

A substantial modification only holds up if the emissions can be proven



Relevant for engine builders, engine designers, ship owners and managers.

13 October 2026

MEPC.398(83) has been in force since 1 September 2026. It gives a defined route for certifying an engine after a substantial modification. The limits are unchanged, but the proof has to be made where the engine runs.

What the rule closes

MEPC.398(83) amends the NOx Technical Code 2008. It closes a gap: a defined route for certifying an engine after a substantial modification, or when it is brought to a Tier it did not hold at installation.

The limits are unchanged. What is new is the route, and that the test is performed on the installed engine. The Norwegian Maritime Authority has implemented the amendments in Norwegian law from the same date, and notes that certification is to a large extent delegated to the recognised classification societies.

1 September 2026

MEPC.398(83) is in force: the route for certifying a substantially modified engine, tested where it runs.

When the engine has moved off its baseline

A modification that changes the NOx-relevant configuration moves the engine off its certified baseline. Examples are dual-fuel or methanol conversion, Tier III SCR, a fixed or variable compression ratio, turbocharger cut-out and part-load tuning. Whether a given change counts as a substantial modification is assessed together with class.

From that point the test bed certification no longer proves compliance, and there is no test bed to return to. Compliance has to be shown where the engine runs, onboard.



Logging the measurement onboard, at the analyzer rack.

What the route looks like

The procedure applies to the installed engine, so the engine is tested onboard. It can cover a single engine, or an engine group represented by its parent engine, but not an engine family. The other engines in the group follow as member engines, with a parameter check instead of a full emission measurement.

The 100 % load point may be as low as 85 % of rated power, if the test plan allows it. The test plan is agreed with the Administration before the test, and the nameplate is replaced if power or speed changes.

A change of Tier level means a new Technical File. An amendment is used to update an existing file.

The route in five steps

- 1 **Modification assessed together with class**
- 2 **Test plan agreed with the Administration**
- 3 **Engine tested onboard, where it runs**
- 4 **Amendment or new Technical File prepared**
- 5 **Documentation followed until approved**

At a glance

Question	Answer
Applies to	An installed engine after a substantial modification, or certified to a Tier it did not hold at installation
Scope	A single engine, or an engine group through its parent engine, not an engine family
Test	Onboard, with the 100 % point down to 85 % of rated power if the test plan allows it
Tier change	A new Technical File
Amendment	Updates an existing file

Prove it once, onboard

The measurement has to stand up to survey. Not measure and hope, but a known result built in from day one: the test plan agreed before the test, the equipment calibrated to NTC 2008, and class aligned before the measurement.

Depending on the engine, the scope can include NO_x and the full gaseous bench (CO, CO₂, O₂, THC), and methane slip (CH₄) and N₂O where the fuel makes them relevant. The measurement follows NTC 2008 and ISO 8178 and, where the trade requires it, EPA 40 CFR Part 1042 and 1065.

Where we come in

We support the whole process, in close collaboration with the engine designer, the owner, the crew and class: preparation, the test plan, the measurements, the optimisation of the engine from the measured results, and the documentation for the amendment or the new Technical File, including documentation for EIAPP re-issue and SCR verification.

What we recommend

Bring the measurement and certification scope in from the start, and the outcome is known before the vessel returns to service, not discovered at survey. Talk to class and the engine designer before the scope is fixed. It is the cheapest point to get it right.

Sources: IMO resolution MEPC.398(83), amendments to the NO_x Technical Code 2008; Norwegian Maritime Authority, circular RSR 07-2026f (13 August 2026).

This note is general information and not legal advice. Check the current regulation text before you rely on it.

Contact

Talk to us before the scope is fixed. It is the cheapest point to get it right.

ME-Tech, Marine Emission Technology

contact@me-tech.dk

+45 24 22 55 56

www.me-tech.dk