

CODE OF PRACTICE FOR PUC EQUIPMENT MANUFACTURER / SUPPLIER

Based on the decision adopted in the Standing Committee on Emissions (SCOE) meeting held on 28th March 2003, every PUC equipment manufacturer/supplier shall comply with the following Code of Practice and submit an affidavit for the same along with the instrument model submitted for type approval to the respective Test Agency.

1. PUC equipment manufacturer/supplier shall include the description of the test procedure described in Part I or Part II, whichever is applicable, amended from time to time of the document MOST/CMVR/TAP 115/116 shall be included in the user's manual of the PUC equipment.
2. PUC equipment manufacturer/supplier shall supply copy of type approval certificate with date of validity along with the PUC equipment.
3. The validity of the type approval certificate of the PUC equipment shall be 5 years, after the expiry of which the PUC equipment manufacturer/supplier shall get it re-validated from the test agency.
4. PUC equipment manufacturer/supplier shall provide the status of production/ supply of PUC equipment at a regular interval of 1 year to the test agency from where the equipment has been certified.
5. PUC equipment manufacturer/supplier shall submit the equipment for COP as per procedure mentioned above.
6. PUC equipment manufacturer/supplier shall enter into AMC for a period of 5 years with the authorised PUC test agency based on agreed charges. The AMC shall be comprehensive (including spare parts) but does not include maintenance of PC/PC peripherals of the computerized PUC equipment. This AMC contract shall include 3 visits and equipment calibration as per field calibration procedure given in Annexure-1. PUC equipment manufacturer/ supplier shall provide calibration certificate as per format given in the Annexure-2.
7. PUC equipment manufacturer/supplier shall train minimum 3 operators of PUC test agency and shall provide training certificate as per format given in Annexure 3.

Annexure - 1

FIELD CALIBRATION PROCEDURE FOR TESTING OF GAS ANALYSERS

1.0 INTRODUCTION

This procedure has to be carried out on gas analysers after they are commissioned in the field and for the subsequent calibration.

2.0 TESTING

The test procedure for gas analysers is as follows :

- i) Check that the power supply is as per specifications of the manufacturer and electrical earthing is proper.
- ii) Check that all the accessories as per manufacturer are available and are functioning properly.
- iii) Check the span and zero calibration using sample gas of suitable value for CO as well as HC.
- iv) Check the electrical calibration.
- v) Check that the sampling system is leak proof.
- vi) The printer is working correctly and the print out details are correct.
- vii) Checking of 1 no. of vehicle for idling emission measurement using this analyzer.

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Annexure – 1 (contd...)

FIELD CALIBRATION PROCEDURE FOR TESTING OF SMOKE METERS

3.0 INTRODUCTION

This procedure has to be carried out on meters after they are commissioned in the field and for the subsequent calibration.

4.0 TESTING

The test procedure for smoke meters is as follows :

- i) After the warm-up of the meter, the calibration of the meter has to be checked at zero and midscale point with the neutral density filter available. The value must lie within 0.1 m^{-1} .
- ii) The meter shall have the standard accessories as specified by the manufacturer. It shall be checked that the sample hose, internal pipes etc are not deteriorated or damaged to ensure that there is no leakage.
- iii) The functionality of oil temperature and RPM sensor.
- iv) The heating system for the optical chamber is functioning.
- v) The purge air system is working correctly.
- vi) Visual displays are functioning correctly.
- vii) The printer is working correctly and the print out details are correct.
- viii) The instrument casing is proper and has proper electrical earthing.
- ix) Free acceleration test is carried out using a vehicle and the print out details are checked.

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Annexure – 2

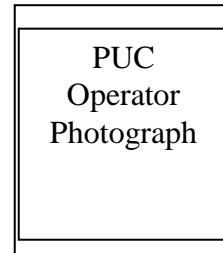
CALIBRATION CERTIFICATE FORMAT

1.0	Component PUC equipment Model Sr. No.
2.0	PUC Center Registration No. :
3.0	Objective of the test : To carry out Physical check and calibration of gas Analyser / Smoke meters as per the test procedure specified in Annexure 1 of CMVR / TAP 115-116 Part-8.
4.0	Detailed Observations
4.1	Checking of supply/ earthing
4.2	Checking of accessories : Details of accessories checked.
4.3	Span Calibration 2. Details of span gas concentration _____ % 3. Calibration gas cylinder No.: _____ 4. Calibration gas cylinder make: _____ 5. Calibration gas validity date: _____ OR 1. Details of Natural Density filters used for mid point calibration
4.4	Electrical Calibration OK/ Not OK
4.5	Leak test : Passed/ Failed
5.0	One no of petrol / diesel vehicle checked for idling Emission / Free acceleration, measurement
6.0	Conclusion :
7.0	Next Calibration Due Date:

Signature & Seal of manufacturer/ Supplier

Annexure – 3

TRAINING CERTIFICATE



It is to certify that Mr. / Mrs. _____ has attended the training and knows all required operation of the smoke meter / Gas Analyser model _____ to perform PUC tests.

Training is given in the following areas :

Understanding of procedure for testing of Idling emission/ free acceleration smoke as CMVR/ TAP/ 115/116 procedure.

1. Normal thermal condition of the vehicle
2. Actual testing procedure
3. Procedural understanding of issue of PUC certificate

Operation of smoke meter / Gas analyzer

- | | |
|---------------------------|----------------------|
| 1. Vehicle testing mode | <input type="text"/> |
| 2. Zero Calibration | <input type="text"/> |
| 3. Span calibration | <input type="text"/> |
| 4. Electronic calibration | <input type="text"/> |
| 5. Leak test | <input type="text"/> |

Maintenance

- | | | |
|---|------------------------|----------------------|
| 1 | Replacement of filters | <input type="text"/> |
| 2 | General maintenance | <input type="text"/> |

Authorized Signature & seal of
manufacturer / supplier