CENTRAL POLLUTION CONTROL BOARD
(AIR QUALITY – II DIVISION)

Proficiency Testing (PT) Exercises for Continuous Ambient Air Monitoring (Carbon Monoxide i.e. CO) for CPCB, Regional Directorate & State Pollution Control Boards (SPCBs)

The Proficiency Testing (PT) Exercises for Continuous Ambient Air Monitoring (Carbon Monoxide i.e. CO) for CPCB, Regional Directorate & State Pollution Control Boards (SPCBs) were conducted in two Phases.

Phase I: 7th – 9th November, 2016
Phase II: 5th – 9th December, 2016

Following Activities have been performed by the participants during PT Exercise:

1. Checking of analysers and its associated system.
2. Checking of Calibration, Stability, and reproducibility of the analyser.
3. Zero Air Testing.
4. Conducting PT exercise by providing different concentrations of CO gas in lower range.
5. Conducting PT exercise by providing different concentrations of CO gas in higher range.
6. Checking of interference in the CO gas PT due to varying level of Humidity.
7. Calculation of Uncertainty (MU) in Excel sheets.
8. Compilation & Evaluation of PT results by the participants and final results by CPCB/NPL for discussion in the workshop.
9. Discussion on PT Results.
10. Root Cause Analysis.

Workshop ended with discussion on issues related Uncertainty/ traceability in the measurement

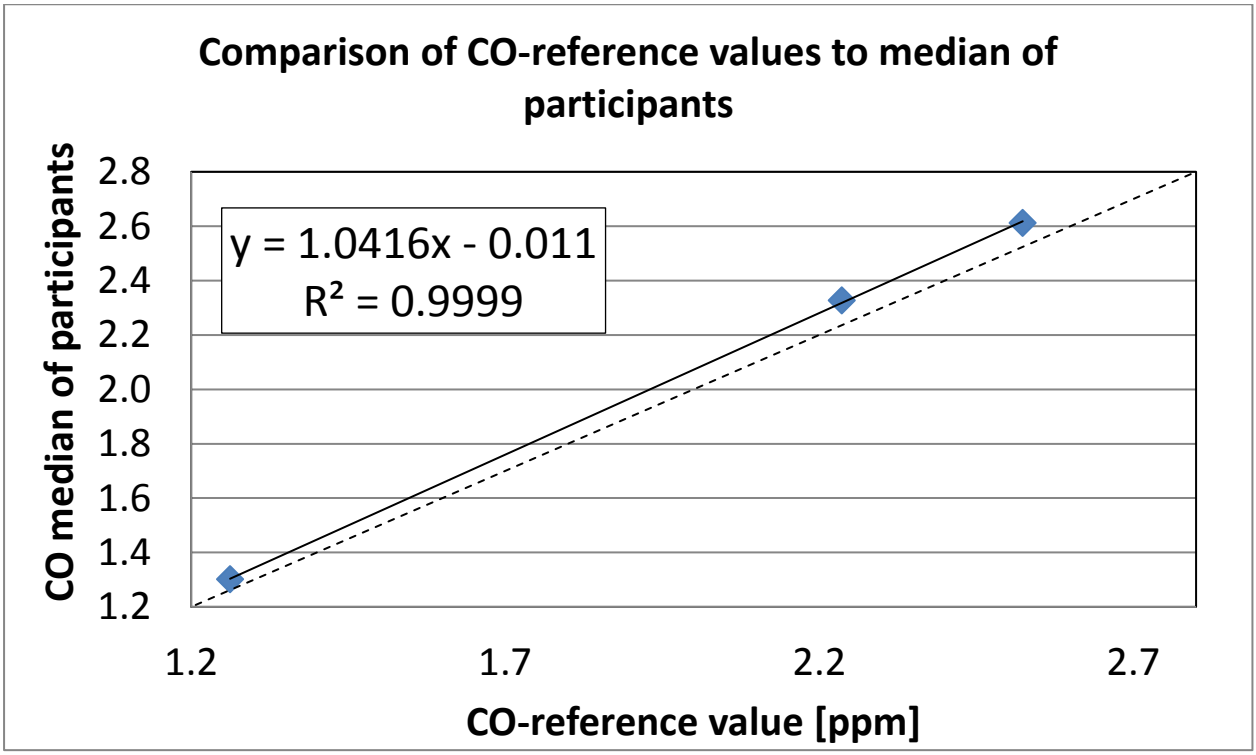
1. CO-PT Exercise/ Workshop Organised at CPCB during 7th – 9th November, 2016

Central Pollution Control Board (CPCB) Delhi, has jointly conduct the Proficiency Testing (PT) exercise for Carbon Monoxide (CO) by Real Time Analyzers with CSIR – NPL, India during 7th-9th November, 2016 followed by workshop. The Participants from State Pollution Control Boards (SPCBs)/ Pollution Control Committee (PCC), those are already having Continuous Ambient Air Quality Monitoring Stations installed, participated in this exercise are listed below:

1) West Bengal state Pollution Control Board
2) Gujarat state Pollution Control Board

3) Haryana state Pollution Control Board
4) Maharashtra state Pollution Control Board
5) Tamil Nadu state Pollution Control Board
6) Delhi Pollution Control Committee
7) CPCB Regional Directorate- Bengaluru
8) CPCB Regional Directorate- Lucknow
9) CSIR-NPL, New Delhi
10) CPCB, H.O. (Air Laboratory)

Observation & Results on November, 2016 PT Exercise:



It has been observed that all the participants' analyzers measured the CO concentration value close to reference value provided by the CPCB except one participant whose result form in outlier range in this PT Exercise.

2. CO-PT Exercise/ Workshop Organised at CPCB during 5th – 9th December, 2016

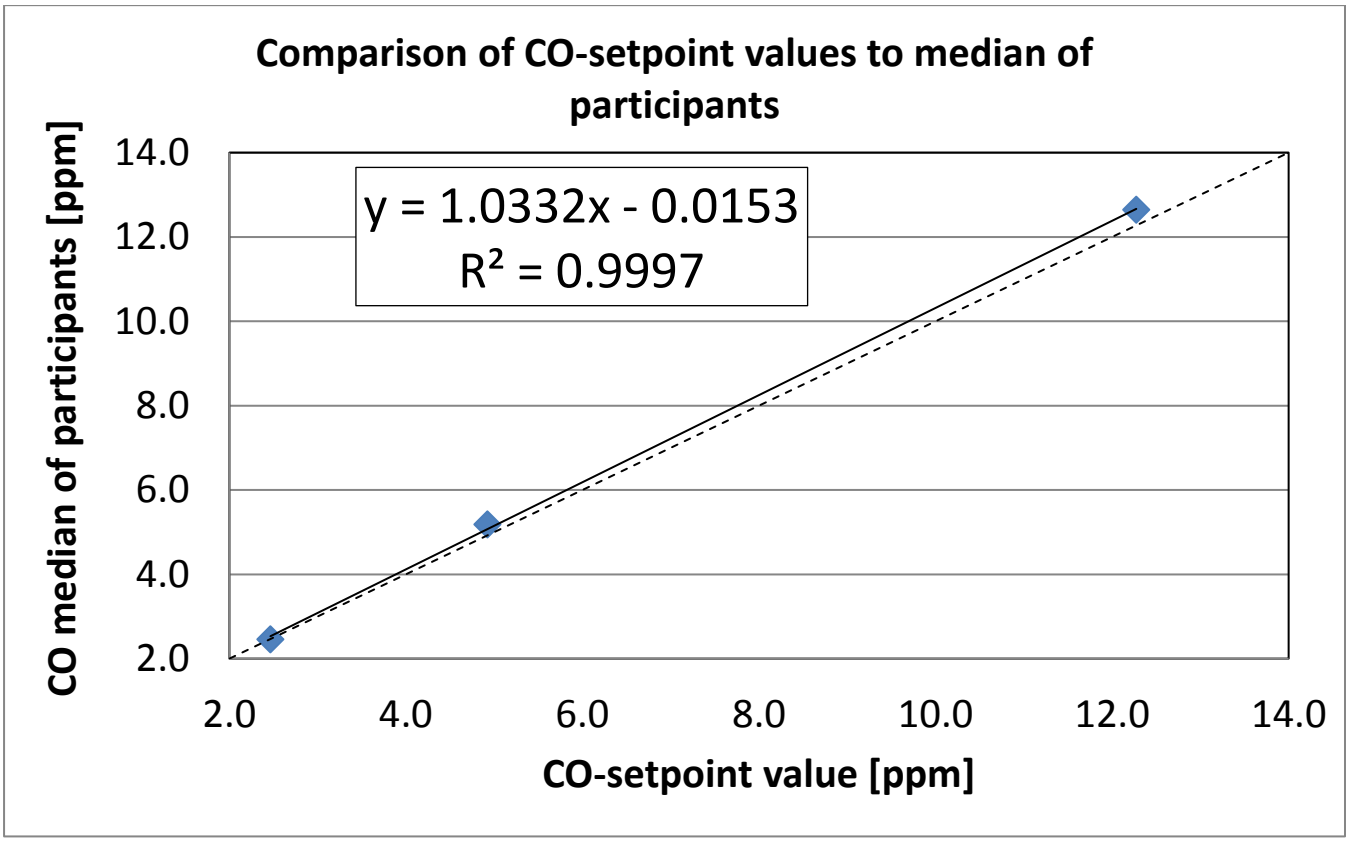
A second round of Proficiency Testing (PT) for the same parameter i.e. Carbon Monoxide by Real Time Analyzers in Ambient Air followed by Workshop on Traceability/ Uncertainty, PT & Quality Assurance jointly organised by CPCB, Delhi in Collaboration with CSIR-NPL, India and HLNUG/Germany (German Experts) under CEMI-PTB project. The following State Pollution Control Boards (SPCBs)/ Pollution Control Committee (PCC) participated in this exercise from 5th -9th Dec 2016:

1. West Bengal state Pollution Control Board
2. Gujarat state Pollution Control Board
3. Haryana state Pollution Control Board
4. Maharashtra state Pollution Control Board
5. Tamil Nadu state Pollution Control Board

6. Delhi Pollution Control Committee
7. CPCB Regional Directorate - Bengaluru
8. CPCB Regional Directorate - Lucknow
9. CSIR-NPL, New Delhi
10. CPCB, H.O. (Air Laboratory)

Before commencing this PT exercise, Air laboratory along with German expert checked the complete functioning of Ring Test and static injection system being used in this exercise. This includes the calibration reference analyser with primary and secondary calibration system. Stability and reproducibility test on the analyser etc. During the PT Period i.e. 5th –9th Dec 2016.

Observation & Results on November, 2016 PT Exercise:



It has been observed that the measured value of CO from the analyser of all the participants shows the value very near to the reference value provided by the CPCB. This exercise developed the confidence into participated laboratories that the results provided by their analyser are reliable and accurate.