

UPDATED SCR COMPLIANCE FRAMEWORK:

 **MARINER'S
UPDATE**
COMPLIANCE WITH SIMPLICITY



**REVISED NOX MONITORING
REQUIREMENTS EFFECTIVE MAY 2026**

UPDATED SCR COMPLIANCE FRAMEWORK: REVISED NOX MONITORING REQUIREMENTS EFFECTIVE MAY 2026

Overview of Regulatory Update

Significant revisions to the Selective Catalytic Reduction (SCR) framework will come into effect on 1 May 2026. These updates introduce a new approach to evaluating NOx measurement performance, particularly in relation to catalyst monitoring. The previously defined $\pm 5\%$ accuracy benchmark has been removed and replaced with a broader requirement for “sufficient accuracy,” shifting more responsibility onto system applicants.

Applicability of the New Rules

These updated provisions apply to:

- Marine diesel engines installed on ships with a keel laid on or after **1 November 2025**, or
- Ships delivered on or after **1 May 2026**

The **2025 SCR Guidelines (Resolution MEPC.399(83))** officially replace the earlier **2017 SCR Guidelines (MEPC.291(71))**, introducing revised expectations for NOx monitoring systems.

Changes in NOx Measurement Expectations

Under earlier guidelines, NOx monitoring devices were required to demonstrate an accuracy of $\pm 5\%$ when compared to a certified reference analyzer (such as a chemiluminescence detector compliant with NTC 2008 standards).

With the 2025 update:

- The fixed $\pm 5\%$ accuracy requirement has been eliminated.
- NOx measurement systems must now demonstrate “**sufficient accuracy**” for effectively tracking catalyst condition and degradation.
- No explicit numerical threshold has been defined, leaving interpretation open.

What This Means for Applicants

The absence of a strict accuracy benchmark means applicants must now:

- Justify that their NOx monitoring system provides reliable data for assessing catalyst health.
- Demonstrate acceptable deviation levels between onboard instruments and reference analyzers.
- Consider factors such as:
 - Instrument precision and inherent accuracy
 - Long-term measurement drift
 - Proximity to regulatory NOx limits

Additionally, applicants should ensure that not only the raw NOx readings (e.g., ppm values) are reliable, but also that the **methodology used to interpret these readings** is robust and defensible.

Technical Considerations for Measurement Reliability

Measurement accuracy is influenced by more than just the analyzer itself. Key aspects include:

- **Sampling location** within the exhaust system
- **Exhaust gas mixing quality** at the sampling point

These elements must be carefully evaluated and validated during system testing and verification.

Implementation Guidance

To align with the updated SCR Guidelines, stakeholders should:

- Review and revise existing Technical Files for individual engines and engine families
- Incorporate the new requirements into parent engine emission testing plans
- Update supporting documentation for future engine certifications.

An accompanying appendix (referenced in the original guidance) provides additional recommendations for practical implementation.



Reference Standard

IMO Resolution MEPC.399(83) – 2025 Guidelines on Selective Catalytic Reduction (SCR) Systems

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