidelines for EGCS", if EGCS residues are collected in any form, then these should be considered waste types and disposed of into Port Reception Facilities. Such residues should not be discharged to the sea and also should not be mixed with other sludge streams.

7 As a principle, coastal States should undertake risk assessments and impact assessments to appropriately regulate the discharge of discharge water in ports, harbours, estuaries, coastal and other territorial waters. This can be done at a local, national or regional level and be conducted and coordinated at least with neighbouring States.

### **Part 3 and 4 of the scope of work**

8 In order to control the environmental impacts of discharge water from EGCS, appropriate regulations should be developed. [To that extent, new regulations are proposed in MARPOL Annex VI allowing Parties to regulate the discharge of discharge water in ports,

harbours, estuaries or other enclosed sea areas, and other sea areas under the jurisdiction of a Party]. It should be noted that discharge water as defined in draft MEPC Resolution on the 2020 Guidelines for EGCS at the moment is not covered by any MARPOL regulation, and it cannot be defined as operational waste as this waste category is limited to solid waste and slurries according to the definition set out in MARPOL Annex V Regulation 1.12. [Therefore, it is proposed to include in current or upcoming MARPOL regulations, if any, the definition of ‘discharge waters’ set out in draft MEPC resolution on the 2020 Guidelines for exhaust gas cleaning systems following adoption by the Committee.]

9 Administrations should notify the Organization of local/regional restrictions/conditions on the discharge water from EGCS.

10 The physical, chemical, ecotoxicological and toxicological data for a number of chemicals in discharge water are available in the literature. In addition, there is science-based indication of cumulative and synergistic effects of the chemical mixtures present in the discharge water, and not all substances therein have been identified yet. It is proposed for further consideration to develop a list of substances found in discharge water, with information on their concentration, toxicity, fate and other pertinent aspects, taking into account the Annex to document PPR 7/12. Such a database could follow the example of the online “GESAMP-BWWG Database of chemicals most commonly associated with treated ballast water”. Any newly identified chemical could then be added and the risk and impact assessments could be revised if necessary. It is also recommended to place this database in IMO GISIS under a separate new item titled “Chemicals in EGCS Discharge Water” and to incorporate current knowledge<sup>5,6,7</sup> of crucial substances with detrimental impacts on the marine environment and biota most commonly associated with EGCS discharge water as identified by the GESAMP EGCS Task Team and agreed by the Sub-Committee.

#### **Action requested of the Sub-Committee**

11 The Sub-Committee is invited to consider the annexes to this document as reference documents for further elaboration within the working group and to take into account the considerations and proposals set out in paragraphs 4 to 10 above during any further discussion on the matter.

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<sup>5</sup> German Environment Agency, ‘Environmental Protection in Maritime Traffic –Scrubber Wash Water Survey’, Final Report, September 2020  
<https://www.umweltbundesamt.de/publikationen/environmental-protection-in-maritime-traffic>

<sup>6</sup> Royal Belgian Institute of Natural Sciences (RBINS). ‘Potential impact of wash water effluents from scrubbers on water acidification in the southern North Sea’ to be published (tbc)

<sup>7</sup> Chalmers University, “Current knowledge on impact on the marine environment of large-scale use of Exhaust Gas Cleaning Systems (scrubbers) in Swedish waters” to be published (tbc)

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## ANNEX 1

### DRAFT FRAMEWORK GUIDELINES FOR RISK AND IMPACT ASSESSMENT OF DISCHARGE WATER

#### 1 INTRODUCTION

1.1 These guidelines are intended to assist port and coastal States to undertake risk assessments and impact assessments to assess the potential impact of discharge water from EGCS before developing and implementing controls on this discharge from ships including the proper management and disposal of EGCS waste types into port reception facilities.

1.2 In all aspects of risk and impact assessment the precautionary approach should take precedence in any analysis and follow-up action.

#### 2 DEFINITIONS

*Discharge water:* Any water from an EGCS to be discharged overboard.

*Washwater:* Cleaning medium brought into contact with the exhaust gas stream for the reduction of SOx.

*Bleed-off water:* An amount of aqueous solution removed from the washwaters of an EGCS operating in closed-loop mode to keep its required operating properties and efficiency.

*EGCS residue:* Material removed from the washwater or the bleed-off water by a treatment system or discharge water that does not meet the discharge criterion, or other residue material removed from the EGCS.

[*Emissions:*<sup>8</sup>]

#### 3 APPLICATION

3.1 These guidelines should be used by the coastal state when undertaking risk and impact assessments to ascertain whether discharge water can be discharged in their ports, harbours, estuaries, or coastal and other territorial waters. This can be done at local, national or regional level and be conducted at least in cooperation with neighbouring states.

#### 4 CRITERIA TO BE CONSIDERED WHEN UNDERTAKING A RISK ASSESSMENT

[A risk assessment should involve the following non not exhaustive list of steps:

4.1 Collection and collation of the following existing data and information:

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<sup>8</sup> According to paragraph 7 of Regulation 2 in Annex VI: '*Emission* means any release of substances, subject to control by this Annex, from ships into the atmosphere or sea.'



- The number of EGCS installations on ships trading in the area, their operating conditions, their frequency of use including where discharges occur, and the volumes discharged;
- Available data on actual composition and pollutants found in EGCS discharge water, including any neutraliser used this should include at least the following 'priority hazardous substances', i.e. including but not limited to: cadmium, lead, mercury, nickel, anthracene, benzene, benzo(a)pyrene, benzo(b) fluoroanthene, benzo(k)fluoroanthene, benzo(g,h,i)perylene, fluoranthene, indeno(1,2,3cd)pyrene and naphthalene, as well several other contaminants commonly found in discharge waters (e.g. vanadium, chromium, copper, zinc, fluorene, chrysene and pyrene).
- Hazard assessments of the substances present in EGCS discharge water, including their persistence, tendency to bioaccumulate, carcinogenicity, mutagenicity and reproductive toxicity (CMR), neurotoxicity, endocrine disruptive potential or other toxicity for human health or the environment;
- Existing threshold concentrations (PNEC, Predicted No Effect Concentration or environmental quality standard or EQS, Environmental Quality Standards) for each substance (in water, sediment and/or biota) indicating the level in the environment below which there should be no harm (lethal or sub-lethal) to the aquatic ecosystem or human health, taking account of the likely bioavailability of the substances where relevant;
- Information on how chemical, biological and physical characteristics of the receiving environments, including their pH and salinity, could affect the level of risk.

#### 4.2 The following analyses:

- Use of the whole-effluent toxicity approach to assess the overall risk from the discharge water;
- Generic modelling for fate and dispersion of chemicals and specifically heavy metals in discharge water of EGCS (e.g. based on the MAMPEC-BW model) in order to assess the Predicted Environmental Concentrations (PEC) of chemicals in receiving water bodies;
- The risk posed by the substances in the discharge water to the organisms in the receiving environments, or to human health, based on the hazard and threshold information defined above and on the following;
  - the natural background concentrations of substances present in the discharge water;
  - whether the chemicals in the discharge water could result in increased/reduced risks, taking account of the combined toxic effects of mixtures of chemicals and of potential cumulative and long-term (chronic) effects;
  - specific reactions that could occur between the components of discharge water and the chemical/physical elements (e.g. temperature, salinity, pH) of the natural environment and other substances already present in the receiving water and that could increase the risk posed by the discharged chemicals to a certain environment or to a specific trophic level, food-web structure, organism or ecosystem; and
  - effects of the discharge water on the pH of the receiving environment taking into account potential climate-change related ongoing effects on this parameter.

- Modelling the volume of discharge water discharges from the ships in various operating modes at full steam, when entering a port and when at berth (including multiple simultaneous discharges);
- Scenarios on the potential variations in the use of this technology in the future, including the dependency on fuel type.

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## 5 IMPACT ASSESSMENT

The risk assessment approach identified above should be applied to specific receiving environment that is being assessed, at the relevant geographical levels, taking account of the type of water body i.e. marine (open water), coastal and other territorial waters (within 12 nm from the coastline), estuarine, large harbour and small enclosed harbour environments and areas in the vicinity of dense shipping routes. In addition, saltwater, brackish water and freshwater situations and the effect of tides or their absence should be considered, as appropriate.

5.1 Application of risk assessment approach to the specific receiving environment by identifying and defining:

- The existing status (ecological, chemical, environmental) of the receiving water bodies;
- The likely effect on status of the discharge water discharges, in particular whether the discharge could result in failure to meet the objectives of the applicable environmental legislation;
- The specific environmental stressors that may be affected by discharge water discharges; and,
- The adverse effects arising from these stressors.

5.2 The impact assessment needs to incorporate the following steps for the specific receiving environment:

- A systematic review of the positive and negative consequences of the discharge waters impacts.
- Specific modelling for physical distribution and fate of the components in discharge water and comparing the PNEC and PEC.
- Identification of the overall vulnerability of the environment, habitats or organisms that may be impacted.
- The identification of any direct or indirect socio-economic and human health impacts of the discharge water discharge.
- Whether there are any seasonal or temporal impacts that need to be considered.
- Identification of any practical mitigation measures that could minimise the potential impacts identified at this stage.

The adoption of a ban on discharge water from scrubbers would be justified and should be implemented in areas where any of the following criteria are met:

1. Environmental objectives in the areas are not met, e.g. good chemical status, good ecological status or good environmental status are not achieved.
2. The discharge of scrubber effluents implies a risk of deteriorating the environment.
3. The EGCS discharge water conflicts with the conventions and regulations formulated to protect the marine environment (see UNCLOS Article 195 etc.).

5.3 Uncertainty analysis should be undertaken by identifying whether the potential adverse effects from discharge water discharges are well understood. This should include the effects on the immediate and downstream environment taking into account both spatial and temporal factors.

## ANNEX 2

### DRAFT GUIDANCE REGARDING THE DELIVERY OF EGCS RESIDUES TO PORT RECEPTION FACILITIES

#### 1 INTRODUCTION

These best practices are intended to assist both ship operators and port States in assuring the proper management and disposal of EGCS waste types into port reception facilities.

#### 2 DEFINITIONS

*Discharge water:* Any water from an EGCS to be discharged overboard.

*Washwater:* Cleaning medium brought into contact with the exhaust gas stream for the reduction of SOx.

*Bleed-off water:* An amount of aqueous solution removed from the washwater of an EGCS operating in closed-loop mode to keep its required operating properties and efficiency.

*EGCS residue:* Material removed from the washwater or the bleed-off water by a treatment system or discharge water that does not meet the discharge criterion, or other residue material removed from the EGCS.

[Emissions: <sup>9</sup>]

#### 3 BEST PRACTICE

##### **Discharge water from open and closed-loop EGCSs**

3.1 In sea areas where the discharge of EGCS discharge water is prohibited, ships using an EGCS should keep their discharge water on board in dedicated holding tank(s) for discharge into port reception facilities in the next port of call able to accept the discharge water accordingly. However, outside these areas, the stored discharge water could be discharged into the sea in accordance with the discharge criteria given in paragraph 10.1.7 of the 2020 Guidelines for Exhaust Gas Cleaning Systems.

3.2 Port States should provide reception facilities for this discharge. However, depending on the number of ships that will need this service and the frequency and amount of EGCS residues to be delivered, the port in conjunction with the port State may decide if the appropriate reception facilities at their berths should be permanent or provided on an individual basis.

3.3 In cases where discharge water is to be disposed of in non-permanent facilities, ports should have arrangements with a hazardous waste contractor, who can supply a

suitable portable/mobile facility depending on the amount of water to be collected. For EGCS discharge water collected in either permanent or mobile facilities, the water should be disposed of according to the appropriate waste disposal methods.

## **EGCS Residues**

3.5 Residues generated by the EGCS unit should be delivered ashore to adequate reception facilities. Such residues should not be discharged to the sea. Additionally, they should not be mixed with different sludge streams or burnt in the ship's incinerators.

3.6 As EGCS residues are not to be discharged into the sea, the ships that produce these types of waste should have on board:

- evidence of a contract to prove that arrangements are in place to deliver the waste in the region where the ship is operating;
- waste receipts from use of that contract to prove previous deliveries of such waste which should be kept on board for a period of 12 months after the delivery has been made; and
- an estimation of the amount of EGCS residues the produced on a daily basis, with records of the volume of solids and sludge produced.

3.7 This information will allow the master of the ship to prove that there are appropriate mechanisms in place to dispose of this waste in an environmentally sound manner.

## ANNEX 3

### DRAFT AMENDMENTS TO MARPOL ANNEX VI (Regulation 2)

#### **[Draft Regulation 2**

##### *Definitions*

1 New paragraph 7 is inserted after definition in paragraph 6, as follows:

"7 Discharge water [taking into account <sup>8</sup>]: Any water from an EGCS to be discharged overboard."

#### **Draft Regulation XX**

##### ***Discharge of discharge water from Exhaust Gas Cleaning Systems***

1 If discharges of discharge water from Exhaust Gas Cleaning Systems (EGCS) from a ship are to be regulated in a port or ports, harbours, estuaries or other enclosed sea areas, and or other sea areas under the jurisdiction of a Party, they shall be regulated in accordance with the provisions of this regulation taking into account the guidelines to be developed by the Organization.

2 The Organization shall circulate a minimum list of the sea areas to be controlled for discharge of discharge water from EGCSs.

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