

A progress report on audit of PUC centers and networking of PUC centres in Delhi

EPCA report no. 23 (July 2006)

In the matter of W.P.(C) No.13029 of 1985; M.C. Mehta v/s UOI & others

- 1. This report presents the results of the third party auditing of the PUC centers. It recommends periodic audits every six months and corrective actions based on the findings of the third party auditing of the PUC centres**
- 2. Presents the finding of the decoy operation in which frauds in a PUC centre was detected. Recommends strong penal action against the defaulters. As license to operate PUC centre is granted to the petrol pump dealer and owner and code of practice in the PUC centre is also covered by the marketing discipline guidelines of the oil company, the oil company should also be made responsible for taking action against the petrol pump dealer and owner when such frauds are detected.**
- 3. As a long term solution to the checking frauds and improving overall compliance of the vehicle fleet under PUC, EPCA recommends networking of the PUC centers that can be linked through a central server to a centralized database of the emissions results and vehicle registration data. This can be used for remote auditing of the centers and tracking of compliance record of the vehicles.**

**Environment Pollution (Prevention & Control) Authority
for the National Capital Region**

The EPCA is constantly reviewing and monitoring the operations and management of the PUC centers to strengthen the in-use vehicle programme. Towards this end EPCA had directed third party auditing of the PUC centers in Delhi and accordingly a team was constituted with representations from the Automotive research Association of India (ARAI), Centre for Science and Environment (CSE), Transport department of Delhi, and Society for Indian Automobile Manufacturers (SIAM). The mandate of the audit team was to organize surprise visits to the PUC centers in different parts of Delhi and check validity of license, code of practice, integrity of the and testing operations, adequacy of the facilities in the centers, and accordingly suggest improvements.

This first ever third party audit was conducted in 20 PUC centers during 20 – 23 June 2006 and in PUC centers spread across south, north, east and west zones in Delhi. The detailed report from the audit team is annexed.

Secondly, it was also brought to the notice of EPCA that malpractices and fraudulent practices were still quite rampant in some PUC centers. This was submitted to EPCA based on a decoy operation that was carried out jointly by the representatives of the Centre for Science and Environment and Department of transport, Government of NCT of Delhi.

Key observations

In response to these two operations EPCA would like to make the following observations:

Vehicle inspection programme can be successful and make a difference to the air quality only if it is carried out with integrity and credibility. Fraud and corruption can undermine the effectiveness of the programme seriously and put the huge investment in the inspection infrastructure at risk. In view of this EPCA has recommend periodic third party inspection in addition to the routine departmental inspection that is carried out by the Transport department of Delhi. This is expected to strengthen the system.

Findings of the third party inspection

i. Improvement in the system noticed: The third party inspection has revealed that the system has been disciplined considerably during the last few years. The basic requirements are largely being met. For instance, all the audited PUC centers have valid RTO license, all PUC centers surveyed have valid annual maintenance contract (AMC) with the equipment manufacturer, as per the code of practice the Type Approval Certificate supplied by the PUC equipment manufacturer are on display in the center, all the 20 PUC centers have the Type Approval Certificate and Training Certificate. The lambda checking system is working satisfactory. The Lambda results are accurate having indicative and calculated Lambda values within a range and so on.

ii. Some serious lapses noticed:

The third party audit has exposed some serious lapses as well. For instance, some operators were not aware of some of the very important aspects of measurement protocol such as the need for vehicle preparation before test, correct insertion of sampling probe, proper use of extension pipes, proper mounting of sensors, instrument preparation, use of GO/NO-GO gauges for different sizes of fuel injection pipes, etc. Extension pipes which are the standards accessories according to the type approval procedures (TAP part 8, Chapter 3) was not available in many PUC centres. The equipment suppliers should provide them. These have very serious implications for the test results.

Special problems over the free Acceleration Test Procedure for diesel vehicles:

The conventional smoke density test for diesel vehicles has now been modified to make it more tamper proof. But the audit showed that as the tests procedures have become more complicated, most of the PUC operators are facing difficulties in testing diesel vehicle. Many times they take more than 20 minutes to test a diesel vehicle, which is not required. This was largely due to inadequate knowledge and lack of training.

Improper tools for testing: At many PUC centers the standard accessories like the extension pipes were not available. The equipment supplier should be directed to provide them. Most PUC center do not have proper tools for opening the covers over the engine especially in the high-end cars like Toyota corolla, Honda city etc. With closed covers they are not able to measure the engine RPM, as no appropriate point is visible to them to sense the rpm of the engine. Even if they try to do so, it results in the breaking of the keys, which hold the cover on the engine. Though SIAM has expressed reservations about it, vehicle Manufactures should provide tools to open the engine cover as the standard tool in their tool kit. The solution suggested for this is that these vehicles be either checked at manufacturers/dealers point or checked by using alternate RPM sensor technologies.

It has also been pointed out that the Piezo Electric Sensors for checking of the RPM of diesel vehicles in some of the centers is not working satisfactory but these problems would be resolved very soon as battery type DSP RPM sensor, which measures engine RPM based on ripple on battery voltage has been approved by ARAI. It has also been noticed that at many centers adequate space is not available for testing.

The Audit team has made the following recommendations to EPCA:

1. Training to Operators: Equipment manufacturers should train PUC operators in all testing aspects.
2. Auditing Mechanism: Similar audits should be conducted by the concerned agencies at least twice in a year at selected areas.
3. Test Charges: Vehicle owner should pay the PUC test charges before carrying out the actual test.
4. Checks During Renewal of PUC License: The authorities should strictly check availability of extension pipes and other tooling and renewal of AMC at the time of license renewal of PUC centers.
5. Most of the PUCs do not have Mask & Earplugs. In some centers the equipment manufacturer has supplied them. This should be made part of AMC and directions be issued to all equipment manufacturer to supply these as a part of analyzer / smoke meter

B. Results of decoy operation

It was brought to the notice of the EPCA that a team comprising of inspectors from Delhi transport department and representative of Centre for Science and Environment had carried out a decoy operation on June 28, 2006 and unearthed gross irregularities in one PUC center in testing diesel vehicles. The team found that diesel PUC test certificate was issued without even starting the engine. The operator managed to generate RPM data and smoke readings by manipulating with the RPM sensor and the smoke meter. Delhi transport department has already taken action against the PUC center and closed the centre.

The decoy operation was planned by the Centre for Science and Environment along with the inspectors of the transport department, Govt. of NCT of Delhi. On June 28, 2006, as decoy customers they first took an old and visibly polluting diesel car (Reg No. DL7C7226) to the Dhingra Service Station (Centre Code D138). Test showed smoke level 75% HSU against the prescribed value of 65% HSU. As the vehicle failed the smoke test the PUC operator issued a

Rejection Slip. Thereafter, the same vehicle was taken to Ford Service Centre, Rangpuri. The operator available was requested to test the vehicle. The operator took the temperature of engine oil and then took the photograph of the number plate of the vehicle. Then by striking both ends of RPM sensor and by some manipulation in the smoke meter, he generated the required RPM reading and smoke measurement. This operation was carried out without even starting the engine of the vehicle. On that basis he issued a PUC certificate (D143001414) which shows the mean smoke density level of 32.5 % HSU against the prescribed density of 65 HSU. A pass certificate was thus obtained. During the test, the operator neither started the vehicle nor inserted the sampling probe into the exhaust pipe of the vehicle.

This issue was discussed in Environmental Pollution (Prevention & Control) Authority (EPCA) meeting held on July 08, 2006. The EPCA directed strong action against the PUC center and the petrol pump where it is housed.

EPCA considers this to be a very serious offence and believes that only a closure notice only to the PUC centre is not adequate to act as an effective deterrent. The PUC centers are located in the petrol pumps and the license is issued to the petrol pump dealer/owner for operating PUC centres. It has been brought to the notice of the EPCA that there are provisions in the *Marketing Discipline Guidelines for RO/SKO Dealerships of Public Sector Oil Marketing Companies* effective August 2005 (MDG 2005), to take action against the petrol pump dealer/owner. For instance, under the MDG 2005, the penal action for the first offence related to PUC operation is a fine of Rs 25,000 and suspension of sales and supplies for all products for 15 days to the dealer.

Taking cognizance of these provisions, EPCA recommends that the concerned oil company must be made liable and responsible for taking action against the petrol pump dealer when such frauds are detected and action is initiated under the MDG 2005 to penalise the owner of the petrol pump and the PUC centre. EPCA has already issued direction to the concerned oil company – IBP, in this regard.

C. Networking of PUC centers to improve compliance and check frauds

EPCA is working towards a more holistic solution to addressing the problems of fraud and compliance. EPCA along with the Delhi government has initiated a process to create a network of all the PUC centers in Delhi for automatic data transmission to a centralized databank of PUC test results and vehicle registration database. Necessary software will be created with quality control and quality assurance function. Necessary software will be installed for real time data transmission to the regulatory agency. This will help in remote auditing of the PUC centers to check against frauds and also improve compliance as it will be easier for the regulatory authority to track the non-compliant cars.

The transport department, Govt. of NCT of Delhi has informed EPCA that it has initiated discussions with National Informatics Centre and other agencies in this regard. EPCA has recommended that the necessary software for networking be created confirming to the international best practices and standards. To facilitate the process, standardized format for data reporting and maintenance of databases be created, and it should be ensured that the system is fully secured and tamperproof.

EPCA's Recommendation:

EPCA would like to make the following recommendations to strengthen the PUC programme:

1. The first third party audit of PUC centers has been effective in identifying operational problems in the PUC centers for corrective action. In view of this EPCA recommends that similar third party audits should be conducted every 6 months and the findings should be submitted to EPCA.

2. Vigilance must be stepped up against fraud in the PUC by carrying out surprise checks. If any fraud is detected then in addition to the punitive action to be initiated by the transport department of Delhi the concerned oil companies should also be made responsible and liable for taking action against the petrol pump dealer/owner who obtains the license for operating the PUC stations. The oil companies must be directed to proceed against the petrol pump dealer/owner (by suspending supplies of petroleum products and imposing strict fine), and ensure that publicity is given to this action to serve as a deterrent for others.

3. To improve compliance and prevent fraudulent practices in PUC centers, a networking system be created to link all the PUC centers through a central server to a centralized databank of PUC test results and the database of vehicle registration. This will be used for remote auditing and tracking compliance. The networking should become operational and data auditing must begin by January 2007. Delhi government must ensure that this deadline is not violated.