
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This REG-UI replaces previous version and remains extant until rescinded.

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 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, fulfills 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) by 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 and audible indication arrangement at the control position on the bridge which indicates when the power output is approaching the power limit and when it has exceeded the power limit.
- 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 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. Deliberate use of the power reserve shall cause automatic data recording to begin immediately.
- 3.1.5. If the power limit is exceeded inadvertently – because of a change in sea or tidal conditions, for instance – the indication system referred to above should indicate immediately and automatic data recording of this event shall begin **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. As mentioned within section 2.2.6, the use of the power reserve must be reported without delay to the RO and the port of destination. The flag Administration will report all cases of the use of power reserve to the IMO on an annual basis, see also 5.6 for reporting.
- 3.1.8. 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.
- 3.1.9. 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 Despite the references contained within the guidelines, the definition of engine maintenance remains undefined.

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.

5.6 In respect of sections 5.3 to 5.5 above, the RO shall on an annual basis provide the relevant individual REG Administration with an account of all such occasions, prior to the annual submission date for reporting all uses of a power reserve to the IMO as required by the guidelines.

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 In respect of 6.1 above, the REG requires that ships fitted with SHaPoLi / EPL systems which provide permanent power limitation, update the manoeuvring characteristics of the ship at limited power, and is verified by the RO by the next scheduled periodical survey related to the Safety Construction Certificate (SAFCON) following publication of this UI.

- 6.2.1 The manoeuvring characteristics of the ship shall be determined by sea trials.
- 6.2.2 Alternative methods for updating the manoeuvring characteristics, such as CFD (Computational Fluid Dynamics) numerical calculations, are acceptable subject to plan appraisal.
- 6.2.3 In respect of 6.2.2 above, RO attendance of sea trials is required. However, RO attendance may be undertaken via established remote means, providing such means provide an equivalent level of effectiveness as a physical attendance.

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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