

# **Engine Power Limitation (EPL) for RightShip's GHG Rating**

# What is EPL for RightShip's GHG Rating ?

## Better RightShip Rating – Limited engine power



### What is EPL?

The EPL is a limitation of the main engine SMCR.  
The EPL is a limitation of the engine maximum power.



### Why EPL?

High efficiency at low cost.  
A simple way to limit the power output of engines.



### EPL benefit !!

Avoid increased wear

Avoid an increased fuel consumption

Prevent higher thermal load on the combustion chamber

Prevent overload of propellers and Turbocharger overspeed

## **EPL dose NOT change the engine performance. Classification is not part of the EPL.**

The new propeller layout is compared with the original propeller layout to verify that the two layouts match.

If the layouts do not match the engine may risk becoming heavy running, resulting in higher thermal load on the combustion chamber parts, leading to increased fuel oil consumption and increased wear.

The verification of the matching layouts for the old and new propeller can also be used towards classification society as documentation is showing that the engine performance has not been changed and that recertification is not necessary.

### **Required information for EPL**

- . Vessel name & IMO Number
- . Copy of original shop test & technical file
- . EVDI report (If not available, at least targeting EPL power)
- . ME & ME-C engine types : ECS version number, MOP type number & SPAF file (Copy of the main engine parameter file)

## STXHI will provide evaluation & study of the EPL report. (New set of main engine governor limitation)

### Ship Owner

- Required or wished RightShip GHG rating to be decided.
- New SMCR or targeted engine power for EPL to be decided and informed to STX HI, which should be matched with wished GHG rating.
- To ensure the vessel has enough engine power after implementation of EPL, the vessel minimum propulsion power can be calculated in accordance with MEPC. 1/Cir.850. Hence, it is recommended that EPL report is submitted to the Classification society for approval by ship owner.

### STX HI

- Evaluation & study of the EPL report.
- On-board installation & verification
  - *On board attendance by STX HI Superintendent for performance verification*
  - *Adjustment and locking of the mechanical stop screw on the connection from local control. (Slightly above governor set point to avoid interference with full rpm ordered from governor)*
  - *Recommend to measure engine performance as follow:*
    - 25%, 50%, 75% of original SMCR & New EPL
- Performance verification report

### Governor Maker

- Installing the new set of main engine governor limitation parameters into the Governor.
- It is recommended that installation of the governor limitation parameters is performed by governor maker..
- Service report by governor maker

**On board attendance by STX HI Superintendent for performance verification on-board after governor modification or installation of new SPAFF file.**

Governor  
modification

- MC & MC-C engines
  - Adjustment and locking of the mechanical stop screw  
(Slightly above governor set point to avoid interference with full rpm ordered from governor)
- ME & ME-C engines
  - Installation of new SPAFF file with revised governor settings.

Performance  
verification

- Recommends to measure engine performance.
  - 25%, 50% & 75% of original SMCR
  - New max load (EPL)

**We have accumulated a number of references.**

<b>Year</b>	<b>Customer</b>	<b>Vessels</b>
<b>2019</b>	<b>STAR BULK</b>	<b>2</b>
	<b>THENAMARIS</b>	<b>1</b>
<b>2020</b>	<b>STAR BULK</b>	<b>9</b>
	<b>THENAMARIS</b>	<b>1</b>
	<b>POS SM</b>	<b>12</b>
<b>2021</b>	<b>FIVE OEAN</b>	<b>1</b>
	<b>STAR BULK</b>	<b>100</b>
<b>Total</b>		<b>126</b>

**For materializing and consultant of technical support and service, We, STX HI provide the competitive solutions consequently bring cost-effective reliable operation.**

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