

Dynamic limiter function

The dynamic limiter function (DLF) is a new engine control system functionality that has been developed to improve engine and ship acceleration, maneuverability and crash-stop. The idea behind DLF is that accelerations are short events that occur at below maximum power and engine speed.

In such situations, it is possible to generate higher torque, and thereby power, without jeopardizing engine reliability.

The dynamic limiter function system adjusts the engine operating parameters for maximum torque when required and for maximum 30 minutes. When the DLF has been active for 30 minutes it will gradually roll back to the normal fuel index limiters.

A sufficient propeller light running margin is still needed to achieve sufficient engine power and vessel speed in long lasting heavy conditions such as:

- Heavy weather
- Shallow or otherwise restricted Waters
- Ice

Quick passage of barred speed range Due to excessive torsional vibrations at the main critical resonance, many shaft lines have a barred speed range (BSR). In order not to damage the shaft line, it must be possible to pass the barred speed range quickly in all relevant conditions.

As a general rule, the barred speed range should be passed within seconds, not minutes. Too slow passage of the BSR may have negative consequences for the shaft lifetime and for ship maneuvering.

The dynamic limiter function is an engine control system upgrade that increases the allowable engine torque for up to 30 minutes. This reduces the time needed for passing the BSR.



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Key benefits

- Improved maneuverability
- Improved engine and ship acceleration
- Quick passage of barred speed range
- Improved crash-stop performance
- Fully automatic

Scope of supply

Dynamic limiter function software that can be retrofitted without renewing torsional vibration measurements.

Applicability

Dynamic limiter function is applicable to the following engines with engine software ME ECS-SW 1312-3.4 or newer. Older engine software has to be upgraded to a newer version before installation of DLF can be done:

- All Everllence B&W ME_C engines
- All Everllence B&W ME-B engines

Reference list

Dynamic limiter function is supplied with new engines and has already been retrofitted on more than 100 engines.

More information

Would you like to know more about the product, and how the upgrade can improve your specific engine? Then do not hesitate to contact your local Everllence PrimeServ office to receive more information about the upgrade!

Everllence PrimeServ

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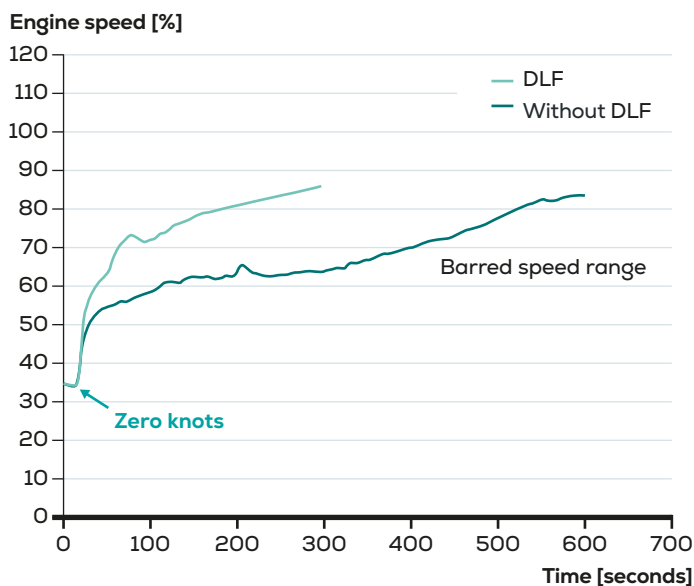


Figure 1: Test vessel 4 (82,000 dwt bulk carrier). Acceleration from zero vessel speed. Positive effect of DLF is clearly seen. Results are shown with and without DLF Standard. Vessel is going astern with the engine in dead slow ahead until zero knots is reached, then the test is started by putting the handle to navigational full.