



2014-15
CENTRAL POLLUTION CONTROL BOARD
ZONAL OFFICE (SOUTH), BENGALURU – 560079

Project Head II: Scientific & Technical Activities and R & D

Title of Project: Development of facilities for calibration of air pollution monitoring instruments and equipment (Ring Test Facility).

Central Pollution Control Board, Zonal office Bengaluru is measuring various parameters of air pollutants for which different make and model of the analyzers/instruments are being used. These instruments are to be validated and certified that the output sensitivity and measurement values of different make and models are almost same to compare with national and international standards. The Ring Test Facility enables to compare with the output of different make and models by which the confidence on the quality of measurement made is improved in addition to find the right method of operation, calibration and documentation.

The main objective of the project:

- To overcome from the errors of different instruments and to measure with uniform procedures.
- Various participant having different instruments with different model and make can be verified with their output measurement and compared with the standards.
- To layout uniform protocol for the measurement of air quality and to measure reliable and comparable values.
- To improve the confidence on the measurement made and to make comparable with national and international standards

With reference to vide C-48022/1LCB/2006-07/Mat/2981 dt.16.11.2006, this office has taken up project on “Development of Ring Test Calibration Facility”.

Project envisaged that the 1. Earmarking and Providing Furnishing work. 2. Procurement of indigenous items (required analysers/equipments) through Local Competitive Bidding (LCB)(This was taken up by Zonal Office Bangalore and imported items through International Competitive Bidding (ICB) was taken up by CPCB, Delhi) 3. Installation and commissioning of all items and 4. Proceeding for trial run and bringing in to normal operation.

In view of the above, this office has

Earmarked and developed furnishing work for establishing Ring Test facility.

1. Gas handling pipelines and glass pipelines of 12 ports with static volumetric dilution system were procured through LCB and installed at earmarked location. Commissioning of this system can be done only after installation of all other supporting facilities.
2. Procurement of the items through ICB was taken up by CPCB, Delhi in which many of the items were already procured except few items. The details of the items procured (table-A) and to be procured (table-B) through ICB are tabulated as below

| Sl.No | Table A. Name of the items procured through ICB | Received and Installation & Commissioning done |
|-------|---|--|
| 1. | Analysers SO ₂ , NO _x , CO, O ₃ | August 2009 |
| 2. | Dry Flow Calibrator | June 2011 |
| 3. | Multi Calibration System | August 2012 |
| 4. | Precision Pressure Calibrator/Controller (Digital) | Feb 2013 |
| 5. | Portable Calibrator | Feb 2013 |
| 6. | Ozone Generator and permeation System | Feb 2014 |
| 7. | Air Sampling Pump | March 2014 |
| 8. | Permeation tubes for SO ₂ , NO ₂ (NIST) certified | S.O. Placed by HQ |
| 9. | Calibration Gases (NIST Traceable) (with cylinder & Regulator), | S.O. Placed by HQ |

| S.No | Table B. Name of the items to be procured through ICB | Qty |
|------|---|-----|
|------|---|-----|

| | | |
|----|---|--------|
| 1. | Mass flow Controller of Different Ranges (0 -100 l/min, 0 -50 l/min, 0 -5 l/min, 0 -500 ml/min, 0 -50 ml/min, 0 -5 ml/min) | 01 Set |
| 2. | Digital Readout and control System for Mass flow controller | 01 no |
| 3. | High Precision Pressure cum vacuum gauge (Analog) (Master gauge) | 01 No |
| 4. | Multi Print Recorder | 01 No |
| 5. | Oil Sealed mechanical Vacuum Pump (5 to 21M ³ /hr) | 01 No |

The indigenous items to be procured by zonal office are listed in table -C

| Sl No | Table C. Name of the items to be procured through LCB |
|-------|--|
| 1. | 19' Rack for mounting Analysers & Mass flow Controllers |
| 2. | Noise less (Silent) Air Compressor (250 Litres.mim) with regeneration dryer |
| 3. | Gas cylinder s Holding Clamp and Belts for Cylinder and Trolley for Cylinder & other miscellaneous |
| 4. | Certified Thermo Meter |
| 5. | Advanced Computer |
| 6. | Pure Gas Handling Chamber |
| 7. | Sampling Pump (Handy sampler) |
| 8. | Certified Standard Weight for analytical Balance |
| 9. | Certified Filters for Spectrophotometers |
| 10. | Multi Print Recorder |

It is noted that since this office has not received sufficient items through ICB, the significant progress could not be achieved in this project. However, in recent period, this office has received many of the items except few . Therefore, it is proposed that Zonal Office shall initiate to procure all LCB items as mentioned table –C so that all the items will be in place and after the receipt of Oil Sealed mechanical Vacuum Pump (5 to 21M³/hr) through ICB may enable to go head for trial run of the ring test facility.

Deliverables

Ring Test Facility allows many number of participants to allow to measure the same pollutants with different model and makes of the various users and helps to lay down the standard procedure and methods to measure and generate uniform level of values very close to true values. The Ring Test Facility also promotes the confidence of the measurement made and allows comparing with national and international standards.