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**RESOLUTION MEPC.335(76) - 2021 GUIDELINES ON THE SHAFT / ENGINE POWER LIMITATION SYSTEM TO COMPLY WITH THE EEXI REQUIREMENTS AND USE OF A POWER RESERVE**

**Notice to all Recognised Organisations, Ship Owners, Ship Operators, Ship Managers, Ships' Officers and Surveyors.**

*This Unified Interpretation should be read in conjunction with MEPC.335(76), 2021 Guidelines on the shaft / engine power limitation system to comply with the EEXI requirements and use of a power reserve.*

*This REG-UI replaces previous versions and remains extant until amended or withdrawn.*

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**Summary**

This Red Ensign Group (REG) Unified Interpretation (REG-UI) amendment has been published to advise of the REG interpretation and requirements in relation to Shaft Power Limitation (SHaPoLi) systems on REG Ships, and the use of a power reserve associated with engine maintenance and performance testing on REG ships.

The guidance and requirements contained within this amendment are in accordance with the requirements in force at the time of publication. Nevertheless, Masters and operators of REG ships should, refer to the requirements in force as applicable.

In the case of any clarification being required, the relevant REG Administration should be contacted.

**1. Introduction**

1.1. SHaPoLi (Shaft Power Limitation) and EPL (Engine Power Limitation) are systems designed to limit engine power to keep ship's carbon emissions at a controlled level. The technical requirements for SHaPoLi / EPL systems are contained within IMO Resolution MEPC.335(76), 2021 Guidelines on the shaft / engine power limitation system (herein referred to as the 'the guidelines') to comply with EEXI requirements and use of power reserve (as amended).

1.2. The SHaPoLi / EPL system should be accompanied by the Onboard Management Manual (OMM) as required by the guidelines which should contain the minimum information specified, including a description on how the shaft power can be limited and unlimited and how this is displayed. The OMM must be kept on board the ship for inspection.

## 2. IACS Recommendation No. 172

2.1. IACS Recommendation No. 172 (as amended) confirms that a Shaft Power Limitation system, independent from the engine automation, fulfils the IMO requirements.

2.2. Within this UI, the REG would like to highlight and clarify notable points stemming from the MEPC guidelines:

2.2.1. As defined within the guidelines, 'power reserve' is the shaft / engine power above the limited power which cannot be used in normal operation – only for the purpose of securing the safety of a ship or saving life at sea, consistent with regulation 3.1 of MARPOL Annex VI.

2.2.2. The guidelines state, that use of a power reserve is only allowed for the purpose of securing the safety of a ship or saving life at sea, consistent with regulation 3.1 of MARPOL Annex VI (e.g. operating in adverse weather and ice-infested waters, participation in search and rescue operations, avoidance of pirates and engine maintenance). Use of a power reserve should not have an adverse impact on the propeller, shaft and related systems. It is important that the ship master and Officer in charge of the Navigation Watch (OICNW) are not restricted from exercising judgement to override the SHaPoLi / EPL when required for safety purposes. The authority for this should be clearly set out in the OMM and/or the Safety Management System, as appropriate.

2.2.3. Subsequent to the above-mentioned scenarios, once the risks have been mitigated, the ship should be operated below the certified level of engine power under the SHaPoLi / EPL. The SHaPoLi / EPL system should be reactivated or replaced by the crew immediately after the risks have been mitigated, and the ship can again be safely operated with the limited shaft / engine power. The reactivation or replacement of the SHaPoLi / EPL system should be confirmed (e.g. validation of mechanical sealing) with supporting evidence (e.g. engine power log, photo taken when the mechanical sealing is reset) to the Administration or the RO at the earliest opportunity.

2.2.4. Furthermore, the guidelines state that the use of the power reserve should be distinguished from the precautionary un-limiting of a shaft or engine power limitation system. Where an SHaPoLi / EPL override is activated pre-emptively when hazards are anticipated, but the power reserve is not subsequently used, this event should be recorded in the bridge and engine-room logbooks. The engine-room logbook should record power used during the period when the override was activated. The SHaPoLi / EPL should be reset as soon as possible, and details of the reset should also be recorded in the bridge and engine-room logbooks. In the event that the SHaPoLi/EPL is activated but the reserve power is not used then this must be recorded on board but is not required to be reported to the RO, Port or Coastal State authorities.

2.2.5. Following reactivation of the SHaPoLi / EPL system, the ship should again be operated within the limited power conditions in accordance with the Onboard Management Manual (OMM).

2.2.6. In the case of having used a power reserve, the ship should without delay notify its Administration or RO responsible for issuing the relevant certificate and the competent authority of the relevant port of destination with the information recorded in accordance with the reporting format of the guidelines. Records should include:

- Ship type;
- IMO Number;
- Ship's size in DWT and/or GT, as applicable;
- Ship's limited shaft / engine power and ship's maximum unlimited shaft / engine power;
- Position of the ship and timestamp when the power reserve was used;
- Reason for using the power reserve;
- Beaufort number and wave height or ice condition in case of using the power reserve under adverse weather conditions;
- Supporting evidence (e.g. expected weather condition) in case of using the power reserve for avoidance action;
- Records from the SHaPoLi / EPL system for the electronically controlled engine during the time that the power reserve was used; and
- Position of the ship and timestamp when the power limit was reactivated or replaced.
- Any local, for instance pilotage authorities, regulations which require vessel's SHaPoLi/EPL systems to be activated.

### **3. Requirements for REG Ships**

3.1. The REG accepts the IACS interpretation (Recommendation 172 as amended) provided SHaPoLi systems fitted to REG ships comply with the following requirements:

3.1.1. The SHaPoLi system should be fitted with a visual indication and an audible alarm at the control position on the bridge. The visual indicator should indicate when the power is approaching the power limit and remain visible whilst the power limit is being exceeded. The audible alarm may be acknowledgeable (silenced).

3.1.2. In addition to the above, an alarm is to be fitted to indicate system malfunction.

3.1.3. The SHaPoLi / EPL system should be non-permanent but should require the deliberate positive action of the ship's master or the OICNW to enable the use of unlimited shaft / engine power (power reserve) of the ship. This should be via the use of a key switch or similar. For existing vessels where the use of a key switch to access the power reserve is not practicable, a suitable alternative may be considered. By way of example, the acknowledgement of the audible alarm(s) required in 3.1.1 and the continued use of the reserve power may be considered as deliberate positive action. For systems that use a Password/PIN to control access to the power reserve override, attention should be paid to ensure that the necessary Password/PIN is always available when override is required by the ship in a scenario specified in regulation 3.1 of MARPOL Annex VI, which may endanger safe navigation of ship. Immediate use may be achieved by procedural arrangements for pre-emptive un-limiting of the SHaPoLi / EPL system.

3.1.4. Records of the use of the power reserve shall be submitted to the appropriate RO and the port of destination without delay.

3.1.4.1. The Red Ensign Group interpret 'without delay' to mean within 24

hours of the last event.

- 3.1.4.2. The RO is authorized to transmit these records onward to the IMO, at the appropriate intervals.
- 3.1.4.3. The RO is also requested to transmit copies of these records to the office of the REG Administration which is responsible for the vessel.
- 3.1.5. If the power limit is exceeded inadvertently (due to a change in sea or tidal conditions, for example) the system required in 3.1.1 should alert the bridge and automatic data recording shall begin within **300 seconds (5 minutes)** after the limit is exceeded. This time delay is intended to allow the operator to modify the input if the use of reserve power is not necessary.
- 3.1.6. Any use of the power reserve or inadvertent exceedance of the power limit (beyond the 300s time limit) must be recorded in the OMM as described in section 2.2.6 above, and in accordance with the guidelines.
- 3.1.7. The reactivation or replacement of the SHaPoLi / EPL system following any use of the power reserve, must be confirmed and supported by documentary evidence such as OMM log extracts and photographic evidence, by the Master or operator of the vessel, to the RO at the earliest opportunity. The RO shall review all documentary evidence submitted, to verify the satisfactory reactivation or replacement of the SHaPoLi / EPL system. Such verification may, if so required, extend to an occasional survey, which may be undertaken via established remote survey means.
- 3.1.8. The RO shall during the required MARPOL Annex VI (IAPP) periodical attendances, verify that all occasions where the reactivation or replacement of the SHaPoLi / EPL system has taken place, have been reported. The RO shall verify that corresponding entries are contained within the OMM log, together with supporting documentary evidence demonstrating the reactivation or replacement of the SHaPoLi / EPL system.

#### **4 Reporting of instances relating to securing the safety of a ship or saving life at sea**

4.1 Notwithstanding any of the guidance contained within this UI, any instances where the use of a power reserve relates to securing the safety of a ship or saving life at sea, must be notified without delay to the relevant REG Administration, the RO responsible for issuing the relevant certificate, and the competent authority of the relevant port of destination with the information recorded.

#### **5 Definition of engine maintenance**

5.1 In section 3.1 of the guidelines, 'engine maintenance' is listed amongst other scenarios where the use of the power reserve is allowed. Although the other scenarios are clear and do not require further clarification, it is the opinion of REG that 'engine maintenance' needs further clarification to ensure it is indeed *consistent with regulation 3.1 of MARPOL Annex VI*.

5.2 The REG defines engine maintenance as, "*an occasion under which the use of the power reserve is required for the purposes of scheduled engine maintenance and performance testing, in accordance with the engine manufacturer's requirements*".

5.3 Should the use of the power reserve be in relation to scheduled engine maintenance and/or performance testing as defined above, then this should be recorded within the OMM, reported to the RO responsible for the issuance of the relevant certificate, and the competent

authority of the relevant port of destination with the information recorded as described in section 2.2.6, and in accordance with the guidelines.

5.4 In respect of 5.3 above, the reactivation or replacement of the SHaPoLi / EPL system following the use of the power reserve in relation to scheduled engine maintenance and/or performance testing, must be confirmed and supported by documentary evidence such as OMM log extracts and photographic evidence, by the Master or operator of the vessel, to the RO at the earliest opportunity. The RO shall review all documentary evidence submitted, to verify the satisfactory reactivation or replacement of the SHaPoLi / EPL system. Such verification may, if so required, extend to an occasional survey, which may be undertaken via established remote survey means.

5.5 In respect of paragraph 5.4 above, the RO shall during the required MARPOL Annex VI (IAPP) periodical attendances, verify that in respect of all occasions where the reactivation or replacement of the SHaPoLi / EPL system has taken place, the reporting as per section 5.3 above has been carried out. The RO shall verify that relevant entries are contained within the OMM log, together with supporting documentary evidence demonstrating the reactivation or replacement of the SHaPoLi / EPL system.

## **6 Additional information to be provided, as applicable**

6.1 The following documents described in the appendices to Recommendation on the Provision and Display of Manoeuvring Information on Board Ships (annex, resolution A.601(15) as amended) should be updated to include the manoeuvring characteristics of the ship when the ship has all shaft and engine power available, and when shaft or engine power has been limited:

- 6.1.1 The Pilot card;
- 6.1.2 The wheelhouse poster; and,
- 6.1.3 The manoeuvring booklet.

### **6.2 Overridable Systems**

6.2.1 The existing manoeuvring booklet, if available, and the manoeuvring information displayed on the navigating bridge shall (1) include the ship's power; if it has been limited and (2) state the limiting power for the attention of the Master to account for the ship's performance in case no corresponding sea trials are carried out.

### **6.3 Non-overridable Systems**

6.3.1 The stopping times and distances, and the data of the turning circles as per SOLAS Reg. II-1/28.3 and Res.MSC.137(76) respectively, are to be recorded on new trials, where applicable. Also, the existing manoeuvring booklet, if available, and the manoeuvring information displayed on the navigating bridge (pilot card and wheelhouse poster) are to be updated.

6.4 In respect of 6.2 & 6.3 above, following publication of this UI the REG requires that any update of the manoeuvring characteristics of the ship is verified by the RO and to be completed no later than the next scheduled periodical survey related to the Safety Construction Certificate (SAFCON).

### **6.5 New Sea Trials**

6.5.1 In cases where the manoeuvring characteristics of the ship are determined by new sea trials; the RO will, as part of the verification stated in 6.4 above, verify that the new sea trial has been undertaken in accordance with the requirements

for new sea trials contained within IACS Recommendation No. 172 (as amended).

6.5.2 In cases where the RO has witnessed the new sea trial, a witness statement attesting to the effect of the SHaPoLi arrangement, shall be issued by the RO.

6.6 Alternative methods for updating the manoeuvring characteristics, such as CFD (Computational Fluid Dynamics) numerical calculations, are acceptable subject to plan appraisal, and are to be included in the EEXI technical file.

## **7 Coastal and/or Port State Requirements**

7.1 Some Coastal and/or Port States may impose requirements which may extend to a requirement for the “overriding” of SHaPoLi / EPL systems.

7.2 REG ships operating in the waters of the United States:

7.2.1 The REG is aware of certain requirements on the part of the US Coast Guard in respect of SHaPoLi / EPL systems. These are contained within US Coast Guard CG-ENG Policy Letter 01-24, and Masters and operators of REG ships are requested to familiarize themselves with these requirements.

7.3 REG ships operating elsewhere

7.3.1 Masters and operators should familiarize themselves with any requirements on the part of relevant Coastal and/or Port State Authorities related to SHaPoLi and EPL systems, and be guided accordingly.

7.4 Masters and operators should note, that in respect of any circumstances requiring the “overriding” of SHaPoLi / EPL systems due to Coastal and/or Port State requirements, whether the power reserve is used, or the systems overridden but the reserve power not subsequently used, such instances must be reported and recorded with the guidance provided within this UI and those contained within the guidelines.

### More Information

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