

# ABS REGULATORY NEWS

No.15/2023



## USE OF A POWER RESERVE AND REACTIVATION OF EPL/SHAPOLI

This Regulatory News provides guidance on use of a power reserve for overridable SHaPoLi/EPL systems.

### EEXI VESSEL – EPL AND SHAPOLI

In [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, the IMO defines measures to limit the propulsion power to be considered in the EEXI calculation. The guidelines also define the two different power limitation methods: Engine Power Limitation (EPL) and Shaft Power Limitation (SHaPoLi). EPL limits engine power by restricting the fuel rack (mechanically controlled engines) or the fuel index (electronically controlled engines). Besides, EPL may also directly limit the power in the engine's control system (electronically controlled engines). SHaPoLi measures the shaft power with an independent torque meter and the limitation is based on this value. Additional discussion on this calculation and the related [IACS Recommendation No.172](#), [EEXI Implementation Guidelines](#), can be found in [ABS Regulatory News No.08/2022 - EEXI Actions to Take](#).

### KEY NOTES

- The power limitation may be removed to facilitate use of reserve power where its use is required for the safety of the ship or safety of life at sea.
- The ship should without delay notify its Administration or RO responsible for issuing the relevant certificate when using the power reserve.
- References:
  - IMO Resolution MEPC.375(80)
  - IMO Resolution MEPC.335(76)
  - IMO Resolution A.601 (15)
  - IACS Recommendation No.172

Limitation Measures	Examples from IACS Rec.172
Overridable EPL/ShaPoli	<p>Fixed in place and can only be overridden by permission of the ship's master. Can be mechanically or electronically installed.</p> <p><b>Examples of mechanical EPL:</b></p> <ul style="list-style-type: none"> <li>• Locking of the fuel index by a mechanical stop screw sealed with wire</li> <li>• Setting of the governor limit via sealed mechanical screw</li> <li>• Turbocharger cutout via butterfly valve</li> </ul> <p><b>Examples of electronic EPL:</b></p> <ul style="list-style-type: none"> <li>• Password protected electronic locking of the fuel index or governor</li> </ul> <p><b>ShaPoLi Arrangement:</b></p> <ul style="list-style-type: none"> <li>• Torque and rotational speed sensors</li> <li>• Data recorder and processing device</li> <li>• Control unit for calculation and Limitation of the power transmitted</li> </ul>
Non-Overridable EPL (a.k.a. PPL – permanent power limitation)	<p><b>Permanent and non-reversible de-rating of the engine via:</b></p> <ul style="list-style-type: none"> <li>• Turbocharger(s) (can be multiple T/C's) cutout by removable blinding plate or permanent blinding plate and Turbocharger dismantling.</li> <li>• Permanent adjustment of fuel index i.e. welded in place.</li> <li>• Permanent engine de-rating i.e. cylinder cutoff or reduction of combustion volume.</li> <li>• Propeller retrofit with shaft power limitation to prevent damage on propeller or shaft.</li> </ul>

## DOCUMENTS TO BE UPDATED

When a vessel becomes equipped with a Shaft/Engine Power Limitation system, the following documents must be considered for updates:

Items	Overridable EPL/SHaPoLi	Non-Overridable EPL
Minimum Propulsion Power Assessment	<b>No</b> , unless a vessel has undergone a modification so extensive that the Administration regards it as a newly constructed ship.	1. For tankers, bulk carriers, or combination carriers over 20,000 DWT, MPP Assessment to be verified according to MEPC.1/Circ. 850 latest revision. 2. No requirement for a new sea trial.
Maneuvering Information Update (Pilot Cards Update)	<b>Yes</b> , the existing maneuvering booklet, if available and the Pilot Card as per IMO Resolution A.601 (15). Maneuvering information displayed on the navigating bridge to include that the ship's power has been limited for the attention of the Master to account for the ship's performance.	<b>Yes</b> , 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), to be recorded on new trials where applicable. Also, the existing maneuvering booklet, if available and the maneuvering information displayed on the navigating bridge (pilot card and wheelhouse poster) to be updated.
NOx Technical File to be updated	<b>No</b> , unless engine critical settings or components affecting the NOx TF are changed. Statement from engine maker may be considered as acceptable supporting documentation and filed together with NOx TF.	<b>1. Yes</b> , for turbocharger dismantling/cutout and permanent engine de-rating. Engine de-rating also requires a change in of name plate. <b>2. No</b> , for propeller retrofit or fuel index permanent adjustment.

## ONBOARD MANAGEMENT MANUAL (OMM) FOR EPL/SHAPOLI

According to IMO [Resolution MEPC.335\(76\)](#), all new and existing overridable shaft or engine power limitation systems need to be approved and verified by the administration or the recognized organization (RO). This requires the administration or the RO to approve the applied EPL/SHaPoLi and the Onboard Management Manual (OMM).

The OMM is to include the technical details and identification of key components of the applied EPL/SHaPoLi, service, maintenance and calibration requirements for SHaPoLi, methods of locking and monitoring the EPL, procedures for limiting and releasing the power reserve, time required for un-limiting the power reserve, procedures for notification of the use of power reserve, procedures for survey, etc.

## REPORTING USE OF POWER RESERVE

Several U.S. Coast Guard sectors recently issued guidance on the ability to override engine or shaft power limiting devices during pilotage. As per [IMO Resolution MEPC.375\(80\)](#) *Amendments to the 2021 Guidelines on the Shaft / Engine Power Limitation System to Comply with the EEXI requirements and use of a Power Reserve* the use of a power reserve is only allowed for the purpose of securing the safety of a ship or saving life at sea as below:

1. Operating in adverse weather
2. Operating in ice-infested waters
3. Participation in search and rescue operations
4. Avoidance of pirates
5. Engine maintenance
6. Description of other reasons consistent with regulation 3.1 of MARPOL Annex VI

If the power reserve has been used, the ship should without delay notify its administration or RO responsible for issuing the relevant certificate, as well as the competent authority of the relevant port of destination.

Question	Answer
Can EPL and SHaPoLi be overridden at the request of a Pilot during maneuvering?	<ul style="list-style-type: none"> <li>• <b>Yes</b>, if it is for the safety of the ship or safety of life at sea.</li> <li>• <b>No</b>, if it is just for use of reserve power (i.e. if there is no risk as noted above).</li> </ul>
When do I need to reactivate the EPL or SHaPoLi?	<ul style="list-style-type: none"> <li>• Immediately after the above risk is mitigated or passed.</li> </ul>

The information to be provided is shown in the [Appendix](#). The information should be accompanied by supporting evidence (e.g. weather condition reports) and records from the SHaPoLi/EPL system during the use of the power reserve for verification by an administration or RO.

The above information must also be recorded on the record page of the OMM for SHaPoLi / EPL, signed by the master and kept on board. On an annual basis by 30 June, the administration should report to the IMO Secretariat uses of a power reserve over a 12-month period from 1 January to 31 December for the preceding calendar year using the format as set out in the [Appendix](#).

## OVERRIDE IS ACTIVATED, POWER RESERVE NOT USED

Where an EPL or SHaPoLi override is activated 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 EPL/SHaPoLi should be reset as soon as possible, and details of the reset should also be recorded in the bridge and engine-room logbooks. The administration or RO should confirm reactivation of the EPL or SHaPoLi following the same procedure as when the power reserve is used.

## HOW TO REPORT

In case power reserve has been used or reactivated, an occasional survey/audit shall be carried out. This occasional survey/audit may be carried out by remote methods. Please contact your local ABS office or submit a request to report same at [remotesurvey@eagle.org](mailto:remotesurvey@eagle.org).

EPL/ SHaPoLi Overridden	Power Reserve used	Power Reserve not used
Recording ER/ Bridge Logbooks	X	X
Recording in OMM Record Page	X	
Notify Administration/RO	X	
Notify next port of call	X	
RO/ Administration confirm reactivation	X	X

## SHORT-TERM EXCEEDANCES

There might be transitory periods and isolated spikes in the recorded output (e.g. fluctuation of load due to weather and sea conditions). This short transitory exceedance of the power limit should not be considered as a “reserve power used” which should be reported to the flag administration and subsequently to the IMO. The acceptable exceedance period for several flag administrations is given below, operators should confirm the allowable exceedance period for other flag administrations:

Flags	Accepted exceedance period
Liberia, Marshall Islands, Cyprus,	Accepted five (5) minutes periods unintentional exceedance of engine power limit due to engine load fluctuation.
UK MCA	Accepted three (3) minutes periods unintentional exceedance of engine power limit due to engine load fluctuation.

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## APPENDIX

### FORMAT FOR REPORTING OF EPL/SHAPOLI OVERRIDE ACTIVATION, USE OF A POWER RESERVE AND REACTIVATION OF EPL/SHAPOLI

Ship type:

IMO number:

DWT:

GT:

Maximum unlimited shaft/engine power(kW):

Limited shaft/engine power(kW):

Date (dd/mm/yyyy)	Time (UTC)	Position		Override activation/Reactivation	Reason for using the power reserve <sup>1</sup>	Beaufort Numbers <sup>2</sup>	Wave Height <sup>2</sup>	Ice Condition <sup>2</sup>
		Longitudinal	Latitude					
..								

1 Reason for override (select at least one option)

- .1 operating in adverse weather.
- .2 operating in ice-infested waters.
- .3 participating in search and rescue operations.
- .4 avoidance of pirates
- .5 engine maintenance
- .6 description of other reasons consistent with regulation 3.1 of MARPOL Annex VI

2 Beaufort number and wave height or ice condition, as applicable, to be entered in case of using the power reserve under adverse weather condition.

**Note:** The below two items need to be recorded in the record page of the OMM for SHaPoLi / EPL, signed by the master, kept on board, and notify to

the Administration or RO and port of call.

- a. Supporting evidence (e.g. expected weather condition) in case of using the power reserve for avoidance action.
- b. Records from the SHaPoLi/EPL system for the electronically controlled engine during the use of the power reserve.

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