

**MINUTES OF THE 363rd MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION
AND CONTROL) AUTHORITY FOR THE NCR HELD ON
August 26, 2006**

Agenda item: CETP costs, handing over of two CETPs SMA & Lawrence
Road and CETPs monitoring

In attendance

I. Cost sharing

The meeting discussed the objections raised by the CETP societies regarding DSIDC negotiating on behalf of the Delhi government.

1. It was informed that there were some objections from the Ministry of Environment and Forest (MoEF) in the issue of costs of CETPs. EPCA decided to send copy of letter to the Delhi Government stating the objections and seeking their response to the MoEF objections in a week's time.

2. This response shall be send to the MoEF inviting them to the meeting to discuss costs .

3. A letter to be send to the CETP Society individually inviting them for discussion after the receipt of report from Delhi Government.

4. Delhi government will be finalized in 2 weeks time the report on cost sharing. The report shall be discussed individually with each CETPs and the responses will be taken note off by CPCB. In case there is no response from CETP Society, the EPCA will take a decision.

4. A letter to the Registrar Supreme Court shall be send indicating the delay caused by the objections raised by the CETP societies and that the Delhi government has asked for two weeks time for framing a response.

II. Handing over of SMA

1. DSIDC informed that the work on the conveyance system is not complete and hence the trial run and handing over process is delayed. EPCA directed the DSIDC to have an independent evaluation of the conveyance system and sort out the mater with Delhi Jal Board in not more than two weeks time.

III. Handing over of the Lawrence road CETP

1. On June 10, 2006 EPCA appointed a committee to survey 5-6 major industrial units belonging to meat processing, ice cream manufacturing, food processing, pickles, soft drinks and electroplating in the Lawrence road with the following objectives:

- to estimate quality and quantity of effluents

- Whether these industries have effluent treatment plants
- What records exist with the units on the effluents released
- Arrangements for reuse of treated effluents

2. As per directives the Committee surveyed seven industries on June 30, 2006 and July 3, 2006 and observed the following:

- Five out of the six industries surveyed had effluent treatment plants (ETPs). One of them Melody ice cream did not have an ETP.
- All the five industries with ETPs were meeting the pH, and TSS standards.
- BOD was found to be in the range of 14 mg/l in Britannia industries to 37 in Sushil ice factory (meat processing).
- The record keeping of water use/ETP was poor with half of the industries having no records of water use and waste generated
- Sludge management was a concern at all the units
- Monitoring system is not good enough of identifying the discharge . For instance at M/s Britania there were a few outlets from the industry to the MCD drain which was punctured into the sewer line. Also the sewage manhole was also leaking into the MCD drain and hence not flowing into the sewer system.

3. The committee assessed the performance of the CETP during January to June 2006. BOD at inlet was found to vary from 140-250 mg/l and the BOD at outlet was found to be ranging from 24 mg/l to 35 mg/l. As far as the efficiency of CETP is concerned the BOD removal efficiency was in the range of 75 to 86 per cent

S No	Date of monitoring	BOD inlet design	BOD inlet observed	BOD outlet observed	BOD standard	% BOD removal
1	Joint monitoring (June-July 2005)	89.00	375.00	133.00	30.00	64.53
2	Jan-06	89.00	160.00	40.00	30.00	75.00
3	Feb-06	89.00	140.00	24.00	30.00	82.86
4	Apr-06	89.00	180.00	34.00	30.00	81.11
5	May-06	89.00	140.00	32.00	30.00	77.14
6	Jun-06	89.00	250.00	35.00	30.00	86.00

Committee concluded that if the inlet BOD at CETP is maintained with in 140-160 mg/l the effluent BOD of 30 mg/l can be maintained. Hence

discipline of the industries and not the performance of the CETPs was a concern.

Based on the submissions of the committee the EPCA directed the following:

a. DPCC to notify the BOD values at outlet of the individual industries connected to CETPs. The DPCC shall submit a proposal for notifying inlet parameters for all CETPS

b. Lawrence road CETP shall be handed over within 2 months (one month for trial run and one month for rectifying the defects if any found during trial run)

IV. Monitoring of CETPs

1. On July 22, the DPCC has handed over the quarterly monitoring report of the CETPs to the Commissioner Industries. EPCA took a review of the action taken by the Industries Department on the issues raised by DPCC. EPCA found that no significant action had been taken on the DPCC report and hence directed the Industries Department to take the monitoring reports seriously from now on.

2. EPCA also asked the DPCC to highlight the following in their future monitoring reports:

Action to be taken on each CETPs

Actions pending on the previous reports

3. Department of Industries has to issue a letter to each CETP Society to apply for a fresh consent from DPCC

4. Department of Industries, DSIDC and DPCC shall report back to EPCA after seeking expert opinion to be sought on the clauses under which punitive actions can be initiated against violating CETP society and the individual industries in an industrial area under different pollution control laws and acts.

5. EPCA directed the DPCC to forward monitoring reports for July and August to the Department of Industries. EPCA shall be informed of the action taken by September end.

V. Sludge handling

1. Ms Nainai Jayaseelan informed that considerable progress has been made in the Guman-Hera the proposed permanent site for hazardous waste management and that it will be operational within 6 months time. Based on Ms Jayaseelan's remarks, EPCA directed to DPCC to submit a time schedule for Guman-Hera site.

2. EPCA directed the DSIDC to write to EPCA indicating the quantum of sludge available at the CETPs at the time of handing over.

VI Increasing the quantity of effluents reaching the CETPs

1. EPCA directed DSIDC to coordinate a study to find a strategy to increase the effluents reaching the CETPs. Currently only 13 to 21 per cent of the installed capacity is utilized. Aim should be to take to 80 per cent and above. DSIDC shall report back to EPCA on the same

Deadline:

interim report: 4th week from now

final report: 8th week from now

VII. Reuse of treated effluents and rest of 5 CETPs

Guha committee shall file the first report by September 30, 2006

VIII. Maintenance cost of Raw Effluent Pumping Stations (REPS)

REPS is a very critical component of a CETP. If it fails the waste will not reach the CETPs and hence the CETP society will not be able to treat waste that is generated in the industrial area.

The cost of operating the REPS and the rising mains from REPS as presented by DSIDC is given below:

Table: Cost of operating REPS and rising mains from REPS to CETP

Sno	CETP	Distance of REPS to CETP	O& M Costs for REPS and rising main (Rs lakh per month)
1	Wazirpur	800	1.54
2	Mayapuri (2 REPS)	one with in CETP; 2620	0.9
3	Mangolpuri (2 REPS)	one with in CETP (20m); 2500	1.36
4	GTK	with in CETP	
5	SMA	with in CETP	
6	Jhilmil (2 REPS)	one with in CETP; 555 m	0.65
7	Lawrence road	1500	1.93
8	Nangloi (2 REPS)	one with in CETP; 555 m	0.84
9	Okhla industrial area	500; 250 m	2.58
10	Badli REPS	110 m	0.72

Source: Anon 2006, A note on estimated cost for O&M of REPS and Rising Main submitted to EPCA, DSIDC, New Delhi, August 26, *mimeo*

From the table it can be seen that the cost varies from Rs 65000 to Rs 2.58 lakh per month.

Considering the importance of the REPS EPCA directs the CETP societies to operate and maintain the REPS and the rising mains from REPS to the CETP. This will not be considered as a conveyance system which is the responsibility of DJB.

DSIDC is directed to coordinate if there is any operational issue concerning REPS and the rising main from REPS to CETP.

Action points for next meeting

- 1. DPC's monitoring report for July-August and the action taken report by Department of Industries**
- 2. Interim report on reuse of effluents (DPCC/ Guha committee)**
- 3. First report on increasing flow of effluents to CETPs (DSIDC)**
- 4. SMA: Sorting out the issues related to conveyance system and schedule for trial run and handing over (DSIDC)**
- 5. Lawrence road: Results of trial run and preparation for handing over (DSIDC)**
- 6. Review of legal provisions regarding punitive action against polluters (collective and individual) as given in different laws and acts (Department of Industries/DPCC)**
- 7. Report back on the consent applications from CETP Societies (DPCC)**
- 8. Report back on cost issue after receipt of report from Delhi Government in 2 weeks time: (CPCB)**
 - a. report from Delhi government on MOEF's objections**
 - b, Report to MOEF on Delhi government response**
 - c. report to individual societies**

**MINUTES OF THE 364th MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
September 2, 2006**

Agenda:

1. Action taken by IBP on its retail outlet in Delhi found in issuing PUC by manipulation
2. PM monitoring study carried out by the Central Road Research Institute in Delhi
3. Management plan for Burari vehicle inspection centre
4. Implementation of High Capacity Bus System (HCBS) in Delhi

In attendance: Transport department, Government of NCT Delhi (GNCTD), IBP Company Ltd, Central Road Research Institute (CRRI), Dr Bharat Singal

Issue 1: Action taken by IBP on its retail outlet in Delhi found in issuing PUC certificates by manipulation

IBP officials informed that they have issued a notice to the M/s Ford service centre, Rangpuri regarding the report on issuance of fake PUC certificate. M/s Ford service centre has filed a petition in this regard in the High Court of Delhi. The petitioner has contended that further action by IBP is not justifiable as the pollution control division of Delhi transport department has already initiated action and it has not been established that the certificate issued from his PUC centre was faked under MDG-2005.

The Hon'ble Court after considering the facts and circumstances has restrained the IBP from suspending sales and supplies of all the products to the petitioner till the next date of hearing.

Action Points:

- EPCA observed that provisions under the MDG-2005 to counter the malpractices in issuance of fake PUC certificates are necessary to ensure authentic PUC tests, as most PUC centers are located in fuel retail pumps. If oil companies take strong action then it will be an effective deterrent. Such actions should be given wide publicity to warn the perpetrators. IBP will keep EPCA informed about this case.

Issue 2: PM monitoring study carried out by the Central Road Research Institute in Delhi

Anuradha Shukla, Scientist of CRRI presented findings and results of her study on PM monitoring at Shantipath, Chankyapuri and CRRI Campus. EPCA suggested that further studies to assess the impact of traffic on PM be carried out.

Issue 3: Management plan for Burari vehicle inspection centre

Operational and management aspects of the new mechanized inspection lane in Burari were discussed. Commissioner, transport informed the EPCA that around 4,000 heavy-duty vehicles and around 2,000 light motor vehicles have been tested so far on the mechanized lanes. The failure rate in the mechanized lane has increased dramatically to around 40 percent as the tests are now more efficient. The failure rate on account of roadworthiness and fitness in other manual test lanes is mere 5 per cent.

Issues discussed: i. Type and quality of inspection in Burari. ii. Effectiveness of the third party inspection for CNG buses iii. The problem of floating components that the vehicle operators fit only to pass the inspection tests. iv. Management model for Burari

Action points:

- EPCA stated that immediate priority be accorded to the safety related tests on CNG vehicles. Dr H B Mathur would prepare a report on further improvement needed in CNG testing at the center. To submit the report within two weeks (September 17).
- EPCA directed that transport department to impose heavy penalties to eliminate the use of floating components like catalytic converter, high-pressure regulator, low-pressure regulator and mixing chamber. To inform EPCA on action taken within two weeks (September 17).

Agenda item: Implementation of High Capacity Bus System (HCBS) in Delhi

In this meeting EPCA took stock of the progress after the issuance of the tender for the first HCBS corridor (Ambedkar Nagar to Delhi Gate). EPCA would now begin to look into the implementation of the remaining six HCBS corridors.

Action points regarding the first corridor:

1. The Authority has asked the transport department to submit a time schedule for the commencement of work and its completion in the first HCBS corridor with clear milestones. It was agreed that the Authority would monitor the construction work of the first corridor every three weeks to see whether the work is going as per schedule or there is a slippage.

2. Action points regarding the remaining six corridors

The transport commissioner informed EPCA that by September 15, 2006 Techno Economic Feasibility Study would be initiated for the remaining six corridors, which would take six months time to be completed. By

March 2007, bids would be invited and in June tendering would be done. EPCA has also asked the transport department for a map showing all the HCBS corridors.

Integration of public transport modes

The EPCA stated that as a first step an updated map should be prepared indicating the corridor networks of the Delhi metro and HCBS. This will help to identify the key interchange points. All concerned agencies including transport department, DMRC, RITES, and DMITS will share information with EPCA to help prepare this map.

**MINUTES OF THE MEETING OF
THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR
THE NCR HELD ON
September 9, 2006**

Agenda: Status of the action plans to control air pollution in eight cities – Ahmedabad, Bangalore, Chennai, Hyderabad, Kanpur, Lucknow, Pune and Solapur.

In attendance:

1. Shri K. V. Bhanujan, Chairman, Gujarat Pollution Control Board (GPCB)
2. Shri G. H. Trivedi, GPCB
3. Dr. C. S. Bhatt, Member Secretary, Uttar Pradesh Pollution Control Board (UPPCB)
4. Shri Rupak De, Special Secretary, Forests, Lucknow
5. Shri J. S. Yadav, UPPCB, Lucknow
6. Shri Rajendra Madney, Dy. RTO, Solapur
7. Shri M. K. Aiyappa, Jt Transport Commissioner, Bangalore
8. Shri M. D. N. Sinha, Chief Environmental Officer, Karnataka State Pollution Control Board (KSPCB), Bangalore
9. Shri Rajeshwar Tiwari, Member Secretary, Andhra Pradesh Pollution Control Board (APPCB)
10. Shri C. L. N. Gandhi, Jt Transport Commissioner, Hyderabad
11. Shri K. A. Mathew, Chairman, Tamil Nadu Pollution Control Board (TNPCB)
12. Dr. D. B. Boralkar, Member Secretary, Maharashtra Pollution Control Board (MPCB)
13. Dr. Ajay Deshpande, RO, MPCB, Mumbai
14. Shri S. P. Selvam, Managing Director, Central UP Gas Limited, Kanpur
15. Shri K. B. S. Negi, Director, Commercial, Central UP Gas Limited, Kanpur

Issue 1: CNG programme

1.1 CNG supply and vehicle conversion programme

A. Ahmedabad

Chairman GPCB informed the forum about the successful implementation of the CNG programme in the city. There are 39 refueling stations and 750 CNG buses and 26,500 three-wheelers (total 35,000) are running on CNG in the city.

CNG buses: It was informed that the city would get additional 210 CNG buses and 50 low floor buses. Chairman, GPCB informed EPCA that 50 (Euro III diesel) low floor buses have been ordered. EPCA raised its concern on the order placed for the Euro III diesel buses when the public transport in the city is moving to CNG. EPCA emphasised that diesel buses should be discouraged when CNG buses are plying in the city.

Chairman, GPCB also informed that 200 CNG buses of GSRTC are already on road. Of these, 90 buses are plying on the Ahmedabad-Gandhinagar route. GSRTC is currently purchasing 300 CNG buses. Around 140 buses would be plying on the Ahmedabad-Gandhinagar route. EPCA stated

that the Authority is overall happy but CNG bus programme is still lagging behind in the city. AMTS should come back to EPCA with bigger plans.

CNG autorickshaws: Chairman, GPCB informed that currently 26,500 CNG autorickshaws are plying in the city and there is a strong public support for this programme. People are finding CNG an economically viable fuel. However, there are some problems regarding servicing of the vehicles, as the automobile companies selling CNG autorickshaws in the city are not providing proper aftersales services. There are cases of some bogus businesses coming up in the city in the name of selling of 'CNG lube oil' which when checked was found to be waste oil.

EPCA's direction:

Ahmedabad needs to plan for much bigger bus programme as CNG is available in the city. A time bound plan for augmenting CNG bus fleet needs to be prepared and submitted to EPCA by December 9, 2006.

B. Hyderabad

Availability of CNG: EPCA expressed concern regarding the very slow progress in bringing CNG to Hyderabad. The proposal to transport natural gas through the existing LPG pipeline has not materialised. GAIL is said to have informed that it is not possible to use this pipeline for transporting natural gas from Vijaywada. EPCA wanted to know if there was any technical problem. Chairman EPCA informed that he had met GAIL officials and they were willing to give CNG to Hyderabad. Chairman will speak to GAIL to expedite the matter.

EPCA's observation:

EPCA will convene a separate meeting with GAIL, Hyderabad and Pune to discuss the issue of gas delivery further.

C. Lucknow and Kanpur

Lucknow

Status of refueling network: Member Secretary, UPPCB informed EPCA that 5 sites have been handed over at Lucknow. One mother station (at Amausi from April 2, 2006) and one daughter booster station (at Rajajipuram on July 11, 2006) have been commissioned in Lucknow. The Amausi station is working. Three more daughter booster stations at Sitapur Road, Gomti Nagar and Indranagar are to be commissioned from September 20, 2006, September 30, 2006 and October 15, 2006 respectively. Thus, by end of October, 2006 these three daughter booster stations will be set up.

CNG vehicles: Member Secretary, UPPCB further informed that 490 CNG tempos and 388 CNG autorickshaws are running in the city. Around 200

buses have been ordered for Lucknow and Kanpur. EPCA emphasised that the city needs to augment the CNG fleet in order to have an impact on air quality. The city needs more buses. The target of purchasing 200 CNG buses cannot be left for uncertain time period. The city has to get 100 CNG buses by December 2006.

EPCA's direction:

CNG autorickshaws: 5,000 autorickshaws to be converted to CNG by end of December 2006. Just setting a target for numbers will not help. The state government will also have to devise a mechanism to help people to switchover to CNG by providing subsidy on the CNG kits and soft loans among other measures. The state government will have to prioritise the conversion either on the basis of age or first cum first served basis.

CNG buses: 100 buses to run on CNG by the end of December 2006.

CNG refueling stations should be completed as scheduled. Three daughter booster stations at Sitapur Road, Gomti Nagar and Indranagar are to be commissioned from September 20, 2006, September 30, 2006 and October 15, 2006 respectively.

Kanpur

Member Secretary, UPPCB informed EPCA that under phase I, one mother station has been commissioned at Fazalganj from April 7, 2006 with a capacity of 16,000 kg/day of CNG. Three online stations are to be set up by end of September 2006. EPCA asked how far these stations are located in the city. It was informed that all these three stations in the city are at a distance of 10 km apart. He assured the Authority that by September 27, 2006 these would be set up.

EPCA's direction:

CNG autorickshaws: 2,000 CNG autorickshaws must run on CNG by the end of December 2006.

CNG buses: 100 buses to run on CNG by the end of December 2006.

CNG stations: Three online stations are to be set up by end of September 2006.

D. Pune

EPCA expressed deep concern regarding the very slow progress in bringing natural gas to Pune. Member Secretary, MPCB informed that they have written to GAIL but haven't got any response. EPCA observed that the deadline of March 2007 must not be violated. Chairman EPCA informed that he has discussed the matter with GAIL and has got their assurance that adequate infrastructure to provide natural gas to cities like Pune and Hyderabad will be expedited.

EPCA's observation:

EPCA will convene a separate meeting with GAIL, Hyderabad and Pune to discuss the issue of gas delivery.

1.2 CNG fuel pricing

EPCA applauded the effort made in Ahmedabad to reduce the price of CNG. In addition, M/s Adani has reduced the price of CNG in the city by Rs 1.42 per kg.

The representatives of different state governments informed the Authority that price of APM CNG though lower compared to non-APM gas but the retail outlet prices even for the APM gas is in the tune of Rs. 27 per kg largely because of sales tax imposed by different governments.

EPCA expressed concern regarding the high prices of APM gas in UP which is Rs. 27 per kg. The Authority stated that it is unacceptable and emphasised that CNG should be given a waiver in sales tax and it is the duty of state governments to promote CNG as a fuel by making it competitive and economically viable vis-à-vis other transportation fuels. All the state governments of the respective cities where CNG is available are directed to submit the detailed breakup of the retail price of CNG in terms of gas procurement cost, cost added due to transportation, various levies and taxes (central and state), compression cost etc.

EPCA's direction:

The concerned state governments of the respective cities where CNG is available – Lucknow, Kanpur and Ahmedabad, are to submit the detailed breakup of the retail price of CNG for their cities in terms of gas procurement cost, cost added due to transportation, various levies and taxes (central and state), compression cost etc by September 23, 2006.

Issue 2: LPG Programme

2.1 LPG supply and conversion of vehicles

A. Bangalore

Jt Transport Commissioner informed that 30 auto LPG dispensing stations (ALDS) are functioning in the city. Around 50,000 autorickshaws are running on LPG and are on the bi-fuel mode. LPG is economically viable as the price of LPG is 2/3rd of that of petrol price and is priced at Rs. 24 per kg. The LPG kit is priced at Rs 12,000. The LPG programme in the city is very successful. It was also informed that private cars in the city are also being voluntarily converted to LPG. Diesel tempos (*vikrams*) have been banned.

EPCA observed that conversion of autorickshaws to LPG has picked up.

EPCA stated that despite all the efforts, the city remains polluted. More efforts are needed to control air pollution in the city. Jt Transport

Commissioner informed that the high levels of pollution in the city is largely due to very high numbers of two-wheelers as out of 24 lakh vehicles, nearly 19 lakh vehicles are two-wheelers and more people are opting for personal vehicles. There is a 20 per cent increase in the number of two-wheelers.

EPCA's direction:

As submitted by the state government the conversion of rest of the fleet (21,182 autorickshaws) should be completed by October 2006.

B. Chennai

LPG dispensing stations: Chairman, TNPCB informed that 23 ALDS have been set up against the target of 28. People are reluctant to convert their vehicles to LPG as the cost of kit is very high. EPCA found it surprising that the difference between the LPG kit prices in Chennai and Bangalore is so wide. EPCA has directed to examine the price difference.

The state government has issued 5,000 permits for LPG autorickshaws.

Chairman, TNPCB further informed that six-seater diesel autorickshaws are still plying in the city. Expressing concern, the Authority stated that it was unhappy to hear that six-seater diesel autorickshaws are allowed in the city. EPCA raised its concern on how the six-seater diesel autorickshaws are still registered in the city when EPCA has directed that only LPG autorickshaws are to be registered. The Authority further stated that the state government explore the option for LPG autorickshaws in six-seater segment.

EPCA's direction:

LPG conversion kits: Examine why the price of LPG conversion kits are so high in Chennai compared to other cities such as Bangalore where LPG programme is successfully implemented. To inform EPCA by September 23, 2006.

LPG autorickshaws: To ramp up the conversion of LPG autorickshaws. To submit a time bound plan for converting autorickshaws. The plan may be submitted to EPCA by October 9, 2006.

Diesel six-seaters: The state government needs to explain why these vehicles are still allowed in the city when EPCA has directed that only LPG autorickshaws to be registered in the city. The state government has to explore the option of LPG autorickshaws in six-seater segment and inform EPCA on action taken by October 9, 2006.

C. Hyderabad

Auto LPG dispensing stations: Member Secretary, APPCB informed that 16 ALDS have been set up against the target of 45 ALDS in the city. In

addition, 12 ALDS are under construction and would be set up soon. In total, 28 ALDS would be set up in the city.

LPG vehicles: With regard to LPG conversion, it was informed that 29,346 autorickshaws have been converted to LPG. More vehicles would be converted to LPG as the supply of gas improves in the city. EPCA was also informed that people are facing problem due to inadequate supply of the gas.

EPCA observed that in Hyderabad conversion of autorickshaws to LPG is catching up.

LPG autorickshaws: To expedite full conversion to LPG mode. There are 68,840 autorickshaws in Hyderabad. Out of these 29,346 have been converted. Remaining 39,494 vehicles will have to be converted. To submit a time bound plan for the conversion of the remaining autorickshaws to EPCA by October 9, 2006.

D. Pune

LPG supply: EPCA was informed that there is a major shortage of auto LPG in the city. This is leading to long queues and many people are switching over to domestic cylinders. Around 5,000 LPG autorickshaw owners are the worst affected due to the shortage of LPG.

EPCA expressed deep concern with regard to the state of affairs and very slow progress. After deliberations, EPCA decided that a show cause notice be issued to the state level oil coordinator to explain why action should not be taken against him.

EPCA's direction:

EPCA decided that a show cause notice will be issued to the state level oil coordinator to explain why action should not be taken against him, as 5,000 LPG autorickshaw owners are facing lot of problems due to lack of adequate auto LPG supply in the city.

E. Solapur

LPG programme has yet to take off in Solapur. Dy. RTO, Solapur informed that the collector has written DO letters to the oil companies with regard to this matter.

Issue 3: Safety of CNG and LPG vehicles

Considerable emphasis was laid down by EPCA on the capacity creation for safety inspection of the CNG and LPG vehicles. Such programmes are necessary for proper quality control of the programmes. EPCA informed the forum regarding the efforts made by the Authority to establish proper safety checks in Delhi after the fire incidents in CNG buses. The Authority also informed that recently two EPCA reports have been filed in the

Hon'ble Supreme Court on the recommendations of an expert study conducted by Prof. H. B. Mathur regarding the investigations of CNG fire incidents in Delhi and CNG converted buses.

EPCA emphasised that in order to develop a good quality CNG and LPG programme, institutional arrangements for safety inspection are urgently required in these cities. For instance, in Ahmedabad 2 bus fire incidents have been reported. Cities such as Ahmedabad, Lucknow and Kanpur that have CNG programmes and cities such as Bangalore, Hyderabad and Chennai that have LPG programmes need specially designed safety inspection programmes.

EPCA raised and emphasised the need of proper aftersales services and authorised workshops, which are very important to ensure adequate maintenance of the CNG buses.

To initiate the process, EPCA recommended the following.

Roadside garages which carry out repair of LPG or CNG vehicles should be stopped immediately.

Annual maintenance contract with OEMs and conversion agencies should be implemented so that people avail proper maintenance and repair.

In addition to state transport authorities carrying out fitness and safety checks in the respective cities, the state government should develop third party audit system which specifically assesses the safety aspect of the CNG system when a vehicle goes for annual fitness/ roadworthiness tests.

EPCA's direction:

Prof. H. B. Mathur who has conducted extensive studies on CNG safety issue in Delhi will also assess the CNG and LPG safety requirements in Ahmedabad and Bangalore and recommend corrective measures.

A safety checklist and guideline will be prepared by Prof. Mathur and circulated amongst different cities.

The cities should organise training programmes of its personnel who are involved in the safety checks.

Issue 4: Public transport

A. Ahmedabad:

Public bus transport: Chairman, GPCB informed that according to the CEPT study, 2,336 buses would be needed to meet 40 per cent of the commuter needs in Ahmedabad. The city has a total bus fleet of 750 CNG buses. The city has focused on developing public transport by procuring buses on lease and this model is successful in generating revenue (from 4 per cent to 14 per cent).

EPCA noted with concern that the BRT plan is delayed. Chairman GPCB informed that with regard to first corridor of BRT, discussions are going on with the National Highways Authority. Tendering has started but no award of work has been done. EPCA stated that the city has to give very clear deadlines for BRT corridors.

The Authority flagged off the issue of bus sector reform, plan for integration, pedestrianisation, fiscal policy to support public transport and parking policy for the city.

EPCA's direction:

The city needs to submit to EPCA a time bound BRT implementation schedule with milestones by October 10, 2006.

The city needs to augment its bus fleet to meet 40 per cent of commuters needs as identified in the CEPT study. To prepare a plan on how the bus fleet that CEPT has identified for meeting commuters needs would be made operational. Operationalisation of the plan should be such that it reduces the usage of private vehicles. The plan is to be submitted to EPCA by December 9, 2006.

A parking policy and pedestrianisation plan to be developed and submitted to EPCA by December 9, 2006.

To submit details of various taxes imposed on private vehicles and city buses including passenger tax by October 9, 2006. It was emphasised that it is important to examine how public transport is disadvantaged vis a vis the personal vehicles to identify the ways to correct the distortions and promote public transport.

B. Chennai

EPCA observed that Chennai's bus transport system needs to be strengthened. The Authority has asked for a bus plan. The state government will develop a plan for phasing in of new buses and examine the bus specifications for bus purchase.

EPCA's direction:

A bus fleet augmentation plan targeting 40 per cent of commuter needs to be prepared by the state government for the city and submitted to EPCA by December 9, 2006.

EPCA commended the imposition of green tax on old vehicles. To assess the impact of this tax measure, EPCA has asked for the details regarding the amount collected so far and number of vehicles charged by October 9, 2006.

A parking policy and pedestrianisation plan to be developed and submitted to EPCA by December 9, 2006.

To submit details of various taxes imposed on private vehicles and city buses including passenger tax by October 9, 2006. It was emphasised that

it is important to examine how public transport is disadvantaged vis a vis the personal vehicles to identify the ways to correct the distortions and promote public transport.

C. Bangalore

The bus fleet in the city is inadequate and augmentation plan is needed. Jt Transport Commissioner informed that currently, the city bus fleet meets nearly 30 per cent of the commuter needs. EPCA asked to revive the BRT plan.

EPCA's direction:

The city bus fleet currently meets nearly 30 per cent of the commuter needs, which needs to be targeted to at least 50 per cent. The state government to prepare a time bound plan explaining how this target will be met -- as per the current system of bus transport or by devising a BRT system by December 9, 2006.

The transport requirements of Greater Bangalore should also be planned.

A parking policy and pedestrianisation plan to be developed and submitted to EPCA by December 9, 2006.

To submit details of various taxes imposed on private vehicles and city buses including passenger tax by October 9, 2006. It was emphasised that it is important to examine how public transport is disadvantaged vis a vis the personal vehicles to identify the ways to correct the distortions and promote public transport.

D. Hyderabad

EPCA was informed that there are plans to purchase 2,700 buses. The city has a parking policy, which is monitored by the High Court. Intelligent parking at 115 parking lots has been introduced.

EPCA's direction:

A bus fleet augmentation plan including BRT targeting 50 per cent of commuter needs to be prepared by the state government for the city and submitted to EPCA by December 9, 2006.

Parking policy along with details of intelligent parking system to be submitted to EPCA by September 23, 2006.

To submit details of various taxes imposed on private vehicles and city buses including passenger tax by October 9, 2006. It was emphasised that it is important to examine how public transport is disadvantaged vis a vis the personal vehicles to identify the ways to correct the distortions and promote public transport.

E. Lucknow and Kanpur

EPCA directed the following:

Both cities to prepare city bus fleet augmentation plans to meet 40 per cent of the commuters need and submit to EPCA by December 9, 2006.

A parking policy and pedestrianisation plan to be developed and submitted to EPCA by December 9, 2006.

To submit details of various taxes imposed on private vehicles and city buses including passenger tax by October 9, 2006. It was emphasised that it is important to examine how public transport is disadvantaged vis a vis the personal vehicles to identify the ways to correct the distortions and promote public transport.

F. Pune

EPCA observed that Pune needs to develop proper city bus plan as the procurement of buses is already delayed and this important issue should not be held up because of the pending issue of merger of transport corporations in the city. After deliberations, it was decided that a show cause notice would be issued to the state government.

It was informed that the passenger tax on buses is very high. This works out to be 4 per cent per rupee earned while the one time tax for a private car is 7 per cent.

EPCA directed the following:

The city to prepare a bus fleet augmentation plan to meet 40 per cent of the commuters needs and submitted to EPCA by December 9, 2006.

A parking policy and pedestrianisation plan to be developed and submitted to EPCA by December 9, 2006.

To submit details of various taxes imposed on private vehicles and city buses including passenger tax by October 9, 2006. It was emphasised that it is important to examine how public transport is disadvantaged vis a vis the personal vehicles to identify the ways to correct the distortions and promote public transport.

G. Solapur

Dy. RTO Solapur informed EPCA about Solapur Municipal Transport Corporation (SMTC). The SMTC has nearly 36 buses on road of the total of 127 buses in the fleet. The bus-staff ratio is as high as 1:27. The Corporation is in urgent need for funds to upgrade and revive its city bus fleet.

EPCA took special note of the unviable conditions of the SMTC in running buses and decided that it will monitor the Corporation's revival plans for the next three months. Dy. RTO mentioned about the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) Guidelines 2005 under the Ministry of Urban Development. EPCA has asked Dy. RTO Solapur to write a letter to the Ministry of Urban Development under the

UIDSSMT with the bus plan and forward a copy of the same to the Authority to pursue.

EPCA's direction:

To submit details of various taxes imposed on private vehicles and city buses including passenger tax by October 9, 2006. It was emphasised that it is important to examine how public transport is disadvantaged vis a vis the personal vehicles to identify the ways to correct the distortions and promote public transport.

**MINUTES OF THE MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION
AND CONTROL) AUTHORITY FOR THE NCR HELD ON
September 16, 2006**

Agenda: Integration of modes of public transport in Delhi

In attendance: Shri N. Balachandran, Spl. Commissioner (Transport); Shri Krishan Kumar, GM, ISBT, Shri S. S. Sidhu, Secretary, STA; Shri C. B. K. Rao, Director Project & Planning, DMRC; Shri S. D. Sharma, CE(Plg), DMRC; Shri S. A. Verma, Dy CEO, DMRC; Shri B. K. Singal, OSD, DIMTS.

This meeting was called to discuss with DMRC officials, their plan of integration of bus stops with metro stations along with provisions of parking and pedestrianisation and the updated schedule of completion of phase II plan. The meeting started with a presentation by the Director Project & Planning, DMRC on 'Integration of bus stops with metro routes.' Director Project & Planning, DMRC informed about the phase I of metro, which is under implementation. Following points were made regarding the integration: There are a total of 66 feeder routes, which have been identified. Of this, 30 are on line 1 and remaining 36 on line 3. Around 254 RTVs ply on these routes daily. These connect select metro stations to important localities. The important metro stations that are covered are Pitampura, Seelampur, Welcome, Shastri Park, Shahdara, Dwarka, Dwarka sector 10, Rohini, Rithala, Nawada, Uttam Nagar, Tilak Nagar and Janakpuri. Some important localities that are covered are Sulatnpuri, Loni, Karawal Nagar, Nand Nagri, Dilshad Garden, Badli, Mayur Vihar, ISBT Anand Vihar, Shalimar Garden, Madhu Vihar, Nasirpur, Mundka, Kapashera border, Dabri and Mahabir Enclave Park – III.

It was informed that in a meeting convened by the Chief Secretary on September 12, 2006, the DMRC has proposed 33 additional routes. The 33 proposed additional routes are inside the ring road and will connect both elevated and underground stations to various parts of Delhi. The additional stations to be covered by 33 proposed routes are Inderlok, Kanhiya Nagar metro station, Netaji Subhash Place metro station, Pitampura metro station, Vishwa Vidyalaya metro station and Kirti Nagar metro station.

On availability of parking space, it was informed that parking space is available at most metro stations. Of the total 59 stations of phase I, 45 stations have parking space. These are 21 stations of line 1, 3 stations of line 2 and 21 stations of line 3. The parking space provided in the above-mentioned stations of line 1, 2 and 3 are 68,573 sq m, 15,711 sq m and 35,946 sq m respectively. The station entry and exit is located in pedestrian walkway area at both sides of roads to facilitate easy pedestrian entry. Where this is not possible, FOBs have been provided, such as at Tis Hazari station and Indraprastha station.

Phase II of metro was also discussed. Director Project & Planning, DMRC informed about phase II and the target dates. Phase II of metro with a total length of 76.6 km will be completed by September 2010.

Deliberations were held after the presentation. The discussion focused on how to address the issue of integration of buses and metro. EPCA observed how would DMRC integrate the existing buses with the metro. The Authority emphasised that the first step should be to look at the physical integration of the existing bus routes with metro. EPCA will also hold deliberations with DMRC as to what is the best way of common ticketing.

Transport Commissioner suggested that the issue of integration has to be looked at from the perspective of both the existing metro stations and the new stations. At the existing stations, this can be done by moving bus stops, route planning and identifying the convenient interchange points. The new stations are in the planning stages and there is an opportunity for advanced planning. Therefore, there should be an integration plan for the new stations now.

Director, Project & Planning, DMRC informed that out of 59 stations, the bus stop and the metro station are in close proximity at 4 places. At Kashmere Gate bus stop is 100 m away from the metro station, at Shahdara the metro station is 200 m apart, at Shadipur depot the bus stand is 250 m from the metro station and at Uttam Nagar, the metro station is at the bus stop itself. These interchange points have good scope of integration. A few other interchange points were also identified that can be created as model of properly integrated nodes. These include Dwarka sector 21 and Anand Vihar. At Dwarka, -- there is metro; a railway terminal is also coming up here. At Anand Vihar, railway is making a station close to the ISBT. Transport Commissioner suggested that wherever integration is planned all concerned agencies must come into agreement. Integration of the future metro lines should be planned in advance. Director Project & Planning, DMRC stated that the agency is open for suggestions for phase II and III of metro.

OSD, DIMTS suggested that integration planning has to be pedestrian specific. The fundamental principle should be acceptance of pedestrianisation. Transport Commissioner suggested that planning should be done in such a way that pedestrians are at ground and all other things are planned around it. The Authority after having deliberations agreed that the focus should be on pedestrian access, bus access and parking.

EPCA directed the transport department and DIMTS to assess the plan of phase I of metro and facilitate bus and pedestrianisation at the existing stations. Thereafter, EPCA would convene a meeting where the transport consultant of the DMRC will be invited to make a presentation incorporating the suggestions of the transport department and DIMTS.

Chairman, EPCA directed that a joint survey should be organised. Chairman asked the transport department to spell out their requirements to DMRC and the agency will try to fulfil the requirements on ground. OSD, DIMTS suggested that the work of integration be initiated at two metro stations in phase I (Welcome and Seelampur). After deliberations, EPCA directed the transport department and DIMTS to assess the scope of integration at four stations – Kashmere Gate, Welcome, Seelampur and Dwarka.

Special Commissioner (Transport) suggested that the interchange points should be identified looking at the feasibility. The Authority asked the DMRC by when it can give the critical interchange points under phase II to EPCA. Director Project & Planning, DMRC asked EPCA for a two months time. EPCA has directed the DMRC to submit a list of interchange points in a month's time and that DMRC should also look at integration aspects while planning locations of stations. Director Project & Planning, DMRC informed that he will send the corridor by corridor plan under phase II in a month's time. OSD, DIMTS informed EPCA that he will get back to the Authority for Seelampur and Welcome within a fortnight, but for Kashmere Gate and Dwarka, he sought time. EPCA stated that a meeting will be called in a month's time and the next meeting will be convened specially for Kashmere Gate and Dwarka. EPCA observed that joint planning should be done for phase II.

Action points

- Transport department and DIMTS to assess the plan of phase I of metro and facilitate bus and pedestrianisation at the existing stations. Thereafter, EPCA would convene a meeting where the transport consultant of the DMRC will be invited to make a presentation incorporating the suggestions of the transport department and DIMTS.
- DMRC to submit a list of critical interchange points under phase II and also look at integration aspects while planning locations of stations. The agency to submit the corridor by corridor plan under phase II by October 16, 2006.
- Transport department and DIMTS to look for integration at four stations – Kashmere Gate, Welcome, Seelampur and Dwarka. To get back to EPCA for Seelampur and Welcome by September 30, 2006 and also inform about the progress of work for Kashmere Gate and Dwarka assigned to a consultant.

**MINUTES OF THE 367rd MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
September 23, 2006**

Agenda item: Sharing of cost of CETPs,

In attendance: Commissioner Of Industries/Delhi State Industrial & Infrastructure Development Corporation

Delhi Government (CI) was requested to submit the details of cost sharing of individual CETPs by 2nd week of September, 2006 as per decision taken by EPCA on 26th August, 2006 so as to get response of CETP Societies. However, the report received from Delhi Government is provisional, and as such the same could not be sent/discussed with CETP Societies.

CI informed that on 25th August 2006 DSIIDC has submitted cost details stating that these are provisional, even in respect of 8 CETPs which have since handed over to respective societies due to which provisional figures has been submitted to EPCA. CI has already requested DSIIDC to provide final expenditure details in respect of 8 handed over CETPs. Executive Director DSIIDC assured that by this month end they will provide the final expenditure figures in respect 8 handed over CETPs.

Chairman EPCA requested that cost details of CETPs from Government Of Delhi should be provide at the earliest so that final report can be submitted to Hon'ble Court.

Delhi Government was also required to submit their response to MoEF stand on sharing of CETPs cost by 1st week of September, which has not been received so far. CI informed that the same has been forwarded to DSIIDC/DPCC for their comment, which is yet to be received. CI was again requested to submit their response at the earliest.

It was decided to hold next meeting on October 7th 2006 and to discuss the remaining issues as decided in EPCA meeting held on August 26, 2006.

**MINUTES OF THE 367rd MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
September 23, 2006**

Agenda item: Certification of CNG cylinders

In attendance: Prof. H. B. Mathur, Transport department, Department of Explosives, ASRTU, IGL, Tata Motors, Ashok Leyland.

The city has a five-year old CNG programme. In most of the buses, the cylinders have attained the age of five years and are due for testing. There are a total of around 200,000 cylinders to be re-tested and certified. In this backdrop, EPCA called this meeting to discuss the issue of certification of CNG cylinders, the current approach of certification, the problems and how to create the new facilities.

Current approach of certification of cylinders

The Chief Controller of Explosives Nagpur has laid down specific guidelines and rules for testing and certification of CNG cylinders. There are nine agencies authorised by the department, which can test and certify CNG cylinders. Deputy Controller of Explosives explained that the life of a CNG cylinder is around 20 years, which requires to be re-tested after every 5 years. During re-testing, the cylinder is degasified by allowing the gas to escape to the atmosphere, the cylinder is physically examined and then subjected to a hydraulic test as per the stipulated norm. All this exercise takes around 10-15 minutes per cylinder.

Concerns were expressed about the inadequacy of the authorised testing centres in NCR, and logistics of transporting the cylinders to long distances for getting re-testing done. All this could make CNG bus owners evade re-testing and promote malpractices at the privately owned testing centres outside Delhi. Department of explosives agreed with this and pointed out that one of the authorised private testing centre was found indulging in some malpractices and its license has been suspended.

Members also expressed concern about the practice of releasing of CNG into the atmosphere during degasing and enquired if the gas could be profitably utilised. It was informed that the gas at an average contains around 500 ml of lube oil that seeps into the cylinder during the 5-year period of cylinder use on the vehicle.

Limitation of the current approach

The current facilities are not adequate to meet the requirements of the huge volume of tests required for testing and re-certification. Out of the nine testing agencies, three are located outside Delhi; one has been suspended; as a result the city is left with only five agencies. Considering the number of

cylinders that are to be tested, the number of testing agencies is not adequate.

It was decided that two new testing centres will be created in Delhi to cater the huge number of re-testing that has become due during the last 5 years of the CNG programme. It was emphasised that the testing site and the dispensing facility should be in close proximity to each other and such a centre would require a land area of around of 4 – 5 acre. At present, the cylinders are detached and transported to the testing agencies that do not have dispensing stations nearby for refuelling. ASRTU informed that there are reports that bus owners also keep filled cylinders with them, which can compromise safety.

IGL was requested to plan such a centre. However, IGL showed reluctance to get into the business of re-testing of CNG cylinders, as it was not the mandate of IGL. It was then proposed that IGL may explore the possibilities of involving Bharat Pumps Compressors Ltd. Nani Allahabad in the creation of the proposed testing centres in Delhi. Chairperson EPCA directed that seeing the reluctance of IGL, BPCL a public sector company, transport department, IGL and other concerned will facilitate the formation of the facility for cylinder testing. Due to non-availability of land, it was also proposed that the possibility of creating 1 or 2 such centres in DTC depots may be explored as some of these depots have enough land to accommodate the testing centre and they also have IGL dispensing facility for dispensing the gas. EPCA further proposes to discuss the matter of setting up of new testing facilities with DTC as DTC depots already have the dispensing stations.

Need of creation of database

For proper management of the programme, the creation and updating of proper databases regarding the complete details of the cylinders including their unique numbers, inspection and testing status, number of cylinders tested, date of testing, etc are important. The department of explosives informed that they maintain data as these agencies submit the data every quarter. ASRTU also keeps record on the annual check and has information on the number of cylinders tested and the status. It was agreed that EPCA will review the existing data and give necessary direction to improve the system.

Introduction of RFID technology

IGL has been asked to introduce RFID technology to ensure compliance with cylinder rules at the time of refuelling. This system includes a tag on cylinder that can identify the cylinders and can read the cylinder signal of the RFID. If tampered with, the tag will go away. The tags cannot be replaced from one cylinder to another. It will be either on the cylinder or will not be there. IGL informed that it has commissioned TCS to submit a pilot proposal for testing of cylinders on private vehicles. EPCA has asked IGL to develop this programme

for all vehicles and submit to EPCA the milestones with deadlines for implementation.

Action points:

EPCA to convene a meeting with DTC to discuss the issue of setting up of cylinder testing facilities.

ASRTU to submit the data pertaining to all the tests of cylinders conducted since January 2006 by **October 7, 2006**.

Department of explosives to convene a meeting with the concerned testing agencies and submit data with regard to performance of the testing agencies, details pertaining to testing procedures, the logistics required and the results of the testing by **October 14, 2006**.

IGL to submit the details of RFID technology with milestones and deadlines for its implementation by **October 14, 2006**.

**MINUTES OF THE 367rd MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
September 23, 2006**

Agenda item: CNG fuel specifications for motor vehicles

In attendance: Prof. H. B. Mathur, Transport department, Department of Explosives, ASRTU, IGL, Tata Motors, Ashok Leyland

As decided in the EPCA meeting dated August 19, 2006 IGL had submitted a note on the proposed specifications for the CNG supplied in Delhi for motor vehicles. The note also compared the proposed specifications with those suggested in the Auto Fuel Policy. This IGL note was scrutinised by Prof. H.B Mathur at the behest of EPCA. Based on his scrutiny Dr. Mathur made the following observations.

Standards laid down for general-purpose natural gas do not meet the requirements for motor vehicle applications. For motor vehicle applications the most important parameter that need to be specified are wobble index (density of gas and heating value of gas). Gas composition (methane content, percentage of higher hydrocarbon, CO₂ + N₂, and O₂), and antiknock rating (methane number/octane number). The specifications should also spell out the limits of impurities allowed (particulate matter, oil content, sulphur content, moisture content).

Prof Mathur pointed out that the specification proposed by IGL were incomplete, inadequate and weak, much more so vis-à-vis the requirement of the next generation CNG buses being put on road by the manufacturers. The proposed IGL specifications are even weaker in some respect to those mentioned in the Auto Fuel Policy specifications, which in themselves are weak and incomplete. Thus, for example the Auto Fuel Policy has suggested a wobble index of 1350 ± 20 , that proposed by IGL is 1340 ± 80 . While the Auto Fuel Policy document restricts the contents of non-combustibles (CO₂ + N₂) to 3 per cent, IGL has proposed a figure of 7 per cent. While the Auto Fuel Policy categorically mentions that the gas should be free from solid particulate matter, IGL proposal is silent on this count. Similarly it doesn't mention any constraints on the oil content of the gas. The minimum methane content of the gas as per their proposal is only 80 per cent whereas according to their own admission the gas being supplied by MGL, GGCL, Regasified LNG is having a methane content of 97.9 per cent, 98.18 per cent and 89.9 per cent respectively.

Even these weak IGL proposed specifications are going to be met by IGL for "about 90 per cent of the time in a year only" as per IGL proposal. It is pertinent to note that engine optimised on one composition demonstrates significant performance and emission penalties when run on gas of different composition. Automotive CNG composition has a marked influence on

vehicle engine power out put, fuel economy, smoothness of operation. It also affects the safety.

It appears that till now no specifications have been laid down for motor vehicle CNG fuel by GAIL/BIS/IGL inspite of the fact that this fuel is in use in Delhi for many years now.

Action points:

A letter from the Chairmen, EPCA to be sent to Secretary, Ministry of Petroleum and Natural Gas emphasising the urgency for improving the quality of CNG being supplied in Delhi as motor fuel and to bring it on par with the international standards/automotive vehicle manufacturers requirements.

GAIL to submit the draft automotive CNG specifications proposed by them by **October 7, 2006**.

A meeting will be convened to discuss the draft automotive CNG specifications with officials of MoPNG, GAIL and BIS and vehicle manufacturers representatives.

**MINUTES OF THE 367rd MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION
AND CONTROL) AUTHORITY FOR THE NCR HELD ON
September 23, 2006**

Agenda item: Gas delivery to Pune and Hyderabad

In attendance:

A meeting was called on September 23, 2006 to discuss the issue of gas delivery in cities of Pune and Hyderabad. The officials from these two cities and GAIL were invited for the meeting. EPCA noted that none of the invited officials were present for the meeting. It was decided to write a letter to GAIL in this regard.

**MINUTES OF THE 368rd MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
October 07, 2006**

Agenda item: Automotive CNG fuel quality specifications and CNG supply in other to 8 cities (Lucknow, Kanpur, Pune, Hyderabad, Ahmedabad, Bangalore, Chennai and Sholapur)

In attendance: Prof. H. B. Mathur, MoPNG, GAIL, IGL, BIS, CUGL, Green Gas

EPCA expressed deep shock that years have passed since the introduction of CNG in the city and there are no fuel quality specifications. Keeping in view the vast scale of the programme in the city and introduction of CNG in other cities, it is imperative that specifications are laid down as the earliest.

BIS is the agency, which is responsible for formulation of CNG fuel quality specifications. BIS informed that specifications are under preparation and a draft has been prepared. But the process has been delayed, as there is no response from the stakeholders since the draft was circulated. EPCA has found that BIS has not been able to push the process and formulate the specifications on time, which are very crucial at this juncture.

EPCA wanted to know from BIS about the time frame by when it can come up with final specifications. BIS submitted that it might take 1-2 years.

EPCA is of the view that given the rapid expansion of the CNG programme not only in Delhi but also in other cities, it is not possible to wait for another two years for specifications to be finalised. This is also the time for graduating from Euro II to Euro III emissions standards for the CNG vehicles especially the buses and significant improvements are needed in the engine technology. More advanced generation technology will require improved specifications.

In view of this, EPCA has directed that GAIL takes the initiative to form a committee which will deliberate on the matter and submit the CNG fuel specifications to the Authority within 3 months. The committee will include Prof. Mathur and officials from ARAI, SIAM, GAIL, IGL, MGL and will be coordinated by GAIL.

In this regard EPCA would like the committee to address the following among others:

- Standards laid down for general-purpose natural gas do not meet the requirements for motor vehicle applications. For motor vehicle applications the most important parameter that need to be specified are wobbe index (density of gas and heating value of gas), gas composition (methane content, percentage of higher hydrocarbon, CO₂ + N₂, and O₂), and antiknock rating (methane number/octane number). The specifications should also spell out the limits of impurities allowed (particulate matter, oil content, sulphur content, moisture content).
- EPCA notes with concern the discrepancy that exists in the quality of CNG that is being supplied by different agencies. The minimum methane content of the gas as per IGL is only 80 per cent whereas according to their own admission the gas being supplied by MGL, GGCL, regasified LNG has methane content as high as of 97.9 per cent, 98.18 per cent and 89.9 per cent respectively. When good quality gas is available in the market, weak fuel specifications cannot be justified.
- Expert consultation has indicated that the specifications proposed by Auto Fuel Policy are incomplete, and inadequate for the next generation CNG buses being put on road by the manufacturers. IGL has informed that it has examined the proposed Auto Fuel Policy specifications and brought to the notice of MoPNG its concern that some of the parameters were not being maintained as the natural gas received from GAIL has slightly higher percentage of CO₂. The wobbe index was also slightly on the lower side than what was specified. Except MGL and GGCL, the natural gas quality available at other places did not conform to proposed specifications mentioned in Auto Fuel Policy. Stringent quality benchmark and maintaining consistency in those parameters are critical.
- Additionally, the presence of lube oil in CNG cylinders was also highlighted. It has been found that a cylinder contains about 500 ml of lube oil at the time of degassing. GAIL and IGL should assess the matter.

Action point:

EPCA has directed that a committee be set up to formulate automotive CNG specifications. The committee will have representations from ARAI, SIAM, GAIL, IGL, MGL and Prof. H. B. Mathur. GAIL will be the coordinating agency. The Committee will submit the CNG specifications to EPCA within three month.

2. Progress made in supplying CNG to 8 cities (Lucknow, Kanpur, Pune, Hyderabad, Ahmedabad, Bangalore, Chennai and Sholapur)

EPCA asked GAIL to inform about the status of CNG supply to 8 cities, which are being monitored by the Authority. GAIL has earlier submitted a plan with milestones with deadlines. GAIL informed the following:

Lucknow: It was informed that three stations have been commissioned --- Amousi (mother station), Rajajipuram and Sitapur Road (daughter booster stations). The commissioning of Gomti Nagar and Indranagar daughter booster stations has been delayed. These two will be commissioned on October 15, 2006 and November 15, 2006 respectively. At present 20 cars and 1,140 three-wheelers are running on CNG. Green Gas informed that there have been problems with regard to the implementation of the project. Progress is getting affected due to inordinate delays in obtaining permissions to lay the gas pipeline. PWD-NH permission is still awaited. Pipeline job stopped by authorities twice has started from October 4, 2006. Single window approval system has not come in operation and thus project implementation is affected.

Kanpur: There are 1,238 vehicles running on CNG. Commissioning of three online stations has been delayed. These will be commissioned by end of October.

Pune: GAIL informed that the first CNG station could be set up only in December 2007. EPCA expressed concern at this delay. The original deadline was March 2007. EPCA directed GAIL to expedite the delivery of gas as agreed earlier.

Hyderabad: BGL is implementing the project. One station is under operation with CNG supply from Vijaywada through cascades. There are 53 vehicles, which have been converted into CNG. The average CNG sale is 490 kg/day. Two more stations have been planned for this year. The gas supply to be tied up with domestic producers. The project augmentation shall be taken up after gas availability from domestic producers from KG basin and pipeline availability.

Ahmedabad: Nine stations are in operation by HPCL. Joint Venture Agreement (JVA) is under finalisation and incorporation of Joint Venture Company (JVC) is expected shortly. Apart from HPCL, Adani Energy is also operating CNG stations.

Bangalore: Gas supply is expected by 2009 from Kochi LNG terminal. Transportation of R-LNG through proposed Kochi-Kanjirkood-Mangalore/Bangalore pipeline.

Chennai: GAIL is in the process of identifying OMC having maximum number of spacious retail outlets in Tamil Nadu as Joint Venture (JV) partner. For preparation of DFR, market survey and demand estimate are being taken up by GAIL. Gas pipeline is not available and project schedule shall be linked with availability of pipeline infrastructure and gas tie up.

Sholapur: MNGL is to take up cities in Maharashtra except Mumbai and suburb towns. The pipeline is not available and will be taken up after implementation of the CNG project in Pune.

Action points:

Submit the milestones with deadline for supplying CNG in these cities and to adhere to the dates as agreed upon for these cities. This has to be submitted by GAIL through MoPNG by October 14, 2006.

The latest plan and status of the Natural Gas Grid (NGG), which GAIL has earlier submitted to EPCA to be submitted highlighting the availability and status of CNG in the cities to be covered by NGG and by when. This has to be submitted by GAIL through MoPNG by October 14, 2006.

EPCA/3/2003

October 12,2006

To

Shri Manu Srivastava
Director, Ministry of Petroleum & Natural Gas,
A- Wing, Shastri Bhawan,
New Delhi –110011

Shri D.K. Chaudhary
Scientist 'F' & Head PCD, Bureau of Indian Standards,
Manak Bhawan, 9 Bhadur Shah Zafar Marg
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Shri R.M.Gupta
Director (Commercial),
Indraprastha Gas Ltd., 13,14 & 15th Floor, Dr. Gopal Das Bhawan,
28, Barakhamba Road, New Delhi – 110 001.

Shri M.M.Mandal
Executive Director (Marketing),
GAIL India Ltd.,16, Bhikaji Kama Place,
R.K. Puram, New Delhi –110 066.

Dear Sir

Kindly refer to the meeting of the Environment Pollution (Prevention and Control) Authority held on October 07, 2006 regarding the issue of Automotive CNG fuel quality specifications and CNG supply in other cities. Minutes of above meeting are enclosed for necessary action.

Yours Faithfully

(Paritosh Kumar)
Sr. Environmental Engineer
Tel/Fax : 22301955

**MINUTES OF THE 368th MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
October 7, 2006**

Agenda item: CETP monitoring, reuse of effluent, increasing flow of effluent , SMA conveyance system, Lawrence Road handing over and sharing of cost of CETPs CETP costs and handing over of two CETPs SMA & Lawrence Road

In attendance: DSIDC, CI, /DPCC

The status of various action point is as follow which was decided in the last meeting:

S No	Activities with a deadline of September 30, 2006	Status as on October 7, 2006	Decision taken on October 7, 2006 with deadlines
1	DPCC's monitoring report for July-August and the action taken report by Department of Industries	a. DPCC informed that the report was sent to the department of industries: Flow meters not working; TDS still a problem b. Department of Industries have not filed an action taken report on the issues raised by the previous quarterly monitoring report of the recent one (July-August 2006)	Industries Department to take action on defaulting units and report back; DPCC shall monitor the water quality at each stage of treatment
2	Interim report on reuse of effluents (DPCC/ Guha committee)	DPCC informed that reuse not possible	DPCC to file the report of the Guha Committee by October 28, 2006; The committee to compare the quality of groundwater and untreated and treated effluents from CETPs Dr Ansari to write to institutes like IISC Bangalore seeking their suggestions on solutions to deal with TDS once report is received
3	DSIDC to direct a study on increasing flow of effluents to CETPs. First report on increasing flow of effluents to	No report submitted; DSIDC informed that tenders from five consultants were obtained and all of them requested for six	Six month duration not acceptable;

	CETPs (DSIDC)	months time for the study.	
4	<p>SMA:</p> <p>a. Sorting out the issues related to conveyance system and schedule for trial run and handing over (DSIDC);</p> <p>b. EPCA also suggested DSIDC to get an independent auditor to assess what is wrong with the conveyance system</p> <p>c. DSIDC to sort the issue with DJB in two weeks time and no longer than that</p>	<p>DSIDC says trial run is over; No independent assessment of the conveyance system was made by the DSIDC; Conveyance issue not yet sorted out; CETP society not willing to take over</p>	<p>EPCA to send a DO to Chief Secretary mentioning that there are irregularities in the way CETPs were planned, designed and implemented. Chief Secretary will be requested to sort the deficiencies in the conveyance system. CS shall also respond to MOEF's objections.</p>
5	<p>Lawrence road: Results of trial run and preparation for handing over (DSIDC)</p>	<p>DSIDC informed that trial run was done. But the data is not "up to the mark"; DPCC says that the BOD levels in treated effluents are as high as 70 mg/l; No report was submitted to EPCA</p>	<p>DSIDC to submit the reports of the month long trial run; DSIDC to consult NEERI on the quality issue as well as conduct the trial run on a half design load basis; NEERI to complete trial run by December 2006</p>
6	<p>DPCC to notify the BOD values at outlet of the individual industries connected to CETPs. The DPCC shall submit a proposal for notifying inlet parameters for all CETPS</p>	<p>No proposal submitted. DPCC expressed its inability to notify the outlet standards for effluents from individual industries</p>	
7	<p>Review of legal provisions regarding punitive action against polluters (collective and individual) as given</p>	<p>Commissioner Industries informed that his department has done some work on this.</p>	<p>CI to give formal note to EPCA after consulting legal experts</p>

	in different laws and acts (Department of Industries/DPCC)		
8	a. Department of Industries to write to CETP Societies to apply for a fresh consent b. DPCC to report back on the consent applications from CETP Societies (DPCC)	a. Department says they have written to the Societies b. DPCC informed that no application has been received so far; Consent of some of the CETPs have expired	Appropriate authority to take action against defaulters
9	Cost Issue: (CPCB) a. report from Delhi government on MOEF's objections b, Report to MOEF on Delhi government response c. report to individual societies	A reply from CI received	Letters to be sent to CETP Societies; CPCB to call CETP societies one by one on October 28, 2006 in the EPCA meeting to discuss the issue

**MINUTES OF THE 369th MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
October 14, 2006**

Agenda item: Creation of CNG cylinder testing and certification facilities

In attendance: Prof. H. B. Mathur, Shri Anshu Prakash, CMD, Delhi Transport Corporation (DTC).

Next meeting date: To be decided

This meeting was called to discuss with DTC the matter of setting up of new CNG cylinder testing facilities as DTC depots already have the dispensing stations. EPCA had earlier convened a meeting on September 23, 2006 to discuss the issue of certification of CNG cylinders, the current approach of certification, the problems and how to create the new facilities. In this meeting, it was emphasised that the testing site and the dispensing facility should be in close proximity to each other and such a centre would require a land area of around of 4 – 5 acre. Due to non-availability of land, it was also proposed that the possibility of creating 1 or 2 such centres in DTC depots may be explored as some of these depots have enough land to accommodate the testing centre and they also have IGL dispensing facility for dispensing the gas.

CMD DTC informed EPCA the two key reasons why DTC cannot take up CNG cylinder testing and certification facilities. DTC does not have an expertise in setting up these facilities and secondly, DTC depots do not have enough land. CMD, DTC was of the view that DTC is a user, and it cannot be the regulatory body to test and certify the CNG cylinders.

It was decided that EPCA will convene another meeting in which representatives of the three cylinder manufacturing agencies, the department of explosives, IGL and transport department will be invited to hold deliberations and decide the agency which will be made responsible to carrying out these tests.

Action points:

1. DTC to submit a list of three CNG cylinder manufacturing agencies with contact details.
2. A meeting will be convened to hold deliberations and decide which agency will be made responsible to carrying out these tests. Representatives of the 3 cylinder manufacturing agencies, department of explosives, IGL and transport department will be invited for the meeting.

**MINUTES OF THE 369th MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
October 14, 2006**

Agenda item: Discussion with MCD/NDMC/DDA/Urban Department/
regarding implementation of Parking Policy.

In attendance: Shri Madhukar, Delhi Government; Shri S. S. Rao, Director (Enforcement) NDMC; Shri Ramesh Raina, S.E. NDMC, Shri Parimal Rai, Additional Commissioner, MCD, Shri Amiya Chandra, Additional Deputy Commissioner, MCD.
The next meeting date: October 28, 2006

This meeting was called to take stock of the action plans submitted by the concerned agencies and in reference to the Hon'ble Supreme Court's directions dated September 22, 2006 stating, *"We have considered Report No. 25 in regard to Parking Policy submitted by Environment Pollution (Prevention & Control) Authority [EPCA]. Following directions are issued to New Delhi Municipal Council (NDMC); Municipal Corporation of Delhi (MCD) and Delhi Development Authority (DDA) for compliance and submission of requisite material and information to EPCA on or before 31st October 2006:.....The officers of NDMC, MCD and DDA and Delhi Government are directed to co-operate with the EPCA so that final parking policy can be placed by EPCA before this Court expeditiously."*

Deliberations were held with regard to the action plan of each concerned agency and progress made with regard to the specific directives sent by EPCA and the Hon'ble Court's order. Following are the decisions taken and the schedule for further action.

N.D.M.C.:

1. i. **The current parking rates for all types of authorised parking facilities underground, multilevel, and surface:** NDMC in its submission has stated that parking lots in NDMC areas have been categorised into three groups --- Group A, Group B and Group C. Parking rates for the lots in these Group areas and the 2 underground parking lots have been submitted. Parking rate of its Mayur Bhawan multilevel parking has not been submitted. For proposed multilevel parkings, NDMC submits that parking rates will be kept fair and just so as to avoid competition from surface parking. The revenues from development of commercial area in these complexes and the revenues generated from the surface parking will help finance the multilevel parking in the long run. EPCA noted that it was vague and broad and has asked NDMC to submit estimates of the actual cost of parking and the parking charge borne by a user.

Delhi government official suggested that NDMC should also display a list of its authorised parking sites with its current parking rates as MCD was asked to do. It was informed that NDMC has already done so. Deliberations were held. It was decided that NDMC should

take out a public advertisement in newspapers informing public about the authorised parking sites and the rates.

- ii. **the proposal for rationalised parking rates for all types of parking based on the user pay principle in which the user will pay the full cost of parking and the element of subsidy is eliminated:** NDMC has not submitted the same. To submit the same by October 28, 2006.

2. List of all authorised parking sites along with the designated area and capacity within the NDMC jurisdiction: In its first submission, NDMC has submitted a list of only 56 parking sites along with their area in Group A category only. Parking lots in Group B and Group C areas were not included in the list. NDMC representative submitted the list during the meeting.

3. Progress report on execution of the multilevel parking projects planned at Baba Kharak Singh Marg, Kasturba Gandhi Marg and Sarojini Nagar: NDMC's in its submission has informed that global applications for qualifications were invited for selection as developers for these projects on BOT basis. Out of 19 concerns, which submitted bids, 16 concerns have been found to be qualified bidder. As project duration is fairly long (30 years), terms and conditions of the concession have to be carefully formulated so as to ensure compliance with the requirements in the long run. The RFQ is nearly finalisation and is likely to be issued to the qualified bidder by September 30, 2006. NDMC's representative informed in the meeting that RFQ is to be issued shortly. NDMC to inform EPCA about the progress made.

4. Plan to indicate how new parking facilities including the multilevel parking will be utilised to promote pedestrianisation and reduce car use in Connaught Place: EPCA will review the submission made by the agency.

M.C.D.

1. i. **the current parking rates for all types of authorised parking facilities - underground, multilevel, and surface:** MCD's affidavit do not mention the same.

- ii. **The proposal for rationalised parking rates for all types of parking based on the user pay principle in which the user will pay the full cost of parking and the element of subsidy is eliminated. This plan should be submitted:** MCD has not submitted the same. Deliberations were held on the issue of MCD's parking rate increase and rationalisation, which is pending for approval since June 2006. EPCA has taken note of MCD affidavit submitted to the Hon'ble Court in September. The affidavit states that the proposal relating to the finalisation of parking rates was referred to the Standing Committee of the MCD and the Committee has been reminded for early clearance of the proposal.

The Chairman of the sub-committee is looking after the proposal and has assured in the Standing Committee that the proposal will be cleared by the end of this month after which it is proposed to get the matter expedited for clearance from the House of the MCD.

EPCA is very much concerned on this matter and was shocked to hear that no progress was made. Despite submitting in affidavit that proposal will be approved by the end of this month (that is September), it was informed that nothing has been done and it is still with the Standing Committee. Expressing dis-satisfaction, EPCA observed that this issue has been pending for approval since June 2006 and ample amount of time was given to MCD to pursue the matter with the Standing Committee to get it expedited. It was decided that EPCA will write a letter to MCD Commissioner directing him to expedite the matter and inform EPCA by October 31, 2006 failing which it would be left with no alternative other than bring up the matter before the Hon'ble Court.

2. Progress report on the execution of the multilevel parking projects planned at Kamla Nagar, Parade Ground and Ramlila Ground and in Shastri Park, Karol Bagh, M Block Market, Greater Kailash-I and NDSE-I and II, as per given schedule: MCD's affidavit informed the following. Tender document has been issued to short listed bidders for Kamla Nagar site, clarification is sought from DDA on commercial component for Parade Ground & Ramlila Ground sites and upon receiving comments, bid documents will be issued. For the other 3 sites, process for framing of revised rules and regulations for soliciting approval of the Standing Committee of MCD and pre-qualification of bidders has been initiated.

MCD's representative informed the current status of these projects in the meeting: Tender document has been issued and is due for November 30, 2006 for Kamla Nagar site. For Parade Ground & Ramlila Ground sites, matter has been forwarded to DDA for soliciting approval to construct commercial portion at level 1 and 2. For other 3 sites, preamble to set aside the earlier bid has been approved by the Standing Committee and process for reappointment of consultant and selection will be taken after confirmation of minutes. EPCA observed that MCD should take only a few sites on priority.

3. MCD to provide area in square metre and GIS based maps with respect to all these 110 sites listed in List I: MCD's affidavit informed that work relating to providing parking areas in sq m and preparation of GIS based maps for the 110 sites is in process and may take another two months to complete. MCD's representative informed that SPA is undertaking the project and it would take some time. EPCA asked MCD to expedite the same.

4. MCD to submit a status compliance report on public advertisement, physical demarcation and uploading on the website the list of 110 parking sites: MCD's affidavit states, list of 110 sites has been uploaded on MCD's website www.mcdonline.gov.in. EPCA noted that list I of 110 sites submitted to EPCA has not been properly uploaded. MCD's website shows only 98 sites --- some old sites have been dropped while some new have been added.

Deliberations were held on demarcation of sites on ground. Options such as demarcation by lane marking, ropes, pillars etc were suggested. MCD will complete the task of demarcation of all its parking sites by October 29, 2006 and inform EPCA on the same.

5. MCD has to provide EPCA a plan for parking of commercial vehicles. MCD shall submit a proposal to EPCA: A plan has not been submitted. After deliberations, it was decided that transport department will be asked to submit the same. To be discussed in the next meeting.

6. MCD has submitted that only 3 sites have been sanctioned last year for construction of shopping malls and commercial complexes. MCD is thus responsible for ensuring that no spillover of vehicles takes place outside the mall area and the area along the entire radius of the malls is declared as no-parking zone. Status on this aspect to be filed before EPCA. To discuss.

D.D.A.

EPCA noted that no representative from DDA has come to attend the meeting. EPCA has taken note of the fact that DDA has not filed any submission in the Hon'ble Court in response to its order dated August 4, 2006. EPCA has also not got any response from DDA on the directives sent by the Authority. The parking issues with DDA as discussed in various EPCA meetings have been pending since July 2006. EPCA is therefore not aware of the progress made with regard to the parking issues with DDA.

DDA to inform EPCA on the following:

1. i. The current parking rates for all types of authorised parking facilities - underground, multilevel, and surface.
 - ii. The proposal for rationalised parking rates for all types of parking based on user pay principle in which the user will pay the full cost of parking and element of subsidy is eliminated.
2. With regard to new shopping malls that have been planned, DDA is responsible for ensuring that no spillover of vehicles takes place outside the mall area and area along the entire radius of mall is declared as no-parking zone. DDA will be responsible for its enforcement. Vice Chairman, DDA will be responsible for its implementation. Status on this aspect to be filed before EPCA.

3. EPCA has been informed that currently the parking norms, which are set by DDA, are being discussed as part of the Master Plan Delhi 2021 (MPD 2021). EPCA has also been informed that the MPD 2021 is being further revised, on the basis of the Tejinder Khanna Committee report and other developments. DDA to submit any revision that it proposes in the MPD 2021, which would have implications on the parking provisions."

Action points:

NDMC:

To submit estimates for actual cost of parking and the charge to be borne by the user taking into account the opportunity cost of land. To submit the proposal for rationalised parking rates for all types of parking based on user pay principle in which the user will pay the full cost of parking and element of subsidy is eliminated by October 28, 2006.

Inform about the latest progress with regard to the three multilevel parking sites.

MCD:

EPCA will write to MCD Commissioner directing him to expedite the matter of parking fee increase and rationalisation and inform the Authority by October 31, 2006 failing which it would be left with no alternative other than bring up the matter before the Hon'ble Court.

To submit estimates for actual cost of parking and the charge to be borne by the user taking into account the opportunity cost of the land by October 28, 2006.

Demarcation of 110 parking sites on ground by October 29, 2006 as agreed by MCD.

DDA: EPCA will convene a meeting with DDA on October 20, 2006 to discuss the status and progress made with regard to the parking issues with DDA.

**MINUTES OF THE 370th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
October 20, 2006**

Agenda item: Discussion with Transport Department regarding schedule of implementation of HCBS corridor from Ambedkar Nagar to Mool Chand,

In attendance: Transport Department/DIMMTS/RITES

This meeting was called to take review the commencement of work in the first HCBS corridor and the progress made with regard to the other six corridors. In the September 2, 2006 meeting, EPCA has asked the transport department to submit a time schedule for commencement of work and its completion in the first corridor with clear milestones. Despite laying of foundation stone for commencement of work, the submission of time schedule was delayed. RITES came up with a detailed work plan and wanted it to be submitted to EPCA. EPCA observed that the Authority is not interested in the work plan, which RITES has brought. The Authority wants a time schedule and physical benchmark to monitor work. EPCA is of the view that it will monitor work every three-months (beginning November 2006 and then in February 2007, May 2007, August 2007, November 2007 and February 2008). The Authority wants to monitor the physical progress of work with milestones. EPCA has requested transport department and RITES to translate the work plan into quarterly milestones and submit to EPCA. As agreed by transport department, the time schedule of work along with the quarterly milestones will be submitted to EPCA by October 26, 2006.

Action point:

- Transport department and RITES to submit the time schedule of work along with the quarterly milestones to EPCA by October 26, 2006.
- To submit the milestones for other six corridors.

Agenda 2: Integration of modes of public transport in Delhi

In its EPCA meeting dated September 16, 2006, OSD, DIMTS suggested that the work of integration be initiated at two metro stations in phase I (Welcome and Seelampur). After deliberations, EPCA directed the transport department and DIMTS to assess the scope of integration at four stations – Kashmere Gate, Welcome, Seelampur and Dwarka and to get back to EPCA for Seelampur and Welcome by September 30, 2006 and also inform about the progress of work for Kashmere Gate and Dwarka assigned to a consultant. OSD, DIMTS informed EPCA about the assessment done for Welcome and Seelampur metro stations. An assessment of Kashmere Gate metro station has also been submitted. Based on OSD, DIMTS's assessment of Welcome and Seelampur metro

stations, EPCA will prepare a note. EPCA will convene a meeting with transport department, DIMTS, DMRC, land owning and bus owning agencies to discuss the matter.

DDA informed about the remodelling plan of the old Delhi Railway station, which has been approved by the Technical Committee of the DDA. This needs to be integrated with metro, DTC etc. It was decided that a meeting will be convened to discuss this issue inviting officials from transport department, DIMTS, DDA, PWD, RITES.

It was also informed that a railway station is coming up at Bhartal. It can be ideal place of integration with ISBT and metro. The Chief Administrative Officer (Constructions) will be invited for the meeting to be convened in next two weeks to discuss the issue of integration with railways.

Action points:

- EPCA will prepare a note based on OSD, DIMTS's assessment of Welcome and Seelampur metro stations. A copy of the same will be send to DMRC. A meeting will be convened with transport department, DIMTS, DMRC, land owning and bus owning agencies to discuss the matter.
- The Technical Committee of DDA has approved the remodelling plan of old Delhi Railway station. This needs to be integrated with metro, DTC etc. A meeting will be convened to discuss this issue inviting officials from transport department, DIMTS, DDA, PWD, RITES.
- A railway station is coming up at Dwarka can be an ideal place of integration with ISBT and metro. The Chief Administrative Officer (Constructions) will be invited for the meeting to be convened in next two weeks to discuss the issue of integration with railways.

**MINUTES OF THE 370th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
October 20, 2006**

Agenda item: Discussion with DDA regarding implementation of Parking Policy.

In attendance: Shri A. K. Jain, Commissioner Planning, Delhi Development Authority,
Shri H. S. Dhillon, Jt. Director, Planning, DDA

Next meeting date: October 28, 2006

In the last meeting held on October 14, 2006, EPCA noted that no representative from DDA has come to attend the meeting. The parking issues with DDA as discussed in various EPCA meetings have been pending since July 2006. This meeting was called to discuss the parking issues with DDA and to know about the progress made.

DDA was to inform EPCA on the following:

1. i. The current parking rates for all types of authorised parking facilities - underground, multilevel, and surface.
- ii. The proposal for rationalised parking rates for all types of parking based on user pay principle in which the user will pay the full cost of parking and element of subsidy is eliminated.
2. With regard to new shopping malls that have been planned, DDA is responsible for ensuring that no spillover of vehicles takes place outside the mall area and area along the entire radius of mall is declared as no-parking zone. DDA will be responsible for its enforcement. Vice Chairman, DDA will be responsible for its implementation. Status on this aspect to be filed before EPCA.
3. EPCA has been informed that currently the parking norms, which are set by DDA, are being discussed as part of the Master Plan Delhi 2021 (MPD 2021). EPCA has also been informed that the MPD 2021 is being further revised, on the basis of the Tejinder Khanna Committee report and other developments. DDA to submit any revision that it proposes in the MPD 2021, which would have implications on the parking provisions."

DDA representative submitted a note on parking issues with DDA in the meeting. Deliberations were held on the issues. DDA informed that the agency will take full responsibility of enforcement of parking in the shopping malls and commercial complexes. It was informed that strict action will be taken against those who violate. EPCA was also informed that in the shopping malls, parking is being provided in 3 basements and a common parking will also be made. On the issue of common parking, EPCA raised concern on when will it be done. EPCA stated that parking provisions should be very clear and enforced from the beginning as DDA is the land owning and developing agency. DDA informed that in case of MPD 2021, if parking area is violated, it will be municipalised that is it will be

taken over. EPCA was also informed that MPD 2021 has been diluted. DDA informed of the new notification of September 7, 2006 that has come up. EPCA has asked DDA to submit the Gazette notification, MPD 2021 to see the implications on how things can change. The following were the decisions taken and will be discussed in the next meeting.

Action points:

- To submit the list of all DDA authorised parking sites and the current parking rates for all types of authorised parking facilities - underground, multilevel, and surface.
- To submit estimates for actual cost of parking and the charge to be borne by the user taking into account the opportunity cost of the land. To submit the proposal for rationalised parking rates for all types of parking based on user pay principle in which the user will pay the full cost of parking and element of subsidy is eliminated.
- To submit the feasibility study done for the Mangalam Place multilevel parking and for the Nehru Place multilevel parking.
- To submit the Gazette notification on mixed land use and parking rates, changes in MPD 2021 that has bearing on parking.

**MINUTES OF THE 371st MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
October 28, 2006**

Agenda item: Implementation of parking policy

In attendance: Shri Vijay Madan, Transport Commissioner; Shri N. Balachandran, Spl. Commissioner (Transport); Shri Madhukar, Delhi Government; Shri Anurag Goel, Director (Projects), NDMC; Shri Ramesh Raina, S.E. NDMC, Shri Parimal Rai, Additional Commissioner, MCD, Shri Amiya Chandra, Additional Deputy Commissioner, MCD, Shri H. S. Dhillon, Jt. Director, Planning, DDA

This meeting was called to do a follow up of the earlier meeting held on October 14, 2006 and October 20, 2006. Following are the decisions taken.

N.D.M.C.:

Parking rates

NDMC stated that in the draft concession agreement, which is to be issued as part of the request for proposal document to the qualified bidders, an upper limit of Rs. 10 per hour has been kept as parking charges in the proposed multilevel parkings. A yearly increase of 5 per cent per annum has been proposed in the parking charges for these facilities. A financial working for the proposed parking at Bara Kharak Singh Marg based on a project internal rate of return (IRR) of 12.5 per cent has been submitted. For the pricing of surface parking, NDMC stated that it is difficult to fix the cost of providing a surface parking as no cost can be attributed to land, which can be used only for parking.

Multilevel parkings

The RFQ was likely to be issued by September 30, 2006. It was informed that this would be done in the next 10 -15 days. NDMC to submit the studies done by their consultants for the three proposed multilevel parkings.

M.C.D.

1. Parking rate increase and rationalisation

MCD has submitted that the Corporation has been pleased to grant anticipatory approval for the revision in the rates of parking fee. The revised parking rates for a car are Rs. 10 upto 10 hours, Rs. 20 beyond 10 hours upto 24 hours and Rs. 500 as monthly charges. Parking rate of Rs. 600 will be charged for the Gandhi Maidan and Church Mission Road parkings. And for Asaf Ali Road parking, Rs. 700 will be charged. The rates for two-wheelers are revised to Rs. 7 upto 10 hours and Rs. 15 beyond 10 hours upto 24 hours. The rates of parking fee for buses/tempo/truck and other equivalent vehicles as well as those of the monthly passes for cars/scooters for ordinary

and specified parkings shall remain the same. The revised rates shall be subject to the final decision of the Corporation and shall not apply to the automated multilevel parkings proposed to be constructed at different sites on build, operate and transfer (BOT) basis for which a separate exercise is being taken.'

EPCA welcomes the prompt action taken by the Corporation. The Authority observes that the revision has actually lowered the daily parking rates. The existing parking rates are still higher than the revised rates. EPCA notes with concern that the aim of the whole exercise of rationalising parking rates is to increase the parking rates as a step towards recovering the cost of providing parking and also restrain demand for parking. The first step towards revision should not be a retrograde step. MCD to look into the matter and revise the proposal expeditiously and inform EPCA about the steps taken to address this anomaly.

2. MCD has not submitted the estimates for actual cost of parking and the charge to be borne by the user taking into account the opportunity cost of the land. MCD to submit the same.

3. Multilevel parkings

Status with regard to the six multilevel parking sites remain the same as the earlier meeting. Kamla Nagar site has moved to the tender stage. It was informed that tender document for this site has been issued and is due for November 30, 2006. It would take another 3 months for processing. MCD had sought clearance from DDA for Parade Ground and Ramlila Ground sites. The proposed sites at GK I, Shastri Park and South Extension are at consultant stage.

MCD informed that 19 multilevel parking sites will be developed by the agency before the Common Wealth games including the proposed 6 sites. EPCA expressed its reservation with regard to the multilevel parking sites. The Authority raised the issue of financial viability of these sites. MCD informed that the construction cost of an automated multilevel parking will come around Rs. 9 -10 lakh per car space. This will exclude the land cost. EPCA observed that the cost is too high. EPCA is of the view that MCD should take up only the first few sites on priority. MCD to submit the studies done by the consultants for the first six sites.

4. GIS based maps for 110 sites listed in List I

MCD was asked to expedite the work. EPCA has directed MCD to talk to SPA official who in undertaking the work and submit a deadline for the same to EPCA. Thereafter EPCA will invite SPA to give a presentation.

5. Public advertisement, physical demarcation and uploading the list on the website: MCD to upload the list submitted to EPCA by November 15, 2006

and inform the public by publishing a public advertisement. MCD was to complete the task of demarcation of its parking sites by October 29, 2006. It was informed that work could not be completed. The work has started in 2-3 MCD zones out of the 12 zones. Demarcation is being done by paint and carved stones. MCD has to complete the task by November 15, 2006.

6. Plan for parking of commercial vehicles

To be discussed later.

7. Enforcement of parking at shopping malls and commercial centers

To be discussed with MCD.

DDA

A separate meeting was held with DDA on October 20, 2006 to discuss the pending parking issues with DDA.

1. Parking sites

In the recent meeting, the DDA representative submitted a list of parking sites and the applicable rates. EPCA noted that the list is incomplete and do not include the area and parking capacity of the sites. DDA representative informed that there are a total of 61 authorised sites. EPCA has asked DDA to submit the complete list with required details.

As far as the rates are concerned, EPCA has noted that the parking rates in the DDA authorised sites are lower and need to be revised. It was informed that the rates have not been revised after 2002. EPCA wants DDA to revise the parking rates to bring it at par with the rates of other agencies and with a view to discourage parking.

EPCA had earlier asked DDA to submit estimates for actual cost of parking and the charge to be borne by the user taking into account the opportunity cost of the land and submit the proposal for rationalised parking rates for all types of parking based on user pay principle in which the user will pay the full cost of parking and element of subsidy is eliminated. DDA has not submitted the same. DDA to submit the same.

EPCA has directed DDA to upload the list of all authorised parking sites on the agency's website with clear demarcation, issue a public notice and demarcate each site on the ground physically with public board prominently displayed with details of the name of contractor, timings, rates, area and name of person to be contacted for any problem. DDA is to submit a time schedule to EPCA for the above-mentioned direction.

2. Multilevel parkings

The issue of multilevel parkings was discussed in the meeting dated October 20, 2006 and DDA was asked to submit the feasibility studies done for both

the multilevel parking projects. These have not been submitted. DDA is to ensure that these two studies are submitted to EPCA.

3. Development control norms of DDA for multilevel parking

During the course of deliberations, it was brought to the notice of EPCA that there are anomalies in the building norms for multilevel parking policy. FAR of 1 is applicable to parking structures. The implications of this brought to our notice show that one floor above the ground is used as a commercial space and the facilities for parking are built underground. This defeats the objecting of creating the parking structures and also compounds the cost of parking. This can lead to tremendous misuse of these projects. DDA needs to review its current parking guidelines (development control norms) of the multilevel parkings and inform EPCA on the same.

Action points:

NDMC:

- To submit the studies done by their consultants for the three proposed multilevel parkings.

MCD:

- On the issue of parking rate increase and rationalisation, EPCA will write a letter to MCD to look into the matter and revise the proposal expeditiously.
- To submit a proposal for rationalised parking for all types of parking based on the user pay principle in which the user will pay the full cost of parking and the element of subsidy is eliminated.
- To submit the studies done by the consultants for the first six multilevel parking sites.
- MCD to talk to SPA official who is undertaking the work of GIS based maps and submit a deadline for the same. Thereafter EPCA will invite SPA to give a presentation.
- To upload the list submitted to EPCA by November 15, 2006 and inform the public by publishing a public advertisement.
- MCD to complete the task of physical demarcation of the sites by November 15, 2006.

DDA

- To submit the complete list of all 61 authorised sites along with the area and parking capacity of each site.
- To revise the parking rates to bring it at par with the rates of other agencies and with a view to discourage parking.
- To submit the proposal for rationalised parking rates for all types of parking based on user pay principle in which the user will pay the full cost of parking and element of subsidy is eliminated.
- To submit a time schedule for the tasks to be done --- Upload the list of all authorised parking sites on the agency's website with clear

demarcation, issue a public notice and demarcate each site on the ground physically with public board prominently displayed with details of the name of contractor, timings, rates, area and name of person to be contacted for any problem.

- To submit the feasibility studies done for the Nehru Place and Mangalam Place multilevel parking projects
- To review its current parking guidelines (development control norms) for the multilevel parkings and inform EPCA on the same.

**MINUTES OF THE 371st MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
October 28, 2006**

Agenda item: Onroad checks to combat winter pollution

In attendance: Shri Vijay Madan, Transport Commissioner; Shri N. Balachandran, Spl. Commissioner Transport; Shri S. S. Gill, Deputy Commissioner, Transport department; Shri Vikas Jain, PCO (HQ), Transport department, Shri R. K Jain, Transport department.

This meeting was called to discuss the strategy for onroad checks to combat winter pollution in Delhi.

It was informed that the transport department has a total of 30 teams. All of these are not dedicated for pollution checking. It was agreed that transport department should deploy 10 teams dedicated for carrying out onroad pollution checks. The teams have to catch the polluting vehicles every day and take out a public advertisement every week informing about the number of vehicles that have been caught along with the penalties that were charged.

Deliberations were also held on how the number of pollution checking staff of the transport department staff can be increased to deploy for the onroad checks during winter. Outsourcing of work where only vehicles will be caught and not challenged was one of the suggestions. It was not accepted.

Special Commisioner transport informed EPCA of the shortage of posts in his department. It was informed that the transport department has asked for 80 posts but no additional posts were created. The department has a total strength of 250 staff that are responsible for enforcement of all kinds of violations in the city. The Delhi government Chief Secretary has written to the Cabinet Secretary informing about the shortage of posts in the said department but no action has been taken so far.

It was also informed that government vehicles are the defaulters as far as PUC checks are concerned. These do not carry a PUC certificate and do not allow the staff of the transport department carrying out onroad checks to check their vehicles.

The result of the pollution control drive (October 1, 2006 to October 26, 2006) was submitted by the transport department pertaining to PUCC and visible smoke challans and cancellation of COF. The issue of visible smoke

from the vehicles was also discussed. It was decided that vehicles should also be checked at the traffic intersections.

It was decided that 10 teams will be deployed for onroad checking during winters. Vehicles such as two-wheelers, three-wheelers, diesel cabs and tempos will be targeted.

Action points:

Pollution drive to commence from October 30, 2006. Ten teams of the transport department will be deployed for onroad checking during winters. Vehicles such as two-wheelers, three-wheelers, diesel cabs and tempos will be targeted.

Transport department to report to EPCA on a weekly basis.

Transport department to take out a public advertisement every week informing about the number of vehicles challaned.

Transport department to do a survey and submit a report pertaining to the government vehicles.

**MINUTES OF THE 372nd MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
November 3, 2006**

Agenda item: Agenda: Action plan to combat vehicular pollution in NCR towns as well as the impact of transit traffic into Delhi

In attendance: Shri S. S. Sidhu, Secretary (STA), Transport department; Shri Vikas Jain, PCO (HQ), Transport department; Ms. G. Anupama, Deputy Commissioner Faridabad; Ms. Neerja Sekhar, Deputy Commissioner, Sonapat; Shri R. C. Choudhary, RO, UPPCB, Meerut; Shri R. R. Fuliya, Commissioner & Secretary, Environment department and Chairman, Haryana State Pollution Control Board; Shri Vijay Singh Dahiya, ADC, Rohtak; Shri R. P. Bhardwaj, Deputy Commissioner, Gurgaon; Shri Rajeev Malhotra, CRP, NCRPB.

This meeting was called to discuss the action plan to combat vehicular pollution in the NCR towns as well as reducing the impact of transit traffic on pollution and congestion in all towns including Delhi.

EPCA apprised the forum about the increasing numbers of vehicles in the NCR towns as well as in Delhi. No assessment is available which would give the recent data pertaining to the actual number of vehicles plying between NCR towns and Delhi and the inter-city and intra-city trips. The available data is quite old (1999). There are large number of private vehicles plying between NCR and Delhi. A large proportion of these are diesel vehicles. Regulations exist for the commercial traffic but not for personalised vehicles. EPCA is of the view that air pollution control efforts in Delhi can be seriously undermined if the daily influx of vehicles from outside the city is not controlled. Steps have to be taken to minimise this traffic and also keep them low emitting.

Deliberations were held on key issues ---- the number of registered vehicles in these towns, the PUC system and the tests done and the bus based systems catering to public transport. EPCA noted that a large number of daily trips in the NCR region are already being made by public transport --- buses and railways together. EPCA observed that building up quality and reliable public transport is the most key area of intervention. The towns should look at means of improving the public transportation system. The Delhi example was cited where the public transport system (buses, autorickshaws and taxis) ply on CNG mode.

The issue of increasing vehicles numbers was discussed. It was informed that vehicle registration is done at two levels. The SDM registers the light-duty motor vehicles and the heavy-duty motor vehicles are registered by the district traffic officer. On the availability of data, EPCA was informed that district wise vehicle registration data is available. EPCA has asked the officials to submit the vehicle registration data (diesel and petrol vehicles and light-duty and heavy-duty vehicles).

The NCR representatives informed the following about their respective towns.

Faridabad:

Faridabad has a total of 54 PUC centers. No commercial vehicles have been certified without a PUC. Since June 2006, only new CNG autorickshaws have been registered. Large number of three-wheelers exists which are more than 15 years old. Adani will supply the CNG. Land is required for CNG stations. At present, autorickshaws cross Badarpur and get CNG filled at the border. There will be 7 CNG stations. There is no city bus service. There is no alternative route to Badarpur. It was informed that there is a committee under the Principle Secretary, PWD that is looking into the roads entering Delhi. There are proposals for road widening under NHAI and Delhi government reference point NH2 and Badarpur. It was decided that a meeting will be convened with NHAI. The NHAI will have to submit the milestones to EPCA to monitor.

Sonepat:

There are 6,000 heavy-duty vehicles and 15,000 light motor vehicles in Sonepat. EPCA has asked to submit the registration data category wise (petrol and diesel) for the past 5 years. Entry for Sonepat is from NH1. Around 80,000 vehicles cross NH1 every day. Delhi's transit traffic is to be reduced dramatically. Railways and buses meet the passenger travel demand. People prefer trains. EPCA enquired about the state of PUC and what can be done to improve public transport. Information on the PUC has to be submitted to EPCA. Three-wheelers and maxicabs constitute the public transport in Sonepat. There are CNG buses of Haryana Roadways. Even here the refilling is done in Delhi. EPCA observed that CNG bus service should be expedited. EPCA wanted to know about the number of frequency of trains from Panipat, Sonepat to Delhi. It was informed that entire Haryana belt prefers railways. It was decided that a meeting will be convened with the Railways to discuss the issue of integration of the NCR towns especially Faridabad, Sonepat and Rohtak.

NCRPB official informed that Northern Railways has done a study in 1998. There is proposal for IRBT, Orbital Railways and good trains connecting central NCR towns and a line for Delhi. These are all conceptual things. It was suggested that these should be taken up. The HUDA has prepared the Master Plan but no land had been marked for the Orbital Railways. The Sonepat representative informed that orbital railways have been planned for Sonepat.

Gurgaon:

EPCA asked about the metro plan for Gurgaon. It was informed that work would start from November 15, 2006 and it would take three years for the completion of the project. There is a proposal to take the metro up to

Manesar, which is developing as an industrial hub. NCRPB official informed that it is as per the regional plan; Manesar is to be developed as an industrial hub. EPCA observed that the metro plan should be expedited. Sonapat representative informed that 10 lakh is the projected travel demand for 2021 for Sonapat and Kundli and they would want to have a metro. EPCA observed that Sonapat and Kundli can plan for buses and LRT.

NH8 is the entry point for Gurgaon. Gurgaon expressway is due for completion by December and it would be operational by July 2007. EPCA asked if there are any buses on this road and if dedicated bus service can be planned. It was informed that there are bus services from three points – Rajiv Chowk, IFFCO Chowk and the ISBT Manesar. EPCA has asked for plans for dedicated bus service on this road (NH8). DMRC has to submit the deadlines for metro. EPCA raised the issue of call centres cabs, which add to the pollution load and reverse the air quality gains of Delhi. It was decided that a meeting will be convened at Gurgaon with the call centres association to push them to use public transport in place of the polluting diesel cabs.

There are two major entry points from Guragon, Mehrauli and NH8. EPCA has asked the Delhi transport department to check on the Delhi side the Haryana – Delhi bound traffic. It was decided that 1 dedicated team will check the Haryana vehicles coming to Delhi. The Delhi transport department will come out with public advertisement and report to EPCA every week.

Rohtak:

The traffic has increased on NH10. Bahadurgarh-Rohtak has been approved in principle. Various bottlenecks exist within the city. Railway lines crisscross the city. During the peak hours, traffic jams occur for half an hour. Six over bridges have been planned. Of these 1 has started. The Rohtak representative did not have the information on PUC. It was informed that PUC checks are done. Passengers commute by trains and buses. Many people will switch over to metro once it comes to Rohtak. The town has nearly 30,000 three-wheelers. There are lot of enforcement problems. It was informed that if these three-wheelers are stopped from plying, a large number of families will come on road. So the administration has decided to put half the numbers of three-wheelers on road each day (depending on even and odd numbers). There is an informal understanding with the operators of the three-wheelers. The number of trips remains the same. On Sundays especially, all the commercial establishments are closed. As a result, with one day's closure and reduction in the number of plying three-wheelers, a reduction in air pollution has been noted. Regarding connectivity of the town, it was suggested that direct connectivity (entry point) can also be explored. The only entry that is there at present is the

Mehrauli-Gurgaon. It was also suggested that metro should also come to Jhajjar.

Solid waste disposal:

Many NCR representatives raised the issue of solid waste disposal. The issue of solid waste garbage dumps at Bhalaswa and GT Karnal bypass were also highlighted. It was decided that a meeting will be convened to discuss the issue of solid waste disposal in the NCR towns. The respective municipal councils and local bodies will be invited. All city officials present in the meeting to submit a note on solid waste problem in their respective towns. A list of key people handling solid waste issue in the respective cities also needs to be sent to EPCA.

Action points:

Faridabad

- To plan a dedicated CNG bus service between Faridabad and Delhi.
- EPCA to hold discussions with NHAI on the Badarpur border problem.

Sonepat:

- To plan a dedicated CNG bus service.

Gurgaon:

- To plan for a dedicated CNG bus service on NH8.
- DMRC to submit deadline for implementation of the metro line to Gurgaon.
- Delhi transport department to check the Haryana – Delhi bound traffic on the border. One dedicated team will be required to check the Haryana vehicles coming to Delhi. The Delhi transport department will come out with public advertisement and report to EPCA every week.
- The call centres cabs add to the pollution load and reverse the air quality gains of Delhi. A meeting will be convened at Gurgaon with the call centres association to push them to use public transport in place of the polluting diesel cabs.

Rohtak:

- Access to Rohtak-Jhajjar via access via metro

Railways:

- Meeting with Railways to discuss the issue of integration in the NCR towns. Special focus on Sonepat, Faridabad and Rohtak among other towns.

- Perspective plan for NCR :

All NCR towns to submit the 5 year (2001-2006) vehicle registration data (diesel and petrol vehicles and light-duty and heavy-duty vehicles), PUC testing and air quality monitoring data to EPCA.

Solid waste disposal

A meeting will be convened to discuss the issue of solid waste disposal in the NCR towns. The first meeting will be to understand the problem where the respective municipal councils and local bodies will be invited. All city officials present in the meeting to submit a note on solid waste problem in their respective cities. A list of key people handling solid waste issue in the respective cities also needs to be sent to EPCA.

**MINUTES OF THE 373rd MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
November 11, 2006**

Agenda item: Implementation of parking policy

In attendance: Transport department, IDFC, CRRI, NDMC and DDA

This meeting was called to hold discussions with the consultants who have done the parking studies to understand the ways they have conducted their studies. CRRI, RITES and IDFC were invited for the meeting. CRRI has done a parking study in 9 locations. RITES have conducted a parking study for the Connaught Place area. In addition, IDFC have done the feasibility studies of the 5 multilevel parking sites. These include 3 NDMC's proposed sites and 2 DDA's sites (Nehru Place and the Mangalam Place). Representatives of IDFC and CRRI attended the meeting.

The multilevel parking site proposals at Kasturba Gandhi Marg, Sarojini Nagar and Baba Kharak Singh Marg were presented by IDFC. The following was informed. According to the traffic study conducted by IDFC, the present parking demand in the sites at Hindustan Times Building (6143 sq m), Baba Kharak Singh Marg (6320 sqm) and Sarojini Nagar (3888 sq m) is 987 ECS, 784 ECS and 1171 ECS respectively. These multilevel parking projects will be built on a public-private partnership. The concessionaire period is restricted (30 year project) and after 30 years, the site will be given to another concessionaire. The concessionaire is asked for ECS and the services that will be provided. It depends on the concessionaire to either go for manual or mechanised parking.

At Baba Kharak Singh Marg, there are two entry and exit points. No median break in front of the plot. There is road opening at 50 m ahead at Hanuman temple. This will not be used by the traffic coming from the Gole Dak Khana. Seven buildings exist in the surrounding of the proposed site. There are off-street parking sites in Block 1 and 2 and also on-street parking. While 322 ECS is the peak demand, 380 ECS is being supplied. Implications for Baba Kharak Singh Marg site with regard to the traffic circulation plan was informed. Baba Kharak Singh Marg proposes two locations for accommodating 984 car spaces – the current Coffee Home site and the NDMC parking lot near Hanuman temple. The rationale for allocation of car spaces between the two sites could be on the basis of available land area and hence the parking capacity of these two sites. Net demand accommodated by Coffee Home parking facility could be in the order of 420 car spaces. The remaining 564 ECS would then have to be accommodated at the multilevel parking at NDMC site (Hanuman temple). Hence the derived capacity for Baba Kharak Singh Marg is 564 (additional demand on account of Redevelopment of Connaught Place) plus the 269 (existing Baba Kharak Singh Marg demand) and the 284 (demand on account of commercial

component), which equals to 1137 ECS. The proposed Sarojini Nagar site was also discussed. At Sarojini Nagar, the peak parking demand is estimated to be 1,171 ECS and 692 ECS is being supplied. It was informed that given the site constraints, it is expected that the site provided may meet roughly 55 per cent of the demand. NDMC would need to provide an additional site to accommodate the remnant demand.

Nehru Place multilevel parking was also discussed. The peak hour demand in Nehru Place is from 2:45 pm to 3 pm. The average off-street and on-street parking duration for a car was estimated to be 2.78 hours and 1.11 hours respectively. The parking turnover for a car was estimated to be 4.6 vehicles per slot. Eighty-one per cent of the cars don't make more than one trip. There is no car pooling or car sharing in this area. This leads to congestion. It was informed that despite setting up of all these facilities, still a gap exists between parking demand and supply in the area. DDA is also coming up with a multilevel parking at Mangalam Place.

Deliberations were held on the financial aspects. IDFC informed that a template cannot be applied to all parking sites. The commercial component normally helps to have a good parking facility. The FAR issue was raised. IDFC and NDMC suggested that FAR should not be prescribed for the multilevel parkings. It was informed that if FAR is prescribed, it restricts the number of cars for which parking can be planned. In the MPD 2021, FAR has been prescribed. If the parking is provided underground, it won't be counted towards FAR. For Hindustan Times building site, 800 ECS parking capacity will be provided at 12.5 per cent internal rate of return (IRR). With no restriction on FAR, better ECS can be provided. The cost of building these structures underground is more expensive than building them above the ground. The underground utilities need to be shifted and all this will take more time. If these projects are purely parking based, the IRR will come down to 3 per cent to 4 per cent. The FAR issue will be discussed in the next meeting.

Deliberations were also held on the rationalisation of the parking fee and the management issue. There is no proper management of parking in Nehru Place. It was suggested that a rationalisation model should be developed at Nehru Place as all types of parkings exist in this area. Increase in utilisation of the Palika parking was also discussed. EPCA observed in the financial working submitted by the NDMC that in the Baba Kharak Singh Marg site, only 22 per cent of the revenue will be earned from parking and the rest will come from the commercial component. Pricing of Nehru Place Eros multilevel parking was also discussed. It was informed that the concessionaire has fixed the parking price there. Deliberations were held on how to rationalise the parking price with proper management so that the multilevel parking complexes can be utilised.

CRRI study: This study was sponsored by the Delhi government and the objectives were to quantify the parking demands of the selected areas in Delhi; to conduct necessary parking surveys to assess the parking characteristics; to suggest suitable measures to reduce the parking problems through controls regulations and management; and to assess future parking demand and suggest suitable policy and measures to manage it. Nine locations were selected to assess the parking characteristics in the commercial (both on-street and off-street) areas. The areas included Nehru Place, Lajpat Nagar, Karol Bagh, Chandni Chowk and surrounding areas, Sadar bazaar, Kamla Nagar, Krishna Nagar, Ajmeri Gate and Darya Ganj.

Peak parking demand and supply in different locations for the base year (2005) was estimated. Parking demand (2005) was found to be the highest in Nehru Place, Darya Ganj, Karol Bagh and followed by the remaining sites. The supply was highest in Nehru Place followed by Karol Bagh, Darya Ganj and Chandni Chowk. The peak projected parking demand in 2010 was estimated in two scenarios --- assuming an annual growth of 10 per cent cars and 6 per cent two-wheelers and growth of 7.5 per cent GDP. The study proposed the multilevel parking sites in Nehru Place, Lajpat Nagar, Chandni Chowk; underground parking in Kamla Nagar; elevated (over the railway line) parking facility and short-term parking with high parking charges in Ajmeri Gate, underground parking for long-term parkers in Darya Ganj and Krishna Nagar.

The study recommends the following parking management plans: Regulate parking based on the type of vehicles or users. As observed from the parking survey in the 9 selected locations, the short-term parking (up to 2 hours) is varying from about 50 per cent to 85 per cent for cars and two-wheelers except at Chandni Chowk. Therefore, limit parking duration (5 minute loading zones, 30 minutes adjacent to shop entrances, 1 or 2 hour limits for on-street parking in commercial areas etc.), to encourage turnover. Encourage employees/shop owners/employers to use less convenient parking spaces (such as parking lots at the fringe of CBD) in order to leave the most convenient spaces for customers. Charge higher parking prices and for more convenient spaces. For example, in prime central locations charge Rs. 10 for car and Rs. 5 for two-wheeler for each 15-minute period with a two-hour maximum. Implement more flexible pricing methods to make shorter parking periods relatively attractive. As far as possible, limit use of on-street parking to residential areas only in order to maintain smooth flow of traffic and pedestrians in CBDs and market areas. Limit on-street parking of large vehicles to ease traffic flow and discourage use of public parking for storage of commercial vehicles. Identify and develop remote parking and park & ride facilities on the fringe areas of the CBD/market area along with display of parking space availability at the respective locations through VMS. Improve user information by providing

transportation access guide that provides concise information on how to access a particular destination by various modes, including parking availability and price through VMS.

For commercial area, the study recommends the following: Make the central area pedestrian friendly. Next the short-term parking with higher prices should come followed by the long-term parking with low parking fee. Three pronged action plan is recommended for implementation --- regulating parking use through differential parking charges based on duration and location of parking, improving traffic circulation (wherever feasible) and user information (such as variable message signs, signages and markings) and augmenting capacity by constructing additional parking spaces (underground/multistoried) in the open spaces/parks available near the selected study areas. These can be developed using the revenue generated from parking fees and through private sector participation.

Action points:

The following will be discussed in the next meeting

Review of the development control norms for multilevel parking and proposed changes to be submitted by DDA.

MCD and DDA to submit the precise estimates of the detailed cost of the multilevel parkings and the cost recovery for a 30 year project.

MCD: For the list I parking sites, area (sq m) and parking capacity of the 110 sites to be submitted. Status with regard to the task of physical demarcation of the parking sites, uploading the list 1 on the website and inform the public by publishing a public advertisement.

DDA: Parking sites: i. List of all authorised sites (surface, underground and multilevel) along with area and parking capacity of each site; ii. Revision of parking rates to bring it at par with the rates of other agencies and with a view to discourage parking; time schedule for the task: upload the list of all authorised parking sites on the agency's website with clear demarcation, issue a public notice and demarcate each site on the ground physically with public board prominently displayed with details of the name of contractor, timings, rates, area and name of person to be contacted for any problem.

**MINUTES OF THE 374th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
November 18, 2006**

Agenda item: Integration of NCR towns with Delhi by Railways

In attendance: Transport Commissioner, Delhi; Deputy Commissioner, Rohtak; Additional Deputy Commissioner, Gurgaon; Faridabad official; DMRC; DIMTS.

EPCA had convened a meeting on November 3, 2006 to discuss the action plan to combat vehicular pollution in the NCR towns as well as reducing impact of transit traffic on pollution and congestion in all the towns including Delhi. Extensive deliberations were held on the present bus based transport systems in these towns and how these can be augmented and improved. It emerged clearly from these deliberations that the proportion of the railway passenger traffic is enormous on routes linking all the key towns of NCR including – Sonapat, Faridabad, Rohtak, among others and further augmentation in capacity can help towards decongesting the roads. It was decided that a separate meeting would be held with the Railways to discuss the issue of integration of the NCR towns with Delhi.

A meeting was convened on November 18, 2006 to hold deliberations with Railways on the status of current rail network and the rail based transport system (inter-city and intra-city), carrying capacity and shortfall, and the future plans for augmentation. In addition, plans of integration of railways (Railways and the Orbital Railway etc) with Delhi metro and bus routes in Delhi were to be reviewed. EPCA made a strong note of the fact that despite confirmation from the Northern Railways no Railways representative attended the meeting. It was decided that another meeting will be convened on November 25, 2006 to discuss the issue with Railways.

EPCA apprised the forum that the Authority in its earlier meeting has directed the NCR towns (Faridabad, Gurgaon and Sonapat) to plan for a dedicated CNG bus service. Since Railways was not present, deliberations were held with regard to the metro connecting the NCR to Delhi. It was informed that the Delhi-Gurgaon metro route (14 kms) has been finalised and will be completed by July 2010. Shushant Lok will be the last station. EPCA observed that Gurgaon extends beyond Shushant Lok. It was informed that this place will be connected by LRT.

DMRC informed that study has been sanctioned seven days ago for the metro route from Badarpur to Faridabad and extending to Badli. Delhi government has approved the project in principle. Six and a half km of the stretch will be underground and the rest will be elevated. Work on this will start from October 2007 and will be completed in July 2010. The line will go upto YMCA. EPCA observed that DMRC should integrate the NCR towns as much as possible and also expedite the process.

The Central Secretariat – Badarpur line has not been approved. EPCA is of the view that DMRC should make sure that there is less congestion at Badarpur in this line. EPCA wanted the Badarpur line to be expedited.

DC Rohtak apprised the forum with the issues pertaining to the Railways in his town. It was suggested that Jhajjar town should be connected with Delhi. A new line is required to be added from Jhajjar to Farukhnagar (15 kms). There is need to decongest the existing Railway station. The Rohtak-Panipat Railway line criss cross through the city. This needs to be shifted. EPCA observed that the discussions will be held with Railways. EPCA has asked DC Rohtak to submit a note on the issues he raised to be discussed with the Railways in the next meeting. EPCA observed that all the NCR towns should be connected by Railways.

Action points:

EPCA made a strong note of the fact that despite confirmation from the Northern Railways no Railways representative attended the meeting. Another meeting will be convened on November 25, 2006 to discuss the issue with Railways.

DC Rohtak to submit a note on the issues he raised pertaining to railways to be discussed in the next meeting with Railways.

**MINUTES OF THE 375th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
November 25, 2006**

Agenda: Integration of NCR towns with Delhi by Railways
In attendance: Northern Railways

EPCA is looking at augmenting and improving the public transport system in the NCR towns and integrating the different modes of public transport to facilitate access. In one of the earlier meeting held on November 3, 2006, extensive deliberations were held on the present bus based transport systems in these towns and how these can be augmented and improved. The NCR towns (Faridabad, Sonapat and Gurgaon) have been directed to plan for a dedicated CNG bus service. It was informed that in NCR towns such as Faridabad, Sonapat and Rohtak, rail is the most preferred mode of public transport. It was decided that a separate meeting will be held with the Railways to discuss the issue of integration of the NCR towns with Delhi. A meeting was convened on November 18, 2006 to discuss the issue but Railways representative had not come to attend the meeting. The meeting was called again to discuss the issue. Railways informed the following.

Railways already have a network in these towns and nearly 5.25 lakh passengers are transported each way by the 8 rail corridors. Railways have made an investment of Rs. 1900 to 2000 crore in these. EPCA was informed of the following railway lines.

- Rewari line: This is a single line with a capacity of 40,000 to 50,000 passengers each way. It will be double line broad gauge by March or June 2007. Park and ride facilities and access to stations needs to be improved.
- On the Rohtak side, doubling work is going on. This work has been completed upto Rohtak and is operational. Roughly 30,000 passengers are transported.
- Karnal side line is double line electrified with 75,000 passengers transported each way. Automatic signals have already been sanctioned.
- Shamli line is a single gauge line catering to 20,000 to 30,000 passengers.
- Meerut-Muzaffarnagar-Saharanpur line is double line upto Meerut
- Ghaziabad-Muradabad line: At present single line catering to 10,000 passengers. Doubling is underway.
- Tundla side (Aligarh-Ghaziabad-Delhi) is double line electrified catering to 80,000 passengers.
- There are 62 long mail express trains and 33 EMUs.
- Agra side (from Agra to Palwal): It is triple line electrified.

Deliberations were held on the Ring Railway. It was informed that it is used as a good's corridor. EPCA asked if there is a plan for Ring Railways. It was informed that Railways do not have a proposal but if a proposal comes from the Delhi government, it can be considered. It was discussed that no proper interfaces exist and bus services are not linked. Access to Safdarganj station was also discussed. It was informed that the station has a good access. But no feeder services exist. Same line is used for transporting goods also. Railways agreed that if there are bus services then only it will work otherwise it will be like Ring Railways. The 35 km Ring Railway route passes through Lajpat Nagar, Safdarjung, Brar Square, Shakur Basti and Patel Nagar. From Patel Nagar, it joins the most busy corridors. It was informed that intercity traffic is carried by main radials and the intracity traffic is being carried by Ring Railways. It was informed that a dedicated corridor can improve the connectivity. EPCA asked Railways if it can come up with a plan. Railways suggested that RITES can be asked to do a study. EPCA suggested that Railways should take the initiative and prepare a plan and then the Authority can ask for funding the study. It was agreed that Railways will prepare a plan. It was suggested that Railways will also contact RITES to do a study on how to improve the interface if a separate corridor is needed.

Railways also informed that more Railway terminals are being developed. The Anand Vihar Railway terminal will be ready in 2008. Regarding the parking facility, it was informed that a multistoried parking facility has been planned. A new Railways terminal is also coming up at Bijwasan near Dwarka and metro is also coming there.

**MINUTES OF THE 375th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
November 25, 2006**

Agenda: Implementation of parking policy

In attendance: NDMC, MCD and DDA

This meeting was called to do a follow up of the earlier meetings held in October 28, 2006 and November 11, 2006. Following are the decisions taken.

MCD

Regarding demarcation of sites, MCD informed that 100 sites have been demarcated and photographs of few sites were shown. It was also informed that since the rates have been revised, the display boards at the sites will need to be changed. The agency has not submitted the precise estimates of the detailed cost of the multilevel parkings and the cost recovery for a 30 year project. To submit the same within a week's time. Also to inform about the progress of work of GIS based maps.

DDA

DDA submitted a list of 61 authorised sites along with the parking capacity. The agency has been asked to revise the parking rates. The agency has not submitted the precise estimates of the detailed cost of the multilevel parkings and the cost recovery for a 30 year project. To submit the same. EPCA has directed DDA to upload the list of all authorised parking sites on the agency's website with clear demarcation, issue a public notice and demarcate each site on the ground physically with public board prominently displayed with details of the name of contractor, timings, rates, area and name of person to be contacted for any problem. DDA is to submit a time schedule to EPCA for the above-mentioned direction.

Deliberations were held on the development control norms for multilevel parkings. DDA has been asked to review these and inform EPCA. DDA informed that this issue is being discussed and a thorough recommendation will come from DDA. It was informed that NDMC has also written a letter to DDA seeking clarification on the matter. DDA assured that this issue will be taken up in the Technical Committee meeting within two weeks and a decision will be taken. DDA will inform EPCA on the same. DDA to submit the feasibility study done for the Eros multilevel parking.

It was decided that the next meeting will be held after 15 days.

**MINUTES OF THE 374th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
November 18, 2006**

Agenda: Integration of public transport modes in Delhi

In attendance: Delhi transport department, Delhi Metro Rail Corporation; DIMTS.

EPCA has initiated to hold deliberations on the issue of integrating different modes of public transport to facilitate access. As a first step, integration of bus stops and metro is being looked at. Emphasis is being laid on pedestrian specific integration planning. In addition to pedestrian access, bus access and parking are also being looked into. In one of the earlier meeting, EPCA directed the transport department and DIMTS to assess the plan of phase I of metro and facilitate bus and pedestrianisation at the existing stations. It was suggested that work of integration be initiated at two metro stations in phase I (Welcome and Seelampur) and Dwarka and Kashmere Gate. DIMTS did the assessment of interchange facilities at these metro stations and submitted a note. It included issues such as interchange of bus stops and metro stations, pedestrians and metro stations, park and ride facilities, feeder routes and integration at the metro stations. The improvements that are required have been suggested. Deliberations were held on the issues pointed out in the DIMTS audit.

DIMTS has identified 38 interchange points. The Badarpur line was also discussed. At the Badarpur line, the HCBS and metro are close to each other. There is a good scope of integration. This line needs to be integrated in the map that DIMTS has prepared. EPCA has asked DIMTS, the key agency planning for integration to identify 10 interchange points. Based on this, EPCA will then monitor. The Authority is of the view that with maximum integration, more people can be made accessible to public transport.

The 5 ISBTs (Kashmere Gate, Anand Vihar, Dwarka, Narela and Sarai Kale Khan) are to be developed as major interchange points. It was informed that papers regarding these have been moved to the Cabinet Secretary. Anand Vihar has been identified as an ideal place of integration. ISBT already exists there. A Railway terminal and metro is coming up. DIMTS has plans for integration. This will be discussed with the Railways and other concerned agencies.

**MINUTES OF THE 376th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
December 2, 2006**

Agenda item: CETP

The Draft CETP report was discussed and the following recommendations regarding Operation and Maintenance (O&M) costs was finalised:

1. The O&M cost till the time of handing over in the case of eight CETPs shall be borne by the Delhi government. Thereafter, it will be the responsibility of the CETP Societies to operate and maintain the CETPs and handle the sludge in environmentally safe manner.
2. All the Raw Effluent Pumping Stations (REPS) within the CETP premises shall be maintained by the CETP Society. This includes the rising mains between the different pump houses located inside CETP premises as they are an integral part of the CETP. These shall be maintained by CETP societies and their costs shall also be borne by the CETP Society.
3. The maintenance of rising main & Raw Effluent Pumping Stations (REPS) outside the CETP premise will be the responsibility of government of Delhi.
4. Sludge management and disposal shall be the responsibility of the CETP societies incurring its cost. The government of Delhi and the DPCC shall develop the Treatment Storage & Disposal Facility (TSDF) by February 2007 and the sludge accumulated in the CETPs shall be scientifically disposed off in the TSDF.

**MINUTES OF THE 377th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
December 9, 2006**

Agenda item: Discussion with DDA/MCD/NDMC on Review of the development control norms for multilevel parking and proposed changes by DDA, estimates of the detailed cost of the multilevel parking and the cost recovery

Agenda item: Discussion with Eros Group regarding operation of multi-storied parking complex at Nehru Place

In attendance: New Delhi Municipal Council, Municipal Corporation of Delhi

EPCA called this meeting to present before the forum its preliminary proposals of the implementation of the parking policy in public and commercial areas of Delhi. The presentation highlighted the parking challenge in the city and the insatiable demand for land. Around 1.3 million registered cars and 3 million registered two-wheelers are growing at the rate of 7 to 8 per cent a year. For about 90 to 95 per cent of the time a car is parked either in residence or in office. If demand for land for an average car is computed on the basis of the average size of the car and one parking space per car (which is a gross underestimation as multiple car spaces are needed for one car in a day) -- the total cars already occupy 10.8 per cent of the city's urbanised area. A car is allotted 23 sq m for parking. Under JJ housing scheme and low cost housing schemes, 18 sq m and 32 sq m plots are allotted respectively.

The CRR I study and the IDFC Techno Commercial Studies for multilevel parkings in Nehru Place, Mangalam Place, Baba Khark Singh Marg, HT Building and Sarojini Nagar were considered for analysis. It was found that these reports are beset with data gaps and data discrepancy making direct comparisons difficult. There are differences in approach and methodology as well and these differences may lead to over and under estimation. The following examples were cited. Both IDFC and CRR I have conducted actual surveys to estimate the current parking demand but estimates do not match. IDFC estimates nearly 5861 ECS and CRR I estimates 7,713 ECS as the current demand. Both have adopted different methods to make future projections. While the IDFC study has included criteria such as growth in commercial area, growth in vehicle ownership, attractiveness factor of the site etc, CRR I projections are based on GDP growth and overall increase in vehicle numbers in the city by nearly 10 per cent per annum. Both the studies cited different user profile for the Nehru Place area.

It was clear from the data that cars and two-wheelers dominate the peak parking demand. Parking demand is overtaking parking supply in all the locations. Without traffic restraint measures parking demand is projected

to increase enormously and in prime areas parking demand will double. It was noted that the basis of making demand projections is still not firm and requires careful assessment as this has implications for huge investments in parking infrastructure. Opportunity cost of land in prime commercial locations is enormous. Scarcity of land will restrict surface parking (on-street and off-street). More multilevel parking structures are planned to meet the growing demand. But even these won't solve the problem. A management framework is therefore required.

The Nehru Place case study was presented. Nehru Place is a unique site that has all forms of parking – on-street, off-street and one multilevel parking. Two more multilevel parking structures have been planned for this area. Underutilisation of the Eros multilevel parking was discussed. It was informed that while the ramps remain empty in this parking, the neighbouring surface parkings are totally packed. An example of a multilevel parking in Mumbai was cited to show the poor utilisation of multilevel parkings.

It was pointed out that parking problem has already grown beyond the sustainable limits of the CBD. The Nehru Place example showed that roughly half of the commercial space is taken up for parking. The cost of multilevel parkings and its implications for parking rates was also discussed. It was pointed out that multilevel parking are not even designed to recover the full costs. Parking rates in multilevel parkings with both commercial and parking activities are proposed at Rs 10 per hour that allows recovery of only about 25 per cent of the total cost. In case of parking only structures, the rates will have to be as high as Rs 30.25 to Rs 39 per hour to allow full recovery of costs and IRR of about 12.5 per cent. The multilevel parkings will not work if surface parking continues to remain disproportionately cheap. There is a need for demand management with rationalised pricing. In addition, ensure rigorous enforcement, demarcate parking lots, check overflow and monitor compliance.

The issue of distorted pricing was presented in detail. It was informed that multilevel parking structures are being created at an enormous costs without rationalising the pricing of the parking fee within and outside the structures based on the real costs. Full cost recovery only through parking fees in multilevel parking can increase parking charges manifold. Developers are allowed to develop at least 25-30 per cent of the area as commercial complex to cross subsidise the cost of providing parking and this restricts the available area for parking that perpetuates irrationally low parking prices. Low parking prices continue to increase parking demand. DDA's feasibility study for Nehru Place has projected that the situation will improve once the Eros multilevel parking is operational but it has not. There is no management plan to ensure full utilisation of the structure. Roadmap for rationalisation of the pricing parking for all forms of parking and its

implementation is not in place. Parking charges as proposed by different agencies for their multilevel parkings was presented. It was noted that willingness to pay in the city is low. CRRI proposals for parking rates in the city were presented. These include: short term parkers, parking near roads and near building entrances should generally be charged twice per unit of time than the less convenient spaces that are suitable for long term users, variable rates that are higher for peak locations and times and charge more for convenient spaces to promote short term uses and to set parking prices to equal or exceed public transport fares, wherever applicable

On parking pricing, EPCA observed the following. The current pace of motorisation and insatiable demand for parking are not sustainable. Control measures are needed to cap rising car numbers and their usage. The current planning built almost entirely around multilevel parking lacks focus. Parking pricing should be bearable but fixed at a level that can influence commuter behaviour in favour of alternative mode of transportation and lower parking demand

EPCA made the following observations:

Proposals for rationalisation of parking fees for surface and multilevel parking: Willingness to pay surveys do not reflect ability to pay. Nonetheless, based on the willingness to pay surveys most of the proposed multilevel parking projects have considered Rs 10 per hour as the basis of their financial plan. The multilevel parking in Nehru Place has already rationalised its parking rates based on this rate. It is therefore logical to propose that this (Rs 10 per hour) should be considered as the minimum basic rate for fixing parking prices in both multilevel and surface parking in prime CBD areas. The variable rates should be based on this. Use variable rates that are higher for peak locations and time. Higher rates to be considered for recreational centres and onstreet parking in congested CBD areas. Rates should be adjusted every two-years according to inflation and also as per travel demand management requirements Eliminate unpriced parking in commercial areas. Discounts and exemptions should be targeted - eg ride and share vehicles, or disabled etc. Tax parking spaces at the same rate as land used for other developments. Use parking pricing revenue to fund transportation programmes. Higher rates for more convenient parking spaces (on-street and parking near building entrances etc) will require improved management capacity.

Parking pricing should increase share of public transport trips and this should be accounted for in demand projection for parking: The current parking plans have not accounted for the changes in parking demand with improvement in public transport. For instance, in Connaught Place parking demand has reduced by 10 per cent after introduction of metro. The feasibility study for Mangalam Place anticipates shift in modal split in favour of public transport after metro. All key CBD areas should conduct surveys to assess usage of public transport and prepare plans for shifting larger share

of travel demand in CBD to public transport. This will help to cap parking supply.

Improve parking management: There is a need for unified management system for all types of parking lots in a CBD and enforcement of the minimal provisions. The guidelines for proper management and enforcement have to be reviewed along with parking norms for commercial buildings and complexes to ensure prevention of spill over.

Deliberations were held. EPCA stated that no free parking should be allowed in the commercial areas. The parking fee should be rationalised. The rationalisation should be done across surface and multilevel and on-street and off-street parkings. There should be convenient parking spaces which should be linked with public transport.

**MINUTES OF THE 378th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
December 16, 2006**

**Agenda item: Presentation by GAIL on the finalized Standard Specification of
CNG to be used as Automobile fuel alongwith BIS/IGL/SIAM,**

In attendance: Prof. H. B. Mathur, GAIL, IGL, SIAM

This meeting was called to present before EPCA the automotive CNG fuel quality specifications finalised by the EPCA appointed committee. On October 7, 2006, EPCA directed to set up a committee to formulate automotive CNG specifications with representations from ARAI, SIAM, GAIL, IGL, MGL and Prof. H. B. Mathur and submit the final specifications within three months period. The committee held deliberations and came up with the final specifications within two months time. GAIL representative informed that three meetings were held and in the third meeting CNG fuel specs were finalised.

The meeting started with a presentation by GAIL on standard specification for CNG as motor fuel. The presentation gave a detailed overview of gas sources, processing and composition of the gas. It informed about the status of pipeline and about the implementation status of the city gas projects. The presentation also mentioned about the source of CNG supply in cities where the programme is under implementation. The likely source of the 23 cities in which CNG will be supplied in future was also mentioned.

Various parameters of CNG that is supplied from ONGC Hazira, PLL Dahej, ONGC Uran, ONGC Rajasthan and OIL, Rajasthan was also discussed. Detailed information was presented for the CNG specifications at Vijaipur, Pata and Uran. CNG specifications that is being supplied at Delhi (IGL), Mumbai (MGL) and Baroda (GAIL) were presented.

The committee proposed the following specifications:

Constituents	Value	Tolerance
Wobbe number (Btu/ft ³)	1340	± 30
Free Water, mg/m ³	8	Maximum
Total sulphur including H ₂ S, mg/m ³	20	Maximum
N ₂ + CO ₂ , vol %	3.5	Maximum*
Oil mist content, ppm	Insignificant	
Oxygen, vol. %	0.5	Maximum
Methane (C ₁)	87%	Minimum**
Ethane (C ₂)	6%	Maximum
C ₃ and higher HC	3%	Maximum
C ₆ and higher HC	1%	Maximum
Total unsaturated HC	1%	Maximum
Hydrogen	0.1%	Maximum
Carbon monoxide	0.1%	Maximum

Note:

*occasionally may go up to 7 per cent when shutdown of a processing/handling plants/facilities happen

** In case of process upset/plant s/d may reach a level of 84

(Such events are to be duly notified and should be limited to 10% of time in year)

Prof. Mathur informed that the proposed CNG specifications finalised by the committee have been framed taking into account the requirements of vehicle manufacturers and the constraints of the gas supply agencies. They are an improvement over the specifications proposed in the Auto Fuel Policy document and are comparable with the EU standards. It was suggested that these proposed specifications can be reviewed after one year.

Deliberations were held on how these specifications can be implemented. GAIL informed that the BIS standards that are yet to be set will be referral standards only. It was decided that these specifications will be forwarded to BIS to adopt/help them finalise their specifications. A copy of the same will also be forwarded to MoPNG.

Action points:

- A copy of the committee's report with finalised CNG specifications will be sent to BIS and MoPNG.
- EPCA will file a Report to the Court.

**MINUTES OF THE 378th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON December
16, 2006**

**Agenda item: Presentation by Mrs Urvashi on the 'Impact of Delhi's CNG
Programme on Air Quality and Oil Security'**

In attendance: Prof. H. B. Mathur; Ms. Urvarshi Narain, RFF; CPCB; transport
department

This meeting was called to discuss the study done by Ms. Urvashi Narain and Alan Krupnick of RFF, a US based organisation. The study was done on the impact of Delhi's CNG programme on air quality. The meeting started with a presentation by Ms. Narain. The air quality data for the pollutants were presented for the ITO station. It was observed that while SO₂ and CO levels have reduced, there has been a rise in the NO₂ levels. The study has tried to find out the impact of conversion of CNG on air quality in the city. To analyse the impact of policies on air quality, two methodologies are used – top down approach and bottom up approach. The former uses actual air quality data and its determinants and builds a regression model to explain observed changes in air quality. The latter first estimates changes in emission loads caused by a particular policy and then converting these into likely changes in concentrations using relevant air dispersion models. The study has adopted the latter approach.

The literature review was done and it was found that the available studies suffer from a lack of data on many sources of emissions and are therefore unable to control for confounding factors. This study has tried to fill the gap. Various variables were taken into account. These include measures of vehicular emissions (kilometres driven by vehicle type and fuel type and consumption of petrol, diesel and CNG), measures of industrial and power plant emissions (output by industry type including construction and use of diesel generators and consumption of coal, furnace oil and light diesel oil), measures of biomass use including refuse burning, controls for major policy interventions and other variables such as weather patterns. No monthly estimates were available for the number of vehicles on the road in the city. Using monthly registration data, it was estimated that there are about 2.7 million vehicles in use in the city. It was assumed that 50 per cent of the registered vehicles upto 1990 are on road. The study accounted for the retirement of old commercial vehicles, conversion of buses, three-wheelers and taxis to CNG and assumed 6 per cent attrition (vehicles taken off road) on annual basis. Data with regard to the number of buses, autorickshaws, taxis, two-wheelers and trucks and the total number of vehicles on the road was presented.

There was very little information available on kilometre driven by different vehicles and how it has changed over time. Using CRRI report and other available reports, numbers was converted into kilometres. Estimates showed that even though the share of CNG vehicles in total number of vehicles is low but the share in terms of vehicle kilometre travelled (critical in pollution terms) is higher. This means that share of CNG vehicle will in fact be much higher in terms of the passenger kilometre travelled. The study also took into account the other vehicular emission variables. The estimates of kilometres driven by different types of vehicles by fuel type reflected three policies --- retirement of old commercial vehicles, conversion of commercial passenger vehicles to CNG and increase in the number of public buses. In addition, variables were constructed to capture the effect of reductions in the sulphur content of diesel and petrol, introduction of premix fuel for two-stroke engines, tightening of emission standards, introduction of catalytic converters and commissioning of the metro. In addition, power plant emissions were proxied by the total power generated by the city's three coal based power plants and industrial emissions by the amount of light diesel oil and furnace oil supplied to the city, variable capturing the closure of the category H units and the annual estimate of the total construction activity. The impact of meteorological factors were captured by the maximum and minimum temperature, wind speed and the average precipitation.

The study used a statistical model to estimate how much of the variation in air quality indicators is the result of changes in vehicle use, industrial pollution and weather patterns. For each pollutant, separate models were estimated and also for ITO and the other stations. The study found the following: Of all the different interventions made to combat pollution in the city, conversion of buses to CNG has seemingly the maximum impact. Results suggested that conversion of buses to CNG has helped to reduce RSPM, CO, SO₂ and not contributed to the increase in NO₂ levels. Out of the other interventions, the reduction of sulphur in diesel and petrol has also had a significant impact. While cleaner diesel has helped to reduce SO₂ and diesel cars have reduced CO, diesel cars are also increasing NO₂. The CNG switching gain, which is apparent in the case of buses is not seen in three-wheelers possibly because of the poorer technology and needs to be investigated.

Deliberations were held after the presentation. The Member Secretary, CPCB presented his comments. He said that the major problem is with RSPM which is increasing and is above the standards. The constituents of RSPM need to be seen and the declining SO₂ levels should not be misunderstood as SO₂ gas converted into air borne sulphate particles forming a part of RSPM, the level of which is increasing rapidly. The air pollution problem with regard to generator sets and power plants

was highlighted. It was informed that the city would have 6 more power plants for the Commonwealth Games. It was suggested that data with regard to vehicles, generator sets and power plants need to be coorelated with NOx emissions. A cap on the number of registered vehicles was also suggested. The transport department informed that under the Motor Vehicle Act, a vehicle has to be re-registered after 15 years and there is no provision of deregistering a vehicle under law. Prof. Mathur commented that four-stroke two-wheelers and three-wheelers are contributing towards the increasing ambient levels of NOx and that technology improvement in this sector needs to be looked into.

It was decided that a separate meeting will be held to discuss the issue of generator sets and power plants.

MINUTES OF THE 379th MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON December 23, 2006

Agenda item: Discussion with UP Irrigation Department/MCD regarding allotment of land for construction of Toll Plaza at Kalindi Kunj and MCD/Traffic Police regarding checking entry of Trucks which do not have Delhi as Destination.

In attendance: MCD, Delhi Traffic Police and Toll plaza contractors M/s Banas Sands

This meeting was called to review the operation of the toll plazas and the land allotment issue for the toll plaza at Kalindi Kunj. It was informed that there are 10 key entry points to Delhi. Toll plazas were to be constructed at all these key entry points. Of these, 8 toll plazas have been constructed. Around 12,000 - 15,000 commercial vehicles (both LCVs and HGVs) come to the toll plazas per day. Any truck that comes to Delhi gives a Bilty(Goods receipt). EPCA is of the view that traffic police has to build a system for enforcement of the Bilty(Goods receipt). One option that was suggested was the standardised format for the vehicles that come to Delhi. It was suggested that standardised format need to be integrated in the software. That will force the truck driver to give the details. It was agreed that standardised format will be followed. The Bilty(Goods receipt) should have consigner's name, address and telephone number and also similar details of the consignee. Those with incomplete forms are to be directed to turn around the trucks. Delhi traffic police admitted that things will be proper if Bilty(Goods receipt) is done. EPCA suggested that traffic police should be at the toll plaza so that checks are done simultaneously. MCD informed that these ten entry points are the key points and will take care of 95 per cent of the traffic. The agency also suggested the contractors to have signages at the toll plazas. It was also informed that out of 8 operational toll plazas, MCD is getting connectivity of only 6 toll plazas. EPCA has asked MCD and the contractors of the toll plazas to jointly discuss and improve the connectivity. EPCA has asked the toll plaza contractors to submit data on the number of vehicles that come to each toll plaza and how many are turned back. The land allotment issue for the toll plaza at Kalindi Kunj was also discussed. MCD informed of the phenomenally high price of the land (Rs. 1 crores 72 lacs) for the toll plaza.

**MINUTES OF THE 379th MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
December 23, 2006**

Agenda item: Discussion with Transport Department /DIMTS to review the progress made in Construction of HCBS corridor from Ambedkar Nagar to Delhi Gate and status of remaining 6 corridors.

In attendance: DIMTS and RITES

This meeting was called to review the status of the first quarterly milestone submitted to EPCA for the construction of the first HCBS corridor and also the progress of work with regard to the other six HCBS corridors. DIMTS has submitted the time schedules for these corridors.

First HCBS corridor: The first quarterly milestone with regard to construction work ended in November 2006. The works that were to be completed by November 2006 included handing over of land by DDA for contractor's camp, set up of contractor's camp and laboratory, contractor's casting yard and permission for cutting/transplantation of trees, handing over of road (free of encroachment) by PWD, 50 per cent completion of contractor's preparatory works and mobilization of resources (machinery, material and manpower), shifting of utilities (by other utility providers) and tree cutting (on permission from GNCTD) till 5.8 km stretch and 0.5 km of service road improvement and side drain. RITES informed that in December they got the permission to cut trees and this work has started. More than half (that is 8.7 km) of the total 14.5 km road has been handed over. The rest will also be handed over soon. More than 50 per cent of the work has been done with regard to completion of contractor's preparatory works and mobilization of resources (machinery, material and manpower). The work related to cutting of trees and shifting of utilities is behind schedule. It was informed that delay in utilities shifting will not affect the overall work schedule. The work related to service road improvement and side drain is going on. DIMTS informed that the work is behind schedule by 2 months. EPCA expressed dis-satisfaction on the progress of work. It suggested that a contingency plan need to be worked out if nothing works out. DIMTS assured that other agencies will be organised to do the work. EPCA was assured that even though the work progress was not under control, yet the completion date of the project will be met. DIMTS will meet Director (Projects) RITES and the contractor in second week of January regarding the progress of work and inform EPCA on the same. DIMTS has to submit the status report with regard to the first quarterly milestone to EPCA. A meeting will be convened in mid January to assess the progress of work in the first corridor.

Other six corridors: It was informed that all six corridors have been approved. Agencies have been commissioned to do the planning and the detailed feasibility reports for these. Three agencies have been selected for the work. RITES is one of these. Each agency has been assigned two corridors. These agencies will come up with the inception report by January 15, 2007. It was agreed that by end of January a meeting will be convened to discuss the inception report submitted by the three agencies. It was further informed that from January till April 2007, these agencies will do the detailed reports with regard to each corridor for approvals and clearances. The agencies will take six months time to complete the report. DIMTS suggested that they will compress the tender time but the planning time should not be compressed.

Deliberations were also held with regard to the other public transport projects. It was informed that three monorail corridors have been approved and will be awarded next week. LRT is to be awarded by February 2007. The feasibility study for all the 11 corridors have been approved. Of these, six have been awarded for the HCBS corridors. A traffic study will also be awarded next week. The government has sanctioned the money for the study. This study is being done as there are no recent studies available. All the available studies are of the pre-80s period. DIMTS informed that this new study will not lead to delay of the public transport projects.

Action points

- DIMTS to submit the status report of the first quarterly milestone of the first HCBS corridor to EPCA.
- A meeting will be convened in mid January 2007 to assess the progress of work in the first corridor.
- A meeting will be convened by end of January to discuss the inception report submitted by the three agencies for the other six corridors.

MINUTES OF THE 380th MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON December 30, 2006

Agenda item: CETP AM Discussion with the manufactures of generator sets on the issue of enforcement of norms,

In attendance: Central Pollution Control Board (CPCB), State Principal Secretary (Power), Delhi Pollution Control Committee, Genset manufacturers (Honda Power Products, Bhaskar Power Products, Sudhir Genset Ltd, Jakson and Complany Ltd, Birla Power Solutions Ltd, Jaksons Ltd)

Issue 1: Pollution caused by engine generator sets (electric generators)

EPCA expressed concern at the rising air pollution levels in the city and emphasized the need to control pollution from all sources including engine gensets and power plants, which also significantly pollute the air in addition to the vehicular sources. There is an acute shortage of power supply in the region forcing, people to use more gensets. Even in the surrounding NCR towns like Faridabad and Gurgaon the use of gensets is proliferating resulting in an alarming rise in air pollution levels.

Following issues emerged based on the presentations by CPCB and genset manufacturers:

A. Member Secretary, CPCB:

- Delhi has power shortage of around 1,000 MW, which is met by operating gensets. These gensets come from both organized and unorganised sector. While the gensets made by the organized market are relatively cleaner in emissions and meet the prescribed emission norms, the gensets from the unorganized sector are highly polluting.
- For the past few years, the CPCB has received maximum number of public complaints regarding the noise and exhaust emissions from gensets.
- The exhaust emission from gensets is the major health threat as these occur at the breathing level and people are exposed to higher levels of pollution. Though relative share of gensets to the total pollution load is less, on daily basis (assumed two hours of power cuts on an average) pollutants emitted by these in-used gensets is 27.6 tons per day for NO_x, 3.9 tons per day of HC, 10.5 tons per day of CO and 0.9 tons per day of PM. Their contribution to ambient NO_x levels is significant considering a 10:1 ratio for impact of ground level emissions to that of emissions from a high stack thermal power plant.
- While implementation of emissions norms for gensets at the manufacturer level has been carried out but the in-use emissions are not adequately monitored and mitigated in the city.

- Polluting fuels like heavy fuel oil (HFO) are used in the gensets, which are not recommended. The problem is further aggravated by the adulteration of the fuel reportedly prevalent in the city.
- To protect people from noise caused by gensets, manufacturers are required to fit acoustic enclosures. Some manufacturers are resisting this and want that it should be done at the users end.
- In terms of solutions: the use of gaseous fuels in the engine gensets should be mandated and for this, a timeframe should be decided to phase-in such gensets. There should be stringent checks on non-compliant gensets sold in the informal markets, and there should be better enforcement to control emissions from these sources.

B. Representatives of Genset manufacturers:

- Quality of fuel: While the gensets manufacturers are ensuring that new emission norms are met during the manufacturing stage but the quality of fuel used at the user level to be ensured. Some manufacturers opined that use of high polluting fuels such as HFO in gensets should be banned in the city.
- Ambit of emission norms: The application of emission norms of diesel gensets at manufacturer's end is restricted to diesel gensets of up to 800 kW capacity, whereas those above 800 kW capacity are to be tested at the users-end after installation, this disparity should be removed.
- Substandard gensets and engines: There are many imported gensets in market, which do not meet any certification or emission norms. Also there is a market of off-road engines for non-genset application for instance in agriculture sector. They are not covered by emission norms for engine gensets. These non-compliant engines are unscrupulously being used to manufacture gensets.
- User end issues: There are some sectors like defence and government establishments, which import gensets. The existing genset emission norms should be extended to such imported units also. Also in practice the norm set for the stack height for large sized genset is not being met, this should be enforcement.
- Leniency in noise limit enforcement: Some manufacturers are not meeting the norms and are persuading with an obliging MoEF for relaxation in noise limit and acoustic enclosures guidelines. The norms should not be diluted. In addition, norms should also be set for noise and exhaust emissions from gas-based gensets.
- Use of gensets: according to one manufacturer, gensets in the NCR region – on an average – are used for around 4 hours 15 minutes therefore cause much more pollution than that estimated by CPCB at the estimated average used of 2 hours per day.
- Timeframe for gas-based gensets: timeframe for phase-in of gas-based gensets to be set. Many manufacturers are in a position to provide gas-based sets.

Action Points:

EPCA after due deliberations flagged the following issues:

- **In-use checks:** CPCB must set norms for monitoring noise and exhaust emissions from in-use gensets specifying the parameters to be checked, methodology to be used, and instrumentation needed. Also there is a need to identify the enforcement agency responsible to do all such checks.
- **Fuel quality:** The enforcement agencies should take measures to specify the quality of the fuel to be used for engine gensets and promote use of gas-based gensets in the city.
- **Data on gensets:** The genset manufacturers in the organized sector such as Greeves Cotton Ltd, Birla Power Solutions Ltd and Power Products Ltd should provide separate 10-year sales data of numbers of gensets sold in NCT and NCR to EPCA by 15 January 2007 so as to arrive at a proper estimate of in-use gensets operating in NCT and NCR.
- **Noise limits and stack height:** stack height guidelines to be enforced and efforts should be made to ensure that noise limits are also enforced.

For further discussion on the issues raised, representatives of engine manufacturers, organization responsible to regulate / check import of gensets, genset certification agencies, CPCB and Haryana pollution control board to be called.

MINUTES OF THE 380th MEETING OF THE ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON December 30, 2006

Agenda item: Discussion with Power Department future plan of Delhi Government on Generation of power and status of current power plants with reference to compliance of pollution control norms.

Issue 2: Pollution caused by power plants:

EPCA emphasized the need to control emissions from existing power plants as these are significant contributors to pollution and also there are plans to set up new plants in Delhi. This issue was discussed with Pollution control agencies and State principal secretary (power).

Member secretary, CPCB in his presentation before the committee on 'Power sector and environment Delhi' highlighted following facts and issues:

A. Member Secretary, Central Pollution Control Board, B Sengupta:

- The existing capacity of power plants is 1669.9 MW (provided by five power plants: 3 coal based, 2 gas based and one on waste heat) and XIth plan has proposed to provide further 2350 MW, thereby at the end of XIth plan, the supply to be 4049.9 MW.
- To provide this, there are plans for augmentation of capacity of Badarpur from 705 MW to add further 1,000 MW and to set two power plants one near Nizamuddin bridge (Pragati power II) another at Bawana (Pragati power III) on gas with a capacity of 350 MW and 1000 MW, respectively.
- Current emission norms are set only for PM emissions from coal-based plants and NO_x emission norms have been set for gas-based plants.
- With the expansion of coal based plants additional land for ash ponds would be needed, and the current utilization of ash is in the range of 47.40 to 91.27 per cent.
- As per the estimations done by CPCB, even after meeting the NO_x norms, the new gas-based plants and expansion of Badarpur plant will generate nearly 136.21 tons per day of NO_x and further the expansion of coal based Badarpur plant will generate 132 tons per day of SO_x.

- For compliance, the three coal based plants have installed pollution control equipments and they use beneficiated coal. Also the DPCC has set tough PM emission limit for coal-based plants.
- Further controls on emissions of SO_x and NO_x are needed and efforts to be made to properly utilize the flyash.

State Principal Secretary (Power) Rakesh Mehta:

- I.P. power plant is old and there are plans to make it a gas-based plant and also more gas-based plants will be set up in the city to overcome the shortage in supply.
- Adequate gas supply and pricing is crucial for operation of gas-based power plants in the city and currently Petronet Ltd is demanding higher price for the gas, which is not feasible and there are no private parties coming up for supply of gas.
- Gas based plants can be built in short time, at lesser cost and are environment friendly than the coal based plants. But the rates for gas for Pragati II and III are not yet signed and for Pragati IV, the gas supply is still not finalized.
- Demand side management efforts have begun.
- There are plans to set up plants in Dadari and Jhajjar.

EPCA after due deliberations and discussion, flagged the following issues:

- Use of gas-based power plants appears to be economically and financially feasible but this entirely depends on ensuring adequate supply and pricing of natural gas, and current uncertainty in gas supply and pricing needs to be sorted out.
- There are no emission norms for SO₂ and NO_x for thermal power stations. RSPM emissions also not monitored. Urgent efforts should be made to set appropriate standards of SO_x and NO_x for coal based power plants. Also the plants, which are operating within the city, should meet tighter standards.
- Efforts should be made to set proper quality benchmarks for CFL lamps.
- Plan to be prepared for proper utilisation of flyash and proper water usage in power plants in both existing and upcoming plants.

EPCA/3/2003

October 09, 2006

To,
The Commissioner,
Municipal Corporation of Delhi,
Town Hall, Delhi – 110 006

The Chairperson, New Delhi Municipal Council,
Palika Kendra, Parliament Street
New Delhi- 110 001

Dear Sir

Kindly refer to the meeting of the Environment Pollution (Prevention and Control) Authority held on October 14, 2006 regarding implementation of Parking Policy. Minutes of above meeting is enclosed for necessary action.

Yours Faithfully

(Paritosh Kumar)
Sr. Environmental Engineer
Tel/Fax : 22301955

Copy with a request to attend meeting to:
The Secretary
Department Of Urban Development
Government of NCT Delhi, Delhi

EPCA/3/2003
To,

October 09, 2006

The Vice-Chairman
Delhi Development Authority
Vikas Sadan, INA, New Delhi- 110 023.

Dear Sir

Kindly refer to the meeting of the Environment Pollution (Prevention and Control) Authority held on October 20, 2006 regarding implementation of Parking Policy. Minutes of above meeting is enclosed for necessary action.

Yours Faithfully

(Paritosh Kumar)
Sr. Environmental Engineer
Tel/Fax : 22301955

Copy with a request to attend meeting to:

The Secretary
Department Of Urban Development
Government of NCT Delhi, Delhi

(Paritosh Kumar)
Sr. Environmental Engineer

**MINUTES OF THE 381^h MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON January
06, 2007**

Agnda:

- 1. Quarterly and mobile safety checks of CNG buses**
- 2. PUC audit in Delhi and scope for further improvement in PUC checks**

In attendance: Prof. H. B. Mathur, Delhi transport department, Society of Indian Automobile Manufacturers, Ashok Leyland, Tata Motors, TPTI

EPCA emphasised the need to carry out proper checks on safety of CNG buses as envisaged in the report submitted by the Safety Task Force in July 2006. EPCA took stock of the pending actions to be taken by the transport department and OEMs in this regard. The following pending actions were discussed in the meeting:

Periodic testing of CNG buses – Transport department to issue orders regarding acceptability of quarterly tests at OEM workshops. Mobile test van for on-road tests – Transport department to commission this facility. Inspection and auditing of converters workshops – Transport department to constitute a committee. Malpractice of the use of floating components – engraving the registration number on critical components at Burari -- facility to be set up by the transport department
Logbooks for in-use vehicles.

EPCA's expert Prof. H. B. Mathur informed the following:

Periodic testing (quarterly) of CNG buses at OEMs/converters workshops: Prof. Mathur pointed out that as per EPCA's earlier decision OEMs and converter workshops have been authorised to carry out the mandated periodic testing of CNG buses which was earlier being done at a few DTC workshops only. In addition to the 5 DTC workshops, 10 Tata Motors authorised workshops, 5 Leyland authorised workshops as also authorised workshops of Swaraj Mazda and Eicher along with 3 converter workshops have been permitted to carry out the quarterly fitness tests. The names, addresses, contact numbers of all these test centers have been given at the Burari fitness center. Specimen signatures of the authorised staff at each of these test centers have also been handed over to the transport department staff manning the Burari fitness test center, so that at the time of annual fitness tests it can be checked that periodic testing has been carried out at the authorised workshops. A common periodic testing checklist to be followed at each of these centers has also been finalised. However, transport department has not yet notified the incorporation of the OEMs/converter workshops in the list of workshops authorised for periodic

testing. As a consequence bus owners/drivers getting periodic testing done at the OEMs/converter workshops are being asked to get them redone at the DTC workshops. Transport department should issue the necessary notification so that periodic testing is carried out at OEMs/converters workshops can be linked with the annual fitness tests.

Mobile safety checking facility: Prof. Mathur further pointed out that EPCA had directed the creation of a mobile CNG test facility. As a follow of this, a meeting was held on 29.9.2006 with transport department staff and TPTI the equipment to be used in the mobile test facility had been finalised. A committee consisting of Shri Patra, Shri Vikas Jain and Shri M L Goyal (DTC) was constituted to finalise a checklist for carrying out on-road tests by the mobile testing facility staff. The checklist has since been finalised and circulated and agreed upon by all concerned. However, the mobile safety facility has not yet been put in place by transport department. Transport department was therefore requested to indicate the time limit by which this facility would be made operational.

Inspection and auditing of converters workshops: EPCA has directed that the converter workshops should be inspected as per ARAI norms with regard to the equipment and staff etc available there. In the above-mentioned meeting of September 2006, Shri A K Shrivastava of transport department was asked to initiate the inspection and auditing of converters/OEM workshops at the earliest. Prof. Mathur pointed out that action on this is still awaited and he suggested that a 3-4 member committee be constituted to inspect and audit these workshops.

Floating components on CNG buses: Prof. Mathur pointed out that often vehicles for annual fitness/third party inspection replace before going for the test the faulty components of the vehicles with hired/borrowed components that are returned after the inspection to the supplying agent/agency for re-use on another vehicle and the faulty components are refitted back on the vehicle. This defeats the very purpose of fitness/third party inspection. This matter was discussed in the meeting of 29.9.2006 and it was decided that to overcome this malpractice of floating component, the chassis number/registration number of the vehicle should be engraved on such vulnerable components. The system of this engraving was to be developed by CMVI, CIU, PCO Burari. It was also decided that OEMs should do such engraving on the critical components in the new buses. Action taken on this decision is still awaited from the transport department.

Logbooks: Prof. Mathur pointed out that as decided earlier, the manufacturers and the converters have taken the follow up action of providing logbooks on all their on-road vehicles. Periodic inspections, maintenance and repairs carried out on the vehicle have to be recorded and duly authenticated by the approved workshops authorised staff. Each OEM/converters/DTC workshops has already provided to CMVI Burari the

specimen signatures of the technical persons authorised by each workshop to sign the entry in the logbooks after every periodic inspection/repair carried out there. Transport department to take necessary action in this regard.

The transport department responded to the above-mentioned issues as follows:

The requirement of maintenance and repair logbook has been implemented. The transport department agreed that the required notification relating to permit condition with regard to period testing done by OEMs/converter workshops will be shortly issued. The delay was unintentional and due to lack of communication. It was however pointed out that the department had received many complaints about OEM workshops fleecing the bus owners/drivers by imposing on them conditions of replacement of various components when their buses go to these workshops for periodic testing. There was a need to caution the OEM/converter workshops against this malpractice. The transport department is currently holding meetings with the operators and the manufacturers/converters to sort out this issue. There is an urgent need to tell the manufacturers that they should adhere to the prescribed checklist only during periodic testing, and the periodic testing fee of Rs. 300 should only be charged for period fitness test. They should also display in their workshops pricelists of various components that require replacement whenever the bus comes for repair and maintenance.

The transport department will notify a four men committee having representation from ARAI, transport department, DTC, EPCA expert nominee.

The transport department is on the way to set up the mobile test facility. Tenders for the prescribed instruments have already been invited and training for the department inspectors in batches has been started at the Burari test center. The mobile test facility will be in place by mid February 2007.

Regarding engraving the chassis/engine number on the critical safety and emission components, the transport department has decided that the engraved numbers should be of the minimum 5 mm in size and this should be readable. For in-use buses this is to be done as per the registration number and for new buses the engraving on components to be done on the basis of engine/chassis number by the OEMs. The components needing this action have been identified in a meeting in the department with participation of TPTI. The minutes of this meeting will be communicated to the manufacturers immediately.

Action points:

The transport department in its meetings with OEMs/converter workshops should emphasise to them that the OEMs/converter workshops should not mix up repair and maintenance with periodic testing. Minor adjustment and

repairs to prevent leakage of gas/electric current should be carried out free of cost. They should display the pricelist of replacement components. The OEM workshops can advise a bus owner on the imperative of replacing a spare part if it is causing leakage of gas/current or is badly damaged.

Inspection and auditing team: A four men team having representation from department of transport, ARAI and with Prof. H. B. Mathur and with Mr. Malhotra (DCGM Peeragarhi depot, DTC) chairman and member respectively of the CNG safety committee of EPCA, is to be notified by the transport department to carry out the inspection of the workshops with respect to their facilities – technical, personnel, qualification and experience and such other things as deemed necessary by the committee. This committee should visit these workshops and submit its report by end of February 2007.

Mobile test facility should be set up and this facility should begin on-road checking as per approved checklist by mid February 2007 latest.

Checks on the floating component which are critical in terms of safety and emissions to be engraved to show chassis/engine number by the OEMs (in new buses) and registration numbers on in-use buses by CMVI/TPTI at Burari. The transport department and OEMs must submit an action taken report in this regard by January 20, 2007.

Issue 2: PUC audit in Delhi and scope for further improvement in PUC checks

EPCA emphasised the need for an effective check on in-use emissions from vehicles and the imperative of proper functioning of PUC test centers to carry out such checks in an efficient and honest manner. EPCA further emphasised that to build confidence in PUC checking some measures are needed to be taken which can ensure that PUC operators do not fudge the tests and also wrong passes and failures can be stopped, at the same time the norms should also be assessed in terms of their stringency.

Authenticity of PUC tests: Transport department informed EPCA that while it is quite possible to check whether a petrol vehicle is wrongly passed by checking the reported oxygen content in the exhaust gases measured but it is very difficult to judge the false passes in diesel vehicles by just looking at the PUC certificate as there is no other parameter or gas, which gets affected – except smoke – by dilution. Therefore, even if an operator does not insert the measuring probe properly for diluting the smoke to pass the test, he cannot be caught. This can happen despite following all other test protocol requirements during the tests such as measuring oil temperature and RPM.

EPCA observed that visible checks on polluting vehicles should be strengthened and with regular audits and surprise checks this problem can be eliminated.

Flaws in the smoke test: Transport department informed that the current smoke test reduces the smoke levels to low levels due to flushing cycles, and even a visibly polluting vehicle can pass the test, as due to many accelerations the engine gets warmed up and lesser smoke comes out.

It is also reported by John Rogers study that the current free acceleration smoke test procedure which is a manual test, is considered successful in Europe but in Mexico where there is high corruption in in-use emission checking, this test method has been found to be ineffective. Therefore, in such countries like Mexico, loaded mode test procedures on dynamometer are implemented to minimise the human intervention in decision making on pass and fail of a vehicle.

EPCA emphasised that if flaws still exist in the current system of diesel PUC checks then ARAI must look in to this and also diesel tests should move beyond the current free acceleration, which is a manual check to an automated tests. Also the transport department, which is carrying out the fitness tests at automated lanes at Burari should also consider loaded smoke tests on dynamometers to minimise the loopholes in the smoke tests in future.

The transport department has issued a circular to all the PUC centers to acquire and use masks and earplugs and extension pipes in the PUC centers and has also informed ARAI in this regard. The transport department also checks that whether the PUC centers are having the required AMC and they carryout the calibrations on time. The transport department can begin quarterly check of PUC centers specifically to improve compliance to PUC test protocol.

Transport department informed that there are some issues regarding skills needed to run the automated test facilities. For more test lanes, the department is vetting the possibility to outsource some of the operations and installation of tests facility.

Action points

- EPCA informed the forum that the reasons for extremely high pass rates of diesel vehicles also indicates that the norm of 65 HSU is very lax and new diesel vehicles do not emit that much smoke. Therefore, the norms must follow the technology and the Euro II and Euro III diesel vehicles should meet tighter smoke limit than the older vehicles. The PUC norms for both diesel and petrol vehicles need to be evaluated. The transport department will provide PUC test data to ascertain the baseline of smoke levels.
- The second PUC audit must be done as per the schedule and in addition to this audit, the department must carry out surprise checks on PUC centers to eliminate malpractices.

- A proper management model should be prepared for Burari test center as in future advanced emission tests can also be included in the Burari test facility in addition to current roadworthiness tests.

**MINUTES OF THE 382nd MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON
January 13, 2007**

Agenda: Ongoing pollution control drive in Delhi

In attendance: Transport department

This meeting was called to hold deliberations with the transport department on the ongoing pollution control drive in Delhi. The transport department informed that 24,000 vehicles have been checked during September to December 2006. Of these, 20 per cent are vehicles coming from neighbouring districts where PUC checking is in a very bad state. During pollution checks, the vehicles are challaned for emitting visible smoke and not carrying a valid PUC certificate. The challan for visible smoke is Rs. 250 and the PUCC challan is stringent (Rs. 1,000). The challan has to be submitted in the Court. The transport department observed that it causes inconvenience to the owner of the vehicle and this might deter them from driving their vehicle without a valid PUC certificate. EPCA asked the transport department to publish an advertisement informing about the pollution checks and the number of vehicles checked and challaned.

The problem with regard to two-wheelers during pollution checks was also highlighted. Two-wheelers constitute a majority of the total number of vehicles that have been checked in the pollution control drive. It was informed that the enforcement staff of the department has to face lot of problems. If there are five people on field, some of them have to take these vehicles to Burari and as a result, the staff efficiency comes down.

The transport department was asked about the pollution checks on autorickshaws. It was informed that 1,18,000 autorickshaw challans have been issued. The revenues have gone up but there is no improvement. It was informed that prosecution is not making them better. EPCA stated that the department should look at the autorickshaws both from technological and pollution front. The transport department has to submit a note to EPCA on the ownership pattern of the autorickshaws, the problems with regard to technological and pollution front and other malpractices forcing the commuters to pay more.

EPCA emphasised that the transport department should concentrate on diesel cars, which are really bad on pollution front. One suggestion was that the PUC fee for diesel cars should be increased and these should be asked to undergo PUC checks every three months while a petrol car can undergo PUC check every six months. It was informed that PUC is a mandatory requirement in all transactions in the transport department whether it is transfer of a vehicle or issue of permit. All these activities are being done by regional offices of the transport department.

The issue of registration of new LGVs on CNG fuel was also discussed. It was pointed that few CNG LGVs have been registered while there has been an increase in the number of vehicles being registered on national permit. The transport department to submit data with regard to number of newly registered CNG LGVs. The transport department also informed that they have caught 200 trucks of Haryana used by IOC in Delhi. This highlighted the problem that the vehicles are registered on a national permit and plied in Delhi. The department to submit a note on this issue. EPCA observed that Euro III fuel should be a mandatory requirement for the vehicles plying on national permit.

Action points:

- **Transport department to publish an advertisement informing about the pollution checks and the number of vehicles checked and challaned.**
- **To submit a note to EPCA on the ownership pattern of the autorickshaws, the problems with regard to technological and pollution front and other malpractices forcing the commuters to pay more.**
- **To submit data with regard to number of newly registered CNG-LGVs.**

**MINUTES OF THE 383rd MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON January
20, 2007**

Agenda Item: Status of the CNG supply in the Faridabad and Gurgaon Town

In attendance: Directorate Of Industry Haryana, Haryana City Gas Distribution Limited, Adani Energy Limited (AEL), HSPCB Gurgaon

This meeting was called to take stock of the CNG supply in Gurgaon and Faridabad. Haryana City Gas Distribution Limited (HCGDL) and Adani Energy Limited (AEL) have been given permission to lay gas pipeline and set up CNG stations in Gurgaon and Faridabad respectively. The agencies informed the following.

Gurgaon

The first CNG station in sector 29, Guragon was to be set up by HCGDL in November 30, 2006. It was informed that it has been delayed and will be completed by February 25, 2007. HUDA has given permission to HCGDL for laying the 25 km gas pipeline. HCGDL is looking at various options for getting gas. Discussions are going on with IOC in this regard, have agreements with GAIL and also looking for APM gas reserve. It was further informed that by March 2007 all the CNG stations will be set up except the two on the national highway. Sites have been allotted for the stations. HCGDL is hoping to dispense the gas by March 2007. EPCA has asked HCGDL for a written submission in this regard.

Faridabad

AEL was supposed to set up the CNG station in Faridabad in December 2006. This has been delayed and will be set by May 15, 2007. AEL plans to construct 35 km of steel pipeline network and set up 12 CNG stations. Construction of 6.5 km of the pipeline has been completed. Pipeline construction work has been delayed due to want of permissions from the NHAI. It was informed that two days back they have got the permission of the NHAI for laying the gas pipeline. AEL has got the possession of one site from HSRTC for construction of CNG station. It was informed that they are hoping to get the possession of 7 sites within 2-3 days time. EPCA has asked AEL for a written submission.

**MINUTES OF THE 383rd MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON January
20, 2007**

Agenda Item: To review the progress made in Construction of HCBS corridor from Ambedkar Nagar to Delhi Gate and status of remaining 6 corridors

In attendance: DIMTS, RITES and Delhi Traffic Police

This meeting was called to discuss with DIMTS and RITES about the prevailing traffic snarl in the area where construction work of first corridor is going on and to find solutions to minimise the problem. EPCA informed about the problems that Delhi Traffic Police, commuters and pedestrians are facing in this area. There are extended barriers on the road from Ambedkar Nagar to end of Chirag Delhi and no pedestrian ways exists. EPCA stated that it did not expect this kind of traffic snarl in the area.

RITES informed that no traffic signals have been blocked. It was submitted that the traffic volume has increased in the area. RITES informed that when it did the study in 2003, 60 per cent of traffic volume was estimated in that stretch and it has increased to one and a half times more now. EPCA stated that it understands that there is inconvenience and it wants the traffic snarl to be minimised. It was informed that the entire 3 km stretch has been blocked right now on both sides. This includes the stretch between Ambedkar Nagar to Press Enclave (2 km) and Press Enclave to Chirag Delhi (1 km). RITES informed that the 2 km stretch can be released by February 15, 2007. The construction work will then start in the centre for concreting the bus lanes. EPCA was informed that at present when buses stop, the movement of the traffic also stops causing a lot of problems. The traffic police suggested that the barricades should be moved inside. EPCA asked RITES to have coordination with the traffic police so that the problems can be minimised.

RITES informed that central portion of the stretch will be occupied in March for construction of bus lanes. It was informed that the construction work will be complete in the 3 km stretch by end of May. The construction work in the entire stretch upto Moolchand (5.8 km) will be complete by August 2007. EPCA suggested RITES to hold regular meetings with the concerned agencies so that the ground problems are overcome. RITES informed that the bus shelters have been cleared by the transport department. Signalling has to be cleared by the traffic police. Work is going on behind the barricades. EPCA is of the view that things are moving in the first corridor. Momentum has to be built up and by August 2007, the stretch upto Moolchand should be complete.

EPCA asked DIMTS about the remaining six corridors. It was informed that all three agencies have submitted the inception reports for the remaining six corridors. Discussions are going on and these will be discussed in the second meeting to be held on February 5, 2007. RITES has submitted the inception

reports of two corridors --- Jamia to Tilak Nagar (27 km) and Nizamuddin to Nand Nagri (17 km). DIMTS also informed that the tender for study for LRT has been finalised.

Action points:

- RITES and Delhi Traffic Police has to Closely coordination so that problems are minimised
- RITES to increase the space at the holding point which is already occupied.
- To push the barricades inside where there are bus stops.
- To give the list of marshals reporting to Traffic Police
- To submit a time schedule so that by February 15, 2007, the first 2 km stretch (Ambedkar Nagar to Press Enclave) will be released after completion of work on the sides and will be freed for bus movement.

**MINUTES OF THE 384^h MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON January
27, 2007**

Agenda Item: Status of power plants in Delhi and NCR region and their impact on the air environment

In attendance: Prof. H. B. Mathur; Shri Rakesh Mehta, Principle Secretary, Power, Government of NCT of Delhi; National Thermal Power Corporation; Reliance Energy Limited.

Chairman informed that the Authority had convened a meeting in December 2006 on the issue of power plants and their impact on the air environment. The Authority has been informed about the new power plants that are coming up in Delhi and the neighbouring areas and their implications on pollution. National Thermal Power Corporation (NTPC) and Reliance Energy Limited (REL) are coming with power plants at Dadri and Jhajjar. NTPC has also proposed to expand the Badarpur power plant.

Deliberations were held in the meeting. NTPC and REL informed the following.

NTPC

Badarpur power plant

NTPC has proposed to expand the Badarpur power plant and will use washed coal. It was informed that EIA studies are being conducted and the NTPC will shortly apply to the SPCB for clearance. Regarding emissions, it was informed that there are no prescribed standards for NO_x and SO_x from coal based power plants. For NO_x, they will be meeting an emission level of 260 ng/m³. For PM, the standard is 150 microgramme and they will be meeting 50 microgramme that is one-third of the emission standard. Due to the close proximity of Badarpur power plant to Palam and Safdarjang, the stack height has been restricted to 140 m. Regarding utilisation of flyash, it was informed that the cement manufacturers want siloash and not pond ash. EPCA emphasised that the cement manufacturers should take 100 per cent of the generated ash. Prof. Mathur stated that EPCA would like to have a copy of the EIA studies being conducted and that the report should indicate the estimated PM ground level at every kilometre distance upto 20 km in 16 equiangular directions. EPCA asked NTPC to submit the data on bottom ash and its disposal, water requirement for the plant. EPCA stated that the Authority would encourage NTPC to attempt further lowering of NO_x emission levels in view of the strict incoming standards for coal based plants. EPCA asked if there was any possibility of using natural gas in place of coal at Badarpur expansion unit. It was informed that the new unit (1000 MW) can move to gas if it is made available, but the Badarpur expansion units are at advanced stage of planning/tendering on coal based operation. EPCA asked NTPC to submit the EIA study as far as emissions are concerned, dispersion model and data regarding flyash and bottom ash.

Dadri power plant

NTPC's Dadri station is also coal based. The plant will be meeting the same standards as specified earlier and will produce dry ash. For the utilisation of flyash, NTPC has agreements with two cement factories. EPCA emphasised that NTPC should tie up with more cement factories for disposal of flyash. EPCA has asked NTPC to submit all the relevant data pertaining to both its power stations.

REL's Jhajjar power plant

Reliance is coming up with a gas based power plant (7480 MW) at Jhajjar. The gas supply for the plant has not been finalised. For the gas based plant, the emission standards are already notified by the MoEF. Though the standard for NOx emission is 75 ppm, REL plant will achieve for 50 ppm.

EPCA asked REL if they have negotiated and finalised gas supply. It was informed that they already have an agreement with Mukesh Ambani Group for assured supply of gas and they want to see it work. However there is some dispute about the price of the gas which has not been sorted out as yet. On pollution front it was informed that NOx emissions will be minimised using the latest technology and the emissions will be way below the prescribed standards. It was pointed out that the station is located 45 km from Delhi and the wind direction most of the time of the year will take the emissions farther away from Delhi.

**MINUTES OF THE 385^h MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON February
03, 2007**

Agenda: CNG safety

In attendance: Prof. H. B. Mathur, Transport department, Third Party Technical Inspection, Delhi Transport Corporation, Society of Indian Automobile Manufacturers, Tata Motors, Ashok Leyland, Swaraj Mazda.

EPCA called this meeting to review the safety norms with transport department and bus manufacturers following a fire incident in a CNG school bus on January 27, 2007. This incident would have been fatal as lives of more than 30 school children was at stake. Timely action has saved the lives of these children. Extremely disturbed by the incident, EPCA emphasised that no such incident should occur in the future. The Authority has been deeply concerned with the safety issues relating to the CNG buses and over the years had got these issues examined not only by the national experts but also by foreign experts specially invited for this purpose. Based on the recommendations of these experts, EPCA has issued directives from time to time to various stakeholders including the manufacturers, transport department, third party technical inspection, gas agencies etc. While a number of these directives have been implemented, and considerable progress has been made in setting up the infrastructure for safety checks and inspection in the city, some serious gaps and lapses still remain in the implementation of the EPCA directives. The safety regulations are not being fully enforced.

EPCA noted that it was a converted 1994 Tata CNG bus. The bus did not go for the mandated periodic inspections. EPCA chairmen took a very serious view of the non-implementation of the directed safety measures and said that the Authority will be bound to take legal action against the defaulters. EPCA chairmen called on Prof. H. B. Mathur to inform the forum about the technical details.

Prof. Mathur informed about the investigation carried by the expert committee on the converted contract carriage school bus which caught fire. The incidence of fire reportedly occurred in this bus at around 2:30 pm near Chirag Delhi when it was ferrying students of Lodhi Estate based Delhi Kannada school. The bus was badly burnt but all the occupants of the bus including the driver and the conductor escaped unhurt. The committee very carefully examined the burnt bus and went through the available documents pertaining to the bus. This was an original Tata diesel bus registered in 1994 and converted to a spark ignition engine mode to run on CNG by the retrofitter Rare Fuel & Automobile Technologies Private Limited in 2002. On June 16, 2003, the bus underwent third party technical inspection

mandatory for heavy commercial vehicles and the last third party inspection of the bus was carried out on June 3, 2006. The bus did not undergo any of the EPCA directed mandatory quarterly inspections at any of the approved DTC tests centers and no such testing was either done in converters/manufacturers authorised workshops also.

The committee made the following observations. The right hand portion of the interior of the bus was more badly burnt than the left hand portion (looking from the front end). The entire upholstery was completely gutted. The right hand portion of the engine was far more damaged than the left hand side (looking from the back end). The portion of the covering over the spark plugs had partly melted exposing the spark plugs number 5 and 6. The hoses had burned out and the gearbox sheet had melted. The tappet cover had also melted at two locations. The distributor and the batteries had burnt. Available evidence showed that tappings had been taken for the musical system and the two speakers had partly burnt. The wire harness which was passing through the left hand side of the bonnet in close vicinity of the exhaust (typical of Tata buses) was burnt. The mandatory fire extinguishers were not in place.

Following conclusions were drawn:

- Manufacturing deficiencies and poor maintenance have contributed to bulk/continuous gas leakage and sparking due to short circuit/hot spot formation leading to initiation of the fire under the bonnet.
- The bus owner's/driver's avoiding the quarterly testing mandated by EPCA for CNG buses to ensure proper inspection and maintenance of on-road buses is a serious lapse on the part of the concerned owner/operator/school authorities using the bus.
- Absence of mandatory fire extinguishers is again a very serious safety lapse.
- Re-routing of the electrical wiring harness by bringing out it of the engine compartment to the extent possible was mandated by EPCA but it seemed this has not been carried out in all the Tata make buses.
- EPCA had mandated that the converted buses should undergo three comprehensive I/M check ups one in each quarter of the year at the authorised designated workshops but it appears that this has not been implemented by the concerned authority.
- The mobile testing facility as mandated by EPCA has not been implemented by the transport department.
- The Supreme Court's guidelines for 'Educational Institution Bus or any other Omnibus/Transport' used for the purposes of transportation of school children in NCT of Delhi have not been followed by the bus under investigation.

Prof. Mathur emphasised that this fire incident should be taken as a wake up call by the transport department and it should put in place the

required enforcement measures failing which more damaging and fatal accidents will follow as the CNG bus fleet is ageing.

Deliberations were held on how to improve the system so that no such incidents occur. Bus manufacturers informed that all the buses are not coming to their authorised workshops for safety checking. Ashok Leyland informed that only 271 buses have come to their workshops. EPCA emphasised that a mechanism has to be derived and the vehicles that don't come to the workshops have to be reported to the transport department. Prof. Mathur observed that the transport department should immediately issue the required notification about the 20 OEM workshops availability for periodic inspection. Discussions were held on the wiring harness. Prof. Mathur informed that there is something wrong in the location of the wiring harness in a particular make of the buses. EPCA stated that the solution has been suggested and asked the concerned agencies to implement. Swaraj Mazda suggested that there should be synergy between the transport department and the bus manufactures. EPCA suggested that the transport department should hold monthly meetings with the manufactures and sort out problems encountered in the implementation and enforcement of various issues that might arise.

CMD, DTC raised the issue of high prices being charged by OEMs for replacement components. In this context, the issue of catalytic converters was also discussed. One of the manufactures informed that the price of the catalytic converter has been reduced from Rs. 42,000 to around Rs. 26,000 for DTC bulk replacement. EPCA chairperson emphasised the need to rationalise the prices of replacement components. Prof. Mathur asked SIAM to get in touch with TPTI for putting up in place at OEMs sales outlets the mandated mechanism for engraving the registration number of the bus on its identified components to curb the evil of 'floating components'. Issues were raised regarding the fire extinguishers in the buses. It was pointed out by one of the manufactures representative that the bus drivers do not know how to operate a fire extinguisher in the buses. EPCA pointed out that the bus driver is expected to know about all these things and these should be verified at the time of his obtaining the driving license. Transport department was asked to check the required and the driver's competence before issuing/renewing the license.

After deliberations, EPCA finalised the following action points:

Transport Department

- Introduce mobile facility for safety inspection: The transport department of the Delhi government should set up a mobile facility for safety inspection to check gas leakage and other safety related parameters for random on-road surprise inspection.

- Rigorous enforcement of the mandated safety inspections, For this purpose 20 safety inspection centres have been created -- 5 in DTC depots and 15 in the workshops of the two bus manufacturers – Tata Motors and Ashok Leyland. The transport department must issue notices stating that certificates of quarterly inspections obtained from these centres will be mandatory for annual fitness certificates and permits.
- All bus operators must register for quarterly inspection with inspection centres within 15 days to enable tracking of the inspection status of the buses in the future. The transport department will maintain a complete list of the registrations. The transport department should take action against the bus operators, -- even impound their buses, if they do not come for quarterly inspection within the due date.
- Each bus will have to maintain a logbook with the details of periodic testing and repairs. Transport department must ensure compliance.
- Improve safety inspection facilities and testing:
- All buses must be inspected according to the officially approved check-list for safety tests. The transport department must inspect and ensure that the test facilities and test procedures in all authorised workshops are as per the specifications detailed out by the EPCA led expert committee on CNG safety.
- All authorised workshops of the DTC, the bus manufacturers as well as the transport department (for its mobile facility) must immediately obtain automatic leak detectors, digital Volt Ohm meters.
- Prepare schedule for phasing out of old buses: The transport department must submit to EPCA a list of the buses that are due for phase-out.

Bus Manufacturers:

- Tata Motors must act on re-routing of wire harness in the remaining Tata buses – including converted buses – within one month to avoid safety related accidents. The transport department should ensure compliance in this regard.
- Tata Motors have already offered special package to rectify problems of gas leakage etc in their old pre-2005 buses, through replacement of joints and better components etc at reasonable costs. All buses must avail of this package. The transport department must ensure this is implemented.

Follow up action: EPCA is setting up a committee under the chairmanship of Prof. H B Mathur, vehicle technology expert, to oversee compliance and auditing and report to the Authority on its findings.

**MINUTES OF THE 386^h MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON February
17, 2007**

**Agenda: Assessment of the three-wheeler technology and
expansion of its fleet in Delhi**

In attendance: Transport Department, Government of NCT Delhi (GNCTD), Society of Indian Automobile Manufacturers (SIAM), Baja Auto Ltd, Scooters India Ltd. Piaggio Vehicle Ltd., Prof H.B Mathur.,

**Issue 1: Assessment of the three-wheeler technology and expansion of its fleet in
Delhi**

The Chairman EPCA expressed grave concern on high smoke emission from the on – road three wheelers. He mentioned about the detailed assessments of this problems carried out at the behest of EPCA in the past few years in Delhi. He emphasized that the elimination of the existing problems in the three-wheeler technology should be the prerequisite for further expansion in the fleet in Delhi.

The EPCA appointed technical expert Prof H B Mathur, former professor IIT Delhi, briefed about the maladies found in the on-road 3-wheeler CNG fleet in Delhi as detailed in EPCA filed report No-9 entitled *Report on the increase in the number of three-wheelers in Delhi*, Number 9 (November 2004) in response to the Hon'ble Supreme Court Order Dated October 8, 2004 (In response to the I.A. 217 of 2003).

The following major problems were highlighted

Smoke Emission: - Field Surveys carried out have revealed that not only two stroke three wheelers are emitting white smoke but around 50 per cent of four stroke three wheelers are also emitting white smoke. It has been found that this problems is not restricted to the old models only, but is prevalent in newer models also

Piston Ring Failure: - The piston rings wear out fast at around 2000 -3000 kms requiring top over hauling of the engine after every 2 –3 months. This puts a lot of economic pressure on the poor auto rickshaw owners. Also they are finding it costlier with long delays in the manufacturers workshops

Frequent breakdowns during rains: - It has been reported that during rains and while negotiating water logged areas the vehicle breakdowns. The level of exhaust and location of the wiring harness beneath the chasiss are the culprits responsible.

Poor passenger carrying capacity: - It is reported that the engine performance deteriorates at full seating capacity of 3 passengers load permitted to be carried by the 3 wheeler. It seems that the engine load carrying capacity needs augmentation

Engine Overheating and Excessive Luboil Consumption: - This is the most common complaint about the on road three wheelers as reported by the drivers/ owners. The engine runs overheated and the oil consumption is very high. There is abnormal wear of piston rings/cylinder liner. There is scope to improve the design of piston and piston rings and use of better quality of ring material .

The safety aspect of LPG auto: - Since there are many companies demonstrating their LPG prototypes, efforts should be made to ensure that all the safety related measures being taken care of in the design stage. Need for providing a fire extinguisher in the vehicle should be looked into by the manufacturers, even in CNG 3 wheeler.

Exorbitant cost of OEM spare parts: the cost of many crucial spare parts of OEMs are very high. Efforts should be made by OEMs to bring down the costs at reasonable level so that it acts an incentive for the auto owners to use authentic high quality parts instead of substandard parts at low cost. This will further help in keeping the emissions low and vehicles safe.

Chairman EPCA emphasized the following:

- In the future models of the three wheelers such problems should be eliminated and the three-wheeler industry must provide the details of the kind of design and mechanical changes that they have carried out in their models from 2005 onwards from the earlier models. Specifically SIAM should coordinate with its member companies to furnish this information of technological improvements in three wheelers. These changes must ensure safety, durable emissions performance.
- On the basis of this the proposal to remove on the cap on three wheelers in the city will be reviewed.
- Use of substandard components should be checked by keeping the price of the authentic OEMs spare parts reasonable and low.

**MINUTES OF THE 386^h MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON February
17, 2006**

Agenda: Assessment of the reasons of freak fire accidents occurring in passenger cars

In attendance: Society of Indian Automobile Manufacturers (SIAM), Prof H.B Mathur.,

EPCA briefed the gathering regarding reported incidences of petrol car fires in Delhi and other towns and severity of such fires where people had not been able to come out of their cars and died. Since there is very little technical or investigative details of the causes of fire are available, SIAM and carmakers can provide such details. SIAM informed the committee that though no specific investigations have been carried out by SIAM but some carmakers like Maruti and Honda have done some investigations for such incidences occurring in their models. Maruti representative pointed out that the fire incidence in one of their models was due to the fault of the car owner who had fitted an. oversize accessory. Honda representative informed that their model that caught fire was completely burnt leaving no trace of the likely cause of the fire.

Prof Mathur informed that fire can occur due to a number of factors that could include electric short circuit, fuel dripping/leaking, formation of a high temperature hot spot in vulnerable locations due to design deficiencies/poor maintenance etc. He further pointed out that it has been reported that at the time of car fires centrally controlled doors/windows locking systems got jammed. Use of substandard electronic control systems/sensors/actuators could prove hazardous. Details pertaining to the control systems installed by the manufacturers / owners as also reports on investigations carried on the affected vehicles could lead to some useful inferences that might help the manufacturers and the end users to take appropriate safety measures to avoid re-occurrence of such incidents

SIAM informed that in all cars there is a system of manual override of the car doors therefore it further needs to be investigated as to why people could not open the doors and why the doors got jammed during the fire incidents.

Chairman EPCA informed the industry representatives that actual technical details of investigations carried out by the carmakers should be provided to EPCA for assessment. Also this will help the industry to improve the technology of their models so that such accidents can be avoided.

Action Point:

SIAM to submit the technical details of burnt cars including information pertaining to make, vintage, model, engine type, its specifications, electronic system and technology used for fuel injection etc. Also the investigations reports done by car companies should

also be given to the committee for assessment. A committee consisting of Prof. Mathur, Dr. Kumar of Maruti, ARAI, representative to look into the matter and submit its findings to EPCA by end of March 2007.

**MINUTES OF THE 387th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON February
24, 2007**

Agenda: Meeting with Automotive Research Association of India regarding lambda limits for implementation of lambda in the PUC certification programme in Delhi

In attendance: Automotive research association of India (ARAI), Transport department, Government of NCT Delhi (GNCTD), Prof. H.B Mathur.

EPCA appointed expert Dr H B Mathur, briefed the forum on the imperative of enforcing lambda in the PUC certification regime to ensure that petrol cars with electronic injection and ignition control systems along with three-way cat converter remain low polluting.

Dr Mathur highlighted the findings of the EPCA report *Implementation of Lambda measurement in Pollution Under Control (PUC) certification programme in Delhi*, (EPCA Report No. 22 (July 2006), In Response to the Hon'ble Supreme Court Order Dated May 05, 2006). Further Prof Mathur emphasized the importance of lambda test in ensuring optimal performance of the three-way cat converter and thereby lowering emissions from in-use three way catalyst fitted petrol cars. He pointed out that

- Lambda range of 1 ± 0.03 ensures that the cat-converter is operating at its optimal conversion efficiencies for carbon monoxide, hydrocarbons and oxide of nitrogen. It is therefore essential that petrol cars fitted with three way catalyst must maintain the lambda value in the range 1 ± 0.03 to minimize emissions levels of carbon monoxide, hydrocarbons and nitrogen oxides, simultaneously.
- In the European countries measuring lambda is a common practice in the in-use vehicle inspection and maintenance programme. In Germany for example it has been in use for around 14 years now and the limits are 1 ± 0.03 . Amongst the Asian countries Philippines and Hong Kong have introduced its measurement many years back, with the same range 1 ± 0.03 .
- Lambda in the range 1 ± 0.03 ensures highest degree of effectiveness of cat –converter and lowest emissions of CO, HC, Nox. If it is beyond this range it indicates
 - Faults in Mixture Preparation System
 - Faults in Electronic lambda control Circuit
 - Air leakage in the exhaust systems

- Poor cat-converter performance
- Submission made by SIAM to EPCA, has given specific lambda values proposed by eleven manufacturers. It shows that vehicle models of six manufacturers (Ford, Honda, Hyundai, Mercedes Benz, Skoda, Toyota) already confirm to the internationally accepted range of 1 ± 0.03 . Remaining manufacturers including Maruti Udyog Ltd, Tata Motors, General Motors, Fiat and Mahindra & Mahindra (M&M) have proposed wider ranges for their models.
- The analysis of the lambda test data generated by the transport department with active collaboration of SIAM and ARAI, on more than 10,000 on-road petrol cars tested during March to May 2006 at 79 PUC centers at Delhi reveals that already 75 per cent of the cars (which included models of 15 manufacturers) are in compliance to the 1 ± 0.03 lambda limit. In view of this the rest of the manufacturers who have proposed wider lambda ranges must also fall in line and lambda range should be fixed at 1 ± 0.03 in the PUC test programme.
- If the lambda value is found in the PUC test to be beyond the limit of 1 ± 0.03 then corrective measures can be taken to rectify the likely fault in the mixture preparation system of the vehicle or in the lambda control circuit of the vehicle or air leakage in the exhaust system of the vehicle. Lambda testing will thus be of great importance in the Inspection and maintenance programme and will ensure low pollution from petrol driven vehicles.

The representative of Automotive Research Association of India (ARAI) Dr. A.B Komawar informed the committee that when a vehicle is submitted to ARAI for type approval the lambda is measured and ARAI will submit lambda data obtained during type approval of vehicles. He also pointed out that lambda testing will be of crucial importance in the PUC programme and that the lambda range should be kept as 1 ± 0.03 .

Action points

- EPCA informed the forum that the lambda tests will be enforced in PUC programme. On the basis of the consultation with ARAI it has been decided that lambda range of 1 ± 0.03 will be adopted for enforcement.
- ARAI will also submit lambda data obtained during type approval all Euro II and post Euro II petrol car models fitted with three way catalysts.

**MINUTES OF THE 387^h MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON February
24, 2007**

Agenda: CNG supply in the city

CNG supply in the city

EPCA stressed that proper and adequate supply of CNG in the city should be ensured so that long queues are not observed at the gas supply stations, which cause congestion and hardships to people and owners of CNG vehicles. In order to assess the current situation of gas demand and supply IGL should submit the details of current infrastructure for gas supply and future expansion plans, CNG demand and supply data to EPCA by 15th of March 2007.

**MINUTES OF THE 388th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON March 10,
2007**

Agenda: Presentation by Indian Auto LPG coalition

In attendance: Auto LPG coalition, Prof H B Mathur

1. Presentation by Auto-LPG coalition

A coalition of LPG automakers, kit makers, and fuel suppliers made a presentation before EPCA. The coalition informed the committee about increasing coverage of LPG infrastructure in the country, which is spread across almost 30 cities with around 200 refueling stations. The forum discussed the emerging issues related to LPG demand, supply, technological and supply infrastructure, which are important with respect to emissions and safety of the vehicles.

Representatives of the Maruti Udyog Ltd also raised the common complain from customers of their LPG car models that there are lesser number of refueling stations for LPG in the city.

Following issues were highlighted:

In many cities including Pune, Bangalore, Hyderabad wherever the auto-LPG programme has begun is facing the problem of poor quality of retrofitment technology and use of substandard and sometime cheaper burnt lube oil, which is causing high emissions of smoke, and also use of substandard kits compromises with the safety rules.

There are inadequate numbers of LPG pumps in the cities, for instance in Pune long queues is a normal sight in front of the LPG filling stations.

Availability of land is a serious constraint in setting up of LPG stations. Oil companies will have to rationalize use of available space in the refueling stations for their optimum use and also find space for LPG dispensers. Also enhance the dispensing capacity of the existing pumps.

While the coalition is helping spread the business of LPG as auto fuel they should also educate the users and assess and ensure that good quality kits are used in the LPG autos and supply of LPG is adequate. Coalition should organize drives against use of illegal LPG kits and domestic LPG to prevent it.

The quality of fuel needs to be ensured with respect to the specifications, as it is important for the development of better LPG vehicle technology. The quality of fuel should be ensured in the in-use conditions as well, because there are reports that domestic LPG is used for vehicles in unsafe conditions.

In other countries the LPG is even used in heavy-duty engines therefore the coalition may assess what are the impediments in developing LPG buses in India.

**MINUTES OF THE 388th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON March 10,
2007**

Agenda: Number of vehicles entering Delhi

In attendance: Shri Parimel Rai Additional Commissioner MCD

MCD is required to submit the following information to EPCA within one-week time as it is important to know that how many vehicles are entering Delhi to assess the current challenges of interstate traffic in the city. This information should be provided in following heads:

Action point:

Number of vehicle entering Delhi
Toll bridge wise
Vehicle category wise
Number of vehicle turned away or returned

This information to be provided within a week.

**MINUTES OF THE 388th MEETING OF THE ENVIRONMENT POLLUTION
(PREVENTION AND CONTROL) AUTHORITY FOR THE NCR HELD ON March 10,
2007**

Agenda: Three wheeler ownership and management issue

In attendance: Rakesh Agarwal of Nyaybhumi

Rakesh Agarwal of Nyaybhumi, Delhi brought to the notice of the committee that the recent order of the Delhi administration that old two-stroke three wheelers can be replaced with new four-stroke three wheelers with some amount of subsidy. This is being misused by some middleman who are procuring the new autos at low costs and selling them to the poor auto-rickshaw owners at a very high cost. These practices have pushed up the prices of three wheelers even more than that of multi-purpose vans. This financial and market discrepancy must stop and individual three-wheeler drivers should be given advantage of this scheme.

It was further informed that the ownership right should be given to individuals who run the autos. Currently only a few people own them and rent them to the drivers who pay on daily basis. Individual ownership will improve the maintenance of autos and be economically remunerative for the owner-drivers as well. Therefore, cooperative agencies should be promoted and should be given permits to ply autos in Delhi.

Action point: EPCA informed the forum that three-wheeler ownership related information and survey conducted by the NGO should be provided to the EPCA at the earliest for further action.

**MINUTES OF THE 388th MEETING OF THE ENVIRONMENT
POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE
NCR HELD ON March 10, 2007**

Agenda: Implementation of the High Capacity Bus System of Delhi

This meeting was called to do a follow up of the decisions taken in the earlier meeting held on January 20, 2007. Deliberations were held on the following.

It was informed that RITES is having close coordination with the traffic police at regular intervals. Around 2 km stretch has been released and barricades have been removed. There are 30 marshals who ensure that buses stop at the bus stops. Things are moving as scheduled. For the sake of pedestrians, placards have been given to marshals with 'do not cross' written on it. The pedestrians are being requested to move through signalised intersections only. The construction work in the entire stretch upto Moolchand will be complete by August 2007.

It was informed that DTC has ordered 500 buses from Tata Motors. DIMTS informed that it is working on the operational plan for the first corridor. Currently 200 bus routes are operating on this corridor being run by either DTC or STA. DIMTS is of the view that the currently plying buses has to be removed for the HCBS buses to ply on this corridor or the routes of other buses has to be changed. The transport department pointed that it is a very sensitive issue.

EPCA will further review the progress of work.

**MINUTES OF THE 388^h MEETING OF THE ENVIRONMENT
POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR THE
NCR HELD ON March 17, 2007**

Agenda: CNG safety

In attendance: Prof. H. B. Mathur, Transport department, Delhi Transport Corporation, Society of Indian Automobile Manufacturers, Tata Motors, Ashok Leyland, SIAM

This meeting was called to do a follow up of the earlier meeting held on February 3, 2007 in which EPCA issued a new set of directives to the concerned agencies on CNG safety for buses. EPCA chairperson pointed out that following were the actions pending by the transport department, manufacturers and converters and DTC, third party inspection/fitness inspection, respectively with regard to implementation of the EPCA's directives on CNG buses safety issues.

Transport Department:

- Procure automatic leak detectors and digital volt ohm-meter.
- Put in place mobile inspection facilities by February 7, 2007.
- Issue notification about expert committee for inspection and approval of workshops for periodic testing.
- Notify approval of workshops for periodic testing as per report of the expert committee constituted as stated above.
- Notify the mandatory requirements of periodic testing for annual fitness certification.
- Ensure compliance of the mandated requirements of logbook in each vehicle and authenticated entries therein for all repair, maintenance and inspection carried out in the vehicle.
- Submit to EPCA a list of the buses that are due for phase out.
- Inform EPCA about the status of training of the staff deputed for on-road surprise check of CNG buses.
- Hold monthly meetings with OEMs, converters, DTC regarding implementation of EPCA directives.

OE Manufacturers, converters and DTC:

- Procure automatic leak detector in their authorised workshops.
- Ensure and confirm to EPCA that their authorised workshops earmarked for periodic testing meet the equipment and staff requirements as per ARAI, transport department and EPCA requirements.
- Fix up the date and time for the inspection of their authorised workshops by the expert committee.
- Ensure that all bus operators register with any of their authorised periodic inspection centers/workshops and complete list of such registrations should be given to the transport department along with the dates of inspection allotted to them.

- Ensure that their authorised workshops inform the transport department the registration numbers of all those buses that do not come for quarterly inspection within the due date so that transport department could impound such buses.
- Implement EPCA directives regarding modifications/replacements etc on their on-road buses when they come for periodic inspection, if such changes have not been carried out earlier because of non-availability of the buses. Inform transport department about the defaulter buses for their impoundment.
- Ensure engravings on the EPCA identified components on new buses and inform EPCA about the procedures and the location where this is being done.
- Ensure that each of their bus has the approved printed logbook in place and proper entries are being made therein.
- Iron out problems if any in the implementation of EPCA directives with transport department in the monthly meetings with them.

Third Party Inspection/ Fitness Inspection:

- Put in place the required facilities for engravings on the identified components of all on-road buses.
- Train the designated transport department staff to carry out on-road checking of the vehicles as per the designed checklist.
- Participate in the transport department convened monthly meetings with OEMs/converters to sort out problems if any in the implementation of the EPCA directives and transport department notifications.
- Submit quarterly inspection reports to EPCA and transport departments on a regularly basis.

EPCA asked the transport department and the manufacturers about the status of implementation of its directives issued in the earlier meeting. Deliberations were held on the following.

The transport department informed that 2 multi meters have already been purchased. Tenders for the methane leak detector were invited, "the condition laid down in the notice was that "the leak detector should be approved by any reputed test agency". Only two companies submitted tenders without the required certificate. Prof. H. B. Mathur enquired as to why this condition was put only for the leak detector and not for the multi meters and he further enquired as to which test agencies the department had in mind that certify such instruments. Mr. Sehgal of DTC pointed out that based on their tender they have finalised the purchase order for the methane leak detectors and transport department can also place order with the same party. Mr. Ratra of Tata Motors pointed out that their workshops have also recently purchased 7 numbers of methane leak detector without any difficulty. The transport department

agreed to process the procurement of methane leak detector on the basis of DTC order for the same.

The transport department informed that the department has provided training to inspectors from ASRTU for conduction checking of CNG buses on road. The transport department assured that the mobile testing facility will be put in place by April 15, 2007 latest.

Regarding expert committee approval of workshops for periodic testing Prof. Mathur clarified that earlier only 5 DTC workshops were mandated to do quarterly testing of CNG buses but subsequently EPCA has desired to include 15 manufacturers authorised workshops also in this programme of periodic testing of CNG buses. As per existing procedure the converter workshops required approval of the transport department for which the department had prepared a format listing out the conditions and requirements to be fulfilled by the workshops for approval. The transport department had been asked by EPCA to do this exercise through an expert committee for the approval of the manufacturers/converters workshops to carry out periodic testing as per testing format got prepared by EPCA. Transport department was asked to expedite implementation of this action.

The transport department informed that certificates of quarterly inspections obtained are mandatory for annual fitness certificates and permits. With regard to permit conditions, the directives are already in motion. Rigorous enforcement is being done by the transport department after the February 3, 2007 EPCA meeting. Those who violate the orders are charged hefty fines. When a vehicle goes to Burari, three certificates are needed failing which Rs. 4,500 is charged. Regarding the other 15 workshops, transport department informed that it would bring out an advertisement soon and notify these also.

The transport department brought to the notice of EPCA the problem they are facing while checking the periodic inspection certificates. The certificates are not back-to-back. In most of the cases, gaps occur in the dates in case of buses that have been impounded or gone for repair. The transport department sought clarification from EPCA on this matter. It was clarified by EPCA that the period during which a bus is off the road need not be counted in arriving at the required gap between successive periodic tests.

EPCA explained that two of the major manufacturers (Tata and Ashok Leyland) had offered the services of their authorised workshops (10- Tata, 5- Leyland) to carry out periodic testing of their respective make non-DTC buses. EPCA desired that each of these buses should be registered at any one or the other of the respective manufacturers workshops for all periodic testings. List of such registrations workshop wise

must be provided by the manufacturers to the transport department. The manufacturers/their workshops must keep track of the buses registered with them for periodic testing and report to the transport department defaulting buses from time to time for appropriate action by the department. The DTC should also follow the same practice with regard to DTC buses going for periodic testing in the 5 DTC testing workshops. Those makes of buses whose manufacturers workshops are not included in the above list can continue to get periodic inspection done at the DTC test workshops following the same procedure of registration and reporting at anyone or the other DTC workshops till such time that their manufacturers authorised workshops are also made available for periodic testing.

The transport department asked the manufacturers to submit a list of names and addresses of all their workshops included in the periodic testing programme. The manufacturers representatives pointed out that they had already submitted the list of their authorised workshops, the addresses and telephone numbers and the specimen signatures of the authorised staff at these workshops to the transport department as well as to the Burari test center.

The transport department wanted to know the price being charged for the printed log books by the manufacturers. The manufacturers representatives pointed out that their printed log books are being sold at Rs 50 per log book at their workshops.

Regarding the list of the buses due for phase out the transport department sought further clarification. EPCA clarified that it require separate lists for stage carriage buses reaching 7 years of age and converted buses reaching 13 years of age from the date of their respective registrations.

The transport department expressed regret for not holding the proposed monthly meetings with OEMs, converters, DTC, regarding implementation of EPCA directives. EPCA was assured that such meetings will be organised shortly.

The manufactures informed that leak detectors as directed by EPCA are available in most of the workshops except a few which have placed orders with the supplier and the same will be available in all their workshops within a month's time.

SIAM on behalf of manufacturers informed EPCA that its directive on engraving of vehicle registration number on EPCA identified components in a new bus is being implemented. The required facilities have been put in place by the manufacturers.

CMD DTC brought to the notice of EPCA the issue of replacement of catalytic converters in their buses. It was informed that OEMs are charging high prices for catalytic converters. The OEMs informed about the price of the catalytic converter (Ashok Leyland Rs. 26,000 without tax and Tata Motors Rs. 43,369 with tax). Deliberations were held that the price of catalytic converter should be rationalised. Tata Motors representative informed that he will inform EPCA on the same.