

Appendix E: On-Site Checking of Monitoring Equipment

On-site checking of the monitoring equipment shall be conducted by ET and agreed by IEC on the following approach:

- Prepare a transfer standard for PM monitoring, which has been calibrated against a PM reference monitor (i.e. the FRM or FEM PM monitor).
- The inlets of the transfer standard and the monitoring equipment shall be collocated at the same height with a horizontal separation distance of <1 m.
- Warm-up the transfer standard on-site if necessary.
- Collocated monitoring shall be conducted in a continuous period to collect at least 20 valid 10-minute average measurements. The valid data rate shall be at least 80% during the collocation period.
- The performance metrics and target values are shown in Table A1. If the performance of the monitoring equipment fails to meet the target values, the monitoring equipment needs to be re-calibrated or replaced.

Table A1. Recommended Performance Metrics and Target Values for On-site Checking of PM Monitoring Equipment

Performance Metric		Target Value
<u>Tier 1</u>		
Bias	Slope	1.00±0.25
Linearity	Coefficient of Determination (R ²)	>0.70
<u>Tier 2</u>		
If Tier 1 criteria are not met due to narrow range of PM concentration (>30 µg/m ³ and >25µg/m ³ as recommended span range for RSP and FSP, respectively) during the collocation period, Tier 2 will apply.		
Error	Root Mean Squared Error (RMSE)	<8 µg/m ³ for RSP <5 µg/m ³ for FSP