

# OICA comments on GTR21

EVE-IWG #67

09.01.2024

OICA proposal to modify 6.9.2.1. according to COP tolerance

If:

$$\begin{aligned} & |(\text{measured fuel flow rate} - \text{fuel flow rate at certification})| < \left( \frac{0.02}{0.05} \right) (\text{fuel flow rate at certification}) \\ \text{and} \\ & |(\text{gauge pressure at test} - \text{gauge pressure at certification})| < \left( \frac{0.02}{0.05} \right) (\text{intake manifold pressure at certification}) \end{aligned}$$

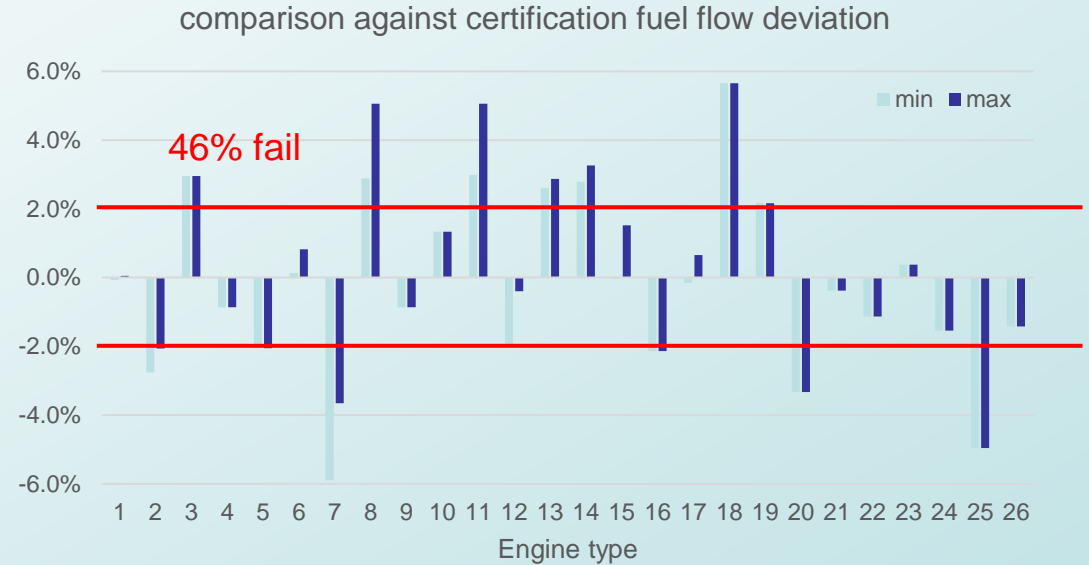
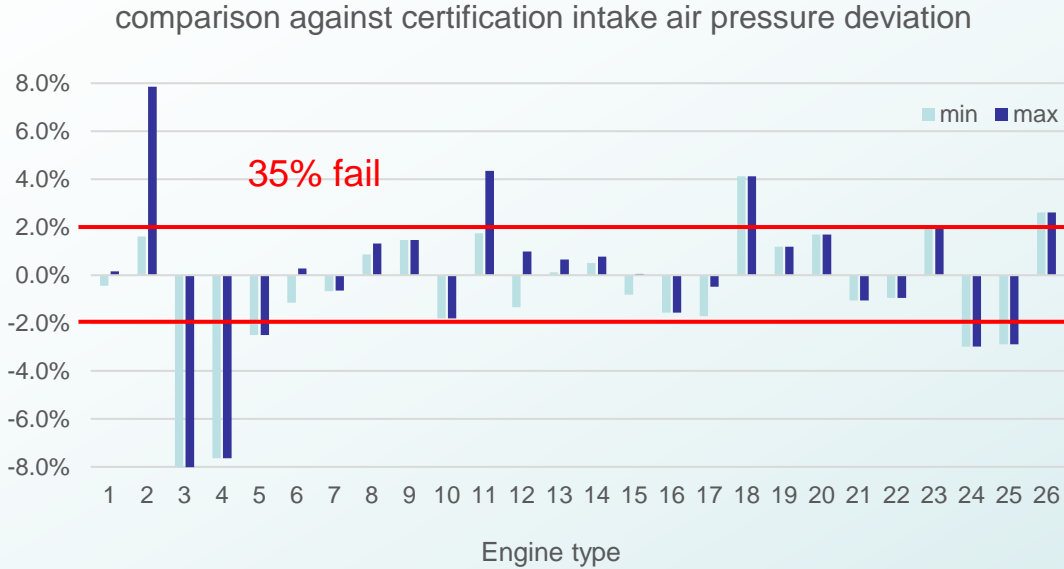

**Safoutin, Mike** Dezember 09, 2023

At EVE 66, OICA indicated that testing was performed to show evidence that 0.05 had a minimal effect on power result. However OICA was unable to publicize the results due to confidentiality. JRC was informally consulted for an opinion but at this time was unable to provide final comment. Note that R85 requires 0.02 and COP requires only 0.05. OICA position is that if 0.05 is ok for COP it should be ok for GTR21. Uncertainty remains about the effect of a variation of 0.05 on variation of power test results. Proposal is to allow 0.05. JRC hopes to check with experts and find additional direction on this question.

**Justification:**

- Alignment to the COP tolerance of 5% reflects the test condition much better than the 2% from R85
- With the 2% accuracy requirement, R85 results could be difficult to be used for the TP1 test

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### COP data analysis:

- ACEA conducted an analysis of 26 COP tests on R85
- The test results are real life data and had to be strictly anonymised before sharing
  - Intake air pressure deviation: **35% fail (@ 2%)**
  - Fuel flow deviation: **46% fail (@ 2%)**
- EVE-IWG acknowledged, that GTR21 TP1 measurement requires a higher measurement tolerance than R85

**OICA requires to set the tolerance in 6.9.2.1. to +- 5%**