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#### COVER NOTE

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From: Secretary-General of the European Commission,  
signed by Mr Jordi AYET PUIGARNAU, Director

date of receipt: 5 February 2019

To: Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of  
the European Union

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Subject: COMMISSION STAFF WORKING DOCUMENT For the Council Shipping  
Working party IMO – Union submission to be submitted to the 74th session  
of the Marine Environment Protection Committee (MEPC 74) of the IMO in  
London from 13 – 17 May 2019 concerning a proposal for a new output to  
draw up harmonised rules on the discharge of liquid effluent from Exhaust  
Gas Cleaning Systems

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Delegations will find attached document SWD(2019) 17 final.

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Encl.: SWD(2019) 17 final



Brussels, 4.2.2019  
SWD(2019) 17 final

**COMMISSION STAFF WORKING DOCUMENT**

**For the Council Shipping Working party**

**IMO – Union submission to be submitted to the 74th session of the Marine Environment Protection Committee (MEPC 74) of the IMO in London from 13 – 17 May 2019 concerning a proposal for a new output to draw up harmonised rules on the discharge of liquid effluent from Exhaust Gas Cleaning Systems**

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

**IMO – Union submission to be submitted to the 74th session of the Marine Environment Protection Committee (MEPC 74) of the IMO in London from 13 – 17 May 2019 concerning a proposal for a new output to draw up harmonised rules on the discharge of liquid effluent from Exhaust Gas Cleaning Systems**

**PURPOSE**

The document in Annex contains a draft Union submission to the 74th session of the Marine Environment Protection Committee of the IMO concerning a new output proposing define the areas and conditions under which liquid effluents from EGCS can be discharged into the sea and to regulate access by ships equipped with such systems. The operation of ships installed with EGCS in particular in port waters, coastal areas or ecologically sensitive areas is expected to lead to a degradation of the marine environment due to the toxicity of water discharges. The document is hereby submitted to the appropriate technical body of the Council with a view to achieving agreement on transmission of the document to the IMO prior to the required deadline of 8 February 2019<sup>1</sup>.

MARPOL Annex VI requirements, with regard to limitation of SO<sub>x</sub> emissions, are implemented in EU law in Directive (EU) 2016/802 of the European Parliament and of the Council of 11 May 2016 relating to a reduction in the sulphur content of certain liquid fuels<sup>2</sup>. The 2009 Guidelines on Exhaust Gas Cleaning Systems (adopted as Resolution MEPC.184(59)) are referred to in Annex II of Directive 2016/802/EU in relation to conditions for the use of EGCS under that Directive.

Furthermore, the harmonised measures may influence the achievement by Member States of the mandatory quality objectives laid down in existing EU rules regulating surface water quality (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (the 'Water Framework Directive'), Directive 2018/105/EC<sup>3</sup> of the European Parliament and of the

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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.

<sup>2</sup> OJ L 132, 21.5.2016, p. 58.

Council on environmental standards in the field of water policy (Environmental Quality Standards' Directive) and Directive 2008/56/EC of the European Parliament and of the Council establishing a framework for community action in the field of marine environmental policy (the 'Marine Strategy Framework Directive') as well as the flexibility Member States have in choosing the measures to meet those objectives, for example by reducing emissions of priority substances and other pollutants including excess nutrients to water.

In addition, on-board EGCS are listed in Commission Implementing Regulation (EU) 2018/773 of 15 May 2018 laying down design, construction and performance requirements and testing standards for marine equipment and repealing Implementing Regulation (EU) 2017/306<sup>3</sup>, which refers to IMO Resolution MEPC.259(68); EGCS thus have to comply with the requirements of Directive 2014/90/EU on marine equipment and repealing Council Directive 96/98/EC<sup>4</sup>.

Finally, the future Directive on port reception facilities for the delivery of waste from ships now has included Annex VI waste, i.e. residues from EGCS (sludge from washwater treatment, and bleed-off water, in accordance with the IMO EGCS Guidelines), in the definition of 'waste from ships'. In practice, this means that this waste shall be delivered to port reception facilities by ships visiting EU ports. Port reception facilities in EU ports will have to be adequate to receive this waste. This waste type shall be reported by ships via the advance waste notification and waste receipt that go into SSN, and the costs of dealing with this waste shall be recovered from the ship visiting the port.

The said draft Union submission therefore falls under EU exclusive competence.

MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
74rd session  
Agenda item 14

MEPC 74/14/XX  
XX February 2019  
Original: ENGLISH

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<sup>3</sup> OJ L 133, 30.5.2018, p. 1.

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

## WORK PROGRAMME OF THE COMMITTEE AND SUBSIDIARY BODIES

### Proposal for harmonised rules on the discharge of liquid effluent from exhaust gas cleaning systems

Submitted by the European Commission on behalf of the European Union

SUMMARY	
<i>Executive summary:</i>	Regulation 4 of MARPOL Annex VI allows the use of equivalent devices, in particular for the application of Regulation 14 reducing the sulphur content of marine fuels. As an alternative to the use of low sulphur fuels, exhaust gas cleaning systems (EGCS) have been developed and used by ships to achieve equivalent reduction of sulphur oxide emissions. However, the composition and harmfulness to the marine environment of liquid effluents discharged by the majority of these systems into ports and sensitive sea areas lead States to take local or regional restriction or prohibition measures. It is proposed that the Committee considers the inclusion of a new output in its programme of work in order to define harmonized rules on the areas and modalities for the discharge of such effluents.
<i>Strategic direction, if applicable:</i>	1 and 2
<i>Output:</i>	New output
<i>Action to be taken:</i>	Paragraph 32
<i>Related documents:</i>	

#### Introduction

1. This document is submitted in accordance with the provisions of the document on the Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies (MSC-MEPC.1/Circ.5/Rev.1), taking into account resolution A.1111(30) on the implementation of the Organization's Strategic Plan.
2. In this document it is proposed to include a new output to define the areas and conditions under which liquid effluents from EGCS can be discharged into ports and sea areas and to regulate access to ships equipped with such systems on that basis.

#### Background information

3. At its fifty-eighth session, the Committee adopted, by Resolution MEPC.176(58), a revision of Annex VI of the MARPOL Convention, significantly reducing emissions of sulphur oxides (SOx). Article 4 of MARPOL Annex VI provides for the possibility of using

equivalent provisions to meet in particular the requirements of Regulations 13 and 14.

4. At its fifty-ninth session, the Committee adopted the "2009 Guidelines on Exhaust Gas Cleaning Systems" by resolution MEPC.184(59), and revised them at its sixty-eighth session by resolution MEPC.259(68).
5. These guidelines are currently being reviewed again by this Committee and the Sub-Committee on Pollution Prevention and Response (PPR), under output 1.12 of Resolution A.1110(30) on the organization's strategic plan for the six-year period 2018 to 2023. This work mainly concerns the updating of the Guidelines, also taking into account of the non-functioning of EGCS and relevant amendments to the Port State Control guidelines (MEPC.181(59)).
6. At its seventy-third session, the Committee took note of an intervention "that interim guidance from GESAMP in document MEPC 59/4/19 had identified there was a need to consider that the environmental benefits of reducing pollution to air were not diminished should discharge washwater present additional risks, especially as in future there would be more ships using EGCS leading to a potential increased risk and possible unintended consequences to the marine aquatic environment. The Committee consequently agreed to instruct PPR 6 take this view into account when reviewing the 2015 Guidelines for EGCS, in conjunction with further advice from GESAMP." (Document MEPC 73/19, Paragraph 5.12).
7. Furthermore, at its seventy-third session, the Committee also adopted Guidelines for discharge of exhaust gas recirculation (EGR) bleed-off water. EGRs are used to comply with the NO<sub>x</sub> Tier III emission limit, Exhaust Gas Recirculation (EGR) System. Since the EGR system is equipped with a scrubber to clean the recirculated exhaust gas, the system needs to bleed off its wash water.

### **IMO's objectives**

8. The proposal aims to protect the marine environment from discharges of harmful substances due to the development and use of new equivalent technologies, such as exhaust gas cleaning devices (OS2) and to harmonize the implementation of Regulation 4 of Annex VI of the MARPOL Convention (OS1).

### **Need**

9. The entry into force of the global sulphur limit for marine fuels on 1 January 2020 may lead to a rapid uptake of EGCS in international shipping.
10. The use of EGCS onboard ships started mainly from 1 January 2015 in the sulphur oxides emission control areas (SO<sub>x</sub> ECAs), as an alternative to the use of low-sulphur fuels. In March 2015, the number of ships EGCS was estimated at about 300<sup>5</sup>.
11. The Exhaust Gas Cleaning Systems Association (EGCSA) announced on May 31, 2018, the installation or order of 1561 EGCS for over a thousand ships.
12. In the case of the baseline scenario of the fuel availability study, as presented to MEPC 70 (MEPC 70/INF.6), the estimate was about 3 800 vessels equipped with EGCS on 1

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<sup>5</sup> Scrubbers - An economic and ecological assessment Delft, CE Delft, March 2015

January 2020.

13. The estimated number of EGCS, as presented to MEPC 70 (MEPC 70/INF.6), as well as the statistical data presented by EGCSA, show a significant growth in the use of these equivalent devices. The numbers are expected to increase further after 1 January 2020 due to the projected premium price of the 0.50% fuels entering the market.
14. The potential toxicity of EGCS water discharges, due to the very nature of the pollutant substances present in the exhaust gases, and the increase in the number of these systems require careful consideration to avoid irreversible pollutions of the marine environment.
15. GESAMP specifically advised that, with more ships discharging EGCS effluents in a wide variety of harbour configurations, there is a potential risk to harm the environment. A recommendation was given that a generalised marine environmental risk assessment should be developed (MEPC 59/4/19 - PPR 6/11/1). Such assessment could be conducted e.g. by the MAMPEC model, which is already used for the assessment of biocides releases from antifouling paints and for releases of harmful substances from ballast water treatment systems into the marine environment.
16. In this regard, the Committee during its 59th session agreed that the effluent discharge criteria should be revised in the future as more data become available on the contents of discharge and its effects (MEPC 59/24). Germany provided initial data from an ongoing study on effluent discharges from EGCS in open and closed loop operation to PPR 6 (document PPR 6/4/INF.20).
17. The preliminary results of this study (PPR 6/4/INF.20) show that currently tons of toxic heavy metals are discharged by EGCS into the North Sea, Baltic Sea and the English Channel annually, which accumulate in the marine environment, bio-accumulate in marine organisms and are non-degradable. Further, tons of polyaromatic hydrocarbons (PAH) are discharged, which also accumulate partly in the marine food chain. Some PAH are carcinogenic also to humans.
18. The expected increase of EGCS installations impairing the described threat to the marine environment, especially in sensitive areas like estuaries and ports, and the multitude of local or regional measures to control the discharge of these systems justifies the need to work on the harmonization of rules to protect the marine environment on the one hand and to facilitate international trade through maritime transport on the other.

### **Analysis of the issue**

19. The different types in available EGCS today can be differentiated according to the following categories:
  - a. Open loop EGCS, use untreated seawater. The natural alkalinity of seawater allows the neutralization of the acidity of the diluted exhaust gases.
  - b. Closed-loop EGCS use fresh water in closed-loop mode and the acidity of the diluted exhaust gases is neutralized with caustic soda;
  - c. Hybrid EGCS offer the possibility to operate in either closed loop or open loop modes. Hybrid scrubbers are generally used in open-loop mode when the vessel

is operating on the high seas and in closed-loop mode circuits in ports or estuaries<sup>6</sup>;

- d. Dry EGCS do not use liquids in the process but the exhaust gases are cleaned with hydrated lime-treated granulates.
20. The operation by ships of installed EGCS, especially in port waters, coastal areas or ecologically sensitive areas are expected to lead to a degradation of the marine environment due to the toxicity of water discharges. Indeed, due to the composition of the exhaust gases, EGCS effluents contain heavy metals (Hg, Cd, Cr, Cu, Ni, Zn), nitric and sulphuric acid, nitrates, and PAHs<sup>7</sup>.
  21. Today, new rules on the discharge of wash water are increasingly restricting or even prohibiting access by ships equipped with scrubbers to certain sea areas such as ports, estuaries and coastal areas.

### **Analysis of implications**

22. This new output should make it possible to guide industry as of now with regard to technology choices in order to avoid having to take retroactive measures in a few years' time. These measures could entail, but are not limited to applying stricter discharge criteria or the prohibition of discharges from a particular technology.
23. According to information published by EGCSA, as of 31 May 2018, 63% of the gas scrubbers installed or on order, or 988 EGCS, had open-loop technology, and 697 of these systems will be installed on new ships. For these ships, there will be no alternatives to discharging effluent into the sea when the scrubber is operated.
24. These ships will eventually be affected by the measures to limit discharges that will be taken, either within the framework of the Organization or by local or regional authorities. However, it must be considered that the sooner measures are taken, the lower the economic impact on shipowners will be.

### **Benefits**

25. The timely development of adequate measures to limit polluting discharges, especially in the most sensitive areas will limit the accumulation of persistent substances (including heavy metals) that is known to occur in particular in ports.
26. By adopting measures applicable to all ships, the Organization will limit the proliferation

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<sup>6</sup> Hybrid-ready ready EGCS are open loop scrubbers with the option to be operated on closed loop operations. The hybrid and closed loop systems can only operate if the ship has sufficient tanks to store the effluent. Sludges can be disposed of in ports only if adequate ports port reception facilities are in place.

<sup>7</sup> 'Assessment of possible impacts of scrubber water discharges on the marine environment' Environmental Project No. 1431, 2012 by COWI; 2014 Report No. (UBA-FB) 002015/E 'Impacts of scrubbers on the environmental situation in ports and coastal waters'; Front. Mar. Sci., 24 April 2018, <https://doi.org/10.3389/fmars.2018.00139> 'A New Perspective at the Ship-Air-Sea-Interface: The Environmental Impacts of Exhaust Gas Scrubber Discharge'.



of local or regional measures, which, because of their diversity and specificities, contribute to the administrative burden on crews and to the increased risk of accidents or incidents on board ships. A uniform measure will also limit the risk of prosecution and detention of ships in the context of port State control inspections.

### **Industry standards**

27. Today, only the guidelines on EGCS in resolution MEPC.259(68) stipulates discharge standards. However, these guidelines do not specify discharge criteria for specific areas. Moreover, it is questionable if the current criteria are fit for purpose in the current scenario, where a significant uptake of scrubbers or other technologies that discharge effluent into the marine ecosystem is occurring.

### **Output**

28. The proposed output is entitled “Definition of the sea areas and conditions under which liquid effluents from exhaust gas cleaning systems may be discharged into the waters”.

29. It is considered necessary to be able to take appropriate regulatory measures to protect certain areas from pollution resulting from the mentioned discharges, which could also include discharge bans from ships using a specific technology.

### **Human element**

30. The completed Checklist for Considering Human Element Issues by IMO Bodies is set out in Annex 2 to MSC-MEPC.7/Circ.1.

### **Urgency**

31. The sooner uniform and unambiguous regulatory measures are developed and adopted, the better the potential pollution will be controlled and the less significant the economic impacts will be both on industry and administrations. These measures are therefore considered urgent.

### **Action requested of the Committee**

32. The Committee is invited to consider:

- the proposal for a new output on the “*Definition of the areas and conditions under which liquid effluents from exhaust gas cleaning systems may be discharged into the sea*”.; and
- to include the new output in the agenda of its work programme and take any other relevant action.

## ANNEX 1

### CHECKLIST FOR IDENTIFYING ADMINISTRATIVE REQUIREMENTS AND BURDENS

The Checklist for Identifying Administrative Requirements and Burdens should be used when preparing the analysis of implications required of submissions of proposals for inclusion of unplanned outputs. For the purpose of this analysis, the terms "administrative requirements" and "burdens" are defined as in resolution A.1043(27), i.e. administrative requirements are defined as an obligation arising from future IMO mandatory instruments to provide or retain information or data, and administrative burdens are defined as those administrative requirements that are or have become unnecessary, disproportionate or even obsolete.

**Instructions:**

- (A) If the answer to any of the questions below is **YES**, the Member State proposing an unplanned output should provide supporting details on whether the burdens are likely to involve start-up and/or ongoing cost. The Member State should also make a brief description of the requirement and, if possible, provide recommendations for further work (e.g. would it be possible to combine the activity with an existing requirement?).
- (B) If the proposal for the unplanned output does not contain such an activity, answer **NR** (Not required).
- (C) For any administrative requirement, full consideration should be given to electronic means of fulfilling the requirement in order to alleviate administrative burdens

1. Notification and reporting? Reporting certain events before or after the event has taken place, e.g. notification of voyage, statistical reporting for IMO Members, etc.	NR  <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> Start-up <input type="checkbox"/> Ongoing
Description of administrative requirements(s) and method of fulfilling it: (if the answer is yes)		
2. Record keeping? Keeping statutory documents up to date, e.g. records of accidents, records of cargo, records of inspections, records of education, etc.	NR  <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> Start-up <input type="checkbox"/> Ongoing
Description: (if the answer is yes)		
3. Publication and documentation? Producing documents for third parties, e.g. warning signs, registration displays, publication of results of testing, etc.	NR  <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> Start-up <input type="checkbox"/> Ongoing
Description of administrative requirement(s) and methods of fulfilling it: (if the answer is yes)		
4. Permits or applications? Applying for and maintaining permission to operate, e.g. certificates, classification society costs, etc.	NR  <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> Start-up <input type="checkbox"/> Ongoing
Description: (if the answer is yes)		

5. Other identified burdens?	NR <input checked="" type="checkbox"/>	Yes
Description of administrative requirement(s) and methods of fulfilling it:: (if the answer is yes)		

## ANNEX 2

### CHECKLIST FOR CONSIDERING HUMAN ELEMENT ISSUES BY IMO BODIES

<b>Instructions:</b> If the answer to any of the questions below is:  (A) <b>YES</b> , the preparing body should provide supporting details and/or recommendation for further work. (B) <b>NO</b> , the preparing body should make proper justification as to why human element issues were not considered. (C) <b>NA</b> (Not Applicable) - the preparing body should make proper justification as to why human element issues were not considered applicable.	
<b>Subject Being Assessed:</b> (e.g. Resolution, Instrument, Circular being considered) <b>Harmonised rules on the discharge of liquid effluent from exhaust gas cleaning systems</b>	
<b>Responsible Body:</b> (e.g. Committee, Sub-committee, Working Group, Correspondence Group, Member State)  <b>Marine Environment Protection Committee (MEPC)</b>	
1. Was the human element considered during development or amendment process related to this subject?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
2. Has input from seafarers or their proxies been solicited?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
3. Are the solutions proposed for the subject in agreement with existing instruments? (Identify instruments considered in comments section)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
4. Have human element solutions been made as an alternative and/or in conjunction with technical solutions?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
5. Has human element guidance on the application and/or implementation of the proposed solution been provided for the following:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
• Administrations?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
• Ship owners/managers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
• Seafarers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
• Surveyors?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
6. At some point, before final adoption, has the solution been reviewed or considered by a relevant IMO body with relevant human element expertise?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
7. Does the solution address safeguards to avoid single person errors?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
8. Does the solution address safeguards to avoid organizational errors?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
9. If the proposal is to be directed at seafarers, is the information in a form that can be presented to and is easily understood by the seafarer?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
10. Have human element experts been consulted in development of the solution?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
<b>11. HUMAN ELEMENT: Has the proposal been assessed against each of the factors below?</b>	
<input type="checkbox"/> CREWING. The number of qualified personnel required and available to safely operate, maintain, support, and provide training for system.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<input type="checkbox"/> PERSONNEL. The necessary knowledge, skills, abilities, and experience levels that are needed to properly perform job tasks.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA

<input type="checkbox"/> TRAINING. The process and tools by which personnel acquire or improve the necessary knowledge, skills, and abilities to achieve desired job/task performance.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<input type="checkbox"/> OCCUPATIONAL HEALTH AND SAFETY. The management systems, programmes, procedures, policies, training, documentation, equipment, etc. to properly manage risks.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<input type="checkbox"/> WORKING ENVIRONMENT. Conditions that are necessary to sustain the safety, health, and comfort of those on working on board, such as noise, vibration, lighting, climate, and other factors that affect crew endurance, fatigue, alertness and morale.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<input type="checkbox"/> HUMAN SURVIVABILITY. System features that reduce the risk of illness, injury, or death in a catastrophic event such as fire, explosion, spill, collision, flooding, or intentional attack. The assessment should consider desired human performance in emergency situations for detection, response, evacuation, survival and rescue and the interface with emergency procedures, systems, facilities and equipment.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<input type="checkbox"/> HUMAN FACTORS ENGINEERING. Human-system interface to be consistent with the physical, cognitive, and sensory abilities of the user population.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
<p><b>Comments:</b></p> <p>(1) Justification if answers are NO or Not Applicable.</p> <p>(2) Recommendations for additional human element assessment needed.</p> <p>(3) Key risk management strategies employed.</p> <p>(4) Other comments.</p> <p>(5) Supporting documentation.</p> <p>The justification as to why human element issues were not considered NO or NA (Not Applicable) is as follows:</p> <p>(2),(4),(10) &amp; (11) This is primarily a regulatory issue, without effect on seafarers and the Human element.</p>	