ME-Tech

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Tier III with SCR: Scheme A or Scheme B under MEPC.399(83)



Relevant for engine builders, engine designers, ship owners and managers of ships with SCR.

4 November 2026

The 2025 SCR Guidelines, MEPC.399(83), give two ways to certify an engine fitted with SCR for Tier III: tested as one system on the test bed, or tested in two steps and confirmed onboard. Which one fits depends on the engine and the project.

What MEPC.399(83) is

MEPC.399(83) are the 2025 Guidelines on selective catalytic reduction (SCR) systems. They add to the NOx Technical Code 2008 for the design, testing, survey and certification of engines fitted with SCR, so that the engine complies with the Tier III limit in regulation 13 of MARPOL Annex VI.

They supersede the 2017 SCR Guidelines. Administrations are invited to apply them to SCR systems on ships with keels laid on or after 1 November 2025, and to older ships where the SCR is delivered on or after 1 May 2026.

11 April 2025

MEPC.399(83) was adopted: the 2025 Guidelines on selective catalytic reduction (SCR) systems, which supersede the 2017 SCR Guidelines.

Scheme A: one system, tested together

The engine and the SCR are tested together as one combined system on the test bed, following chapter 5 of the NOx Technical Code 2008. The measured NOx emission is the result for the system.

Scheme B: tested in two steps, confirmed onboard

The engine is tested, and the NOx reduction of the SCR is established separately, with a calculation model based on tests of the SCR chamber. The resulting NOx emission goes into the Technical File and the EIAPP supplement. The result is then confirmed on the installed system.

The onboard confirmation test in Scheme B

After installation and before the ship enters service, a confirmation test is carried out onboard. The system is checked against the Technical File, and the test is done as close as possible to 25, 50 and 75 % of rated power.

NOx is measured before and after the SCR chamber, and the reduction rate is calculated. At no test point may it fall more than 5 % below the value in the Technical File. The initial survey is not completed until the confirmation test gives compliant results.



Measuring equipment set up at the SCR outlet.

After approval: the spot check

Where the SCR is monitored without a NOx measurement device, periodical spot checks assess the catalyst condition. The first is after installation, and then at least every 12 months, at no less than 50 % of rated power. The checks do not need to be witnessed by the Administration, and the records are kept for the surveys.

The route in short

The route depends on the scheme. The steps below show it.

The route in five steps

1. **Scheme and test plan agreed with the Administration**
2. **Engine, or engine and SCR, tested**
3. **Technical File completed and EIAPP issued**
4. **Onboard confirmation test (Scheme B)**
5. **Spot checks after installation and at least every 12 months**

At a glance

Question	Answer
Guidelines	MEPC.399(83), 2025 Guidelines on SCR systems
Replaces	The 2017 SCR Guidelines, MEPC.291(71) as amended by MEPC.313(74)
Scheme A	The engine and the SCR are tested as one combined system
Scheme B	The engine is tested, the SCR reduction is established separately, and the result is confirmed onboard
Onboard test	Close to 25, 50 and 75 % of rated power, with NOx measured before and after the SCR chamber
Spot checks	After installation and at least every 12 months, at no less than 50 % of rated power

Where we come in

We plan and carry out the measurements, including the onboard confirmation test, and prepare the measurement data and documentation, in close collaboration with the engine designer, the owner and class. We have verified SCR systems to Scheme B on real projects, and we carry out the annual SCR spot check.

What we recommend

Agree the scheme and the test plan with the Administration before the first test. Plan the onboard confirmation test and the first spot check at the same time as the installation, so the ship is not held up.

Sources: IMO resolution MEPC.399(83), 2025 Guidelines on selective catalytic reduction (SCR) systems; NOx Technical Code 2008.

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.

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