**Report No 86**

# Status of Funds: Report being filed in compliance in Hon'ble Supreme Court directions of May 9, 2018 to EPCA to submit report on status of funds IA filed by NCT Delhi

**May 15, 2018**

**Environment Pollution (Prevention and Control) Authority for NCR (EPCA)**

## 1. Background and Delhi government submissions

The Government of NCT Delhi has filed an IA regarding utilization of funds deposited with the Delhi government under the Environment Compensation Charge (ECC). The Environment Compensation Charge is imposed on all commercial goods vehicles entering Delhi by the order of the Hon'ble Supreme Court of 9.10.2015, given the high contribution of these vehicles to toxic air pollution in the city.

As per the IA, the total funds deposited with the Delhi government as of 12.4.2018 is Rs 999.25 under this account. It has proposed to utilize this fund for the "induction of 1000 low-floor fully electric buses in Delhi to mitigate pollution."

According to the information provided in the IA the following is proposed;

1. That the buses will be introduced through a gross cost model;
2. That Delhi has been awarded financial assistance of Rs 40 crore for 40 e-buses through the Government of India's FAME project, of the Ministry of Heavy Industries.
3. That additionally a subsidy for creating infrastructure of up to Rs 4 crore is being provided by the Ministry of Heavy Industries.
4. That the Hon'ble Minister (Transport) of Delhi government has directed that the remaining 960 electric buses be given financial assistance, as adopted under the FAME India scheme. This would imply a subsidy up to Rs 1 crore, per bus (where localization is 35 per cent). It is also stated that the cost of each bus is Rs 2.5 crore,

which would further imply that the subsidy would be given of Rs 1 crore per bus that costs Rs 2.5 crore.
5. That in addition, Rs 96 crore would be given as aid for charging infrastructure.
6. This fund would be disbursed in three equal installments over 3 years – Rs 352 crore per year for 3 year.
7. The operator would be selected through a competitive bidding process.
8. In addition, 905 electric buses would be inducted for DMRC for last-mile-connectivity and approximately Rs 50 crore would be utilized.
9. In addition, ECC funds would go for upgrading the infrastructure at ISBTs in Delhi.

## 2. **EPCA deliberations and issues identified**

As the information contained in the IA was inadequate to make recommendations to the Hon'ble Supreme Court, EPCA convened an urgent meeting on May 14, 2018 to discuss the proposal.

The meeting was attended by the following:

1. Commissioner and special commissioner, Transport Department, GNCTD
2. Additional Secretary, Ministry of Surface Transport and Highways (MoRTH
3. Under Secretary, Dept. of Heavy Industries
4. General Manager, DMRC
5. Senior officials of DIMTS

The issues that EPCA required clarifications are as follows;

1. Is the Department of Heavy Industries funding available to Delhi government for 40 buses?
2. What has been the experience in the country with E-buses? Do we have the capacity to induct up to 1000 buses? What will be the time period for these buses to be inducted?
3. What is the experience with the gross cost contract, which is proposed by the Delhi government?

4. What are the technology challenges for induction of these buses? Has this issue been considered by the Delhi government in its proposal?
5. Why is Delhi government proposing to use ECC funds for induction of electric buses? Is there a lack of funds for bus procurement?
6. What is the DMRC proposal for feeder buses?

## 3. Findings on e-bus availability and technology

The following has emerged from these discussions and the background work that EPCA has done in this past week to understand the proposal.

**3.1.** The FAME project would ***not*** in its current phase/budget provide funding for 40 buses for Delhi as stated in the IA. The Department of Heavy Industries has told EPCA that while Delhi had indeed made an initial proposal for purchase of 40 buses, it was not able to follow up with information and also do the timely bidding as required by the project. Therefore, the funds available have been earmarked to other cities – a total of 440 e-buses for 10 cities will be provided funding. There are no remaining funds and it is unclear if there will be phase-II of the project.

**3.2.** Currently, the country has 30 running electric buses in the entire country – 25 of these are owned and run by the Himachal Pradesh HRTC. The remaining 5 are with BEST, Mumbai.

**3.3.** The Department of Heavy Industries has benchmarked capital costs of electric buses. This ranges from Rs 75 lakh per bus (for 9 metres with a seating capacity of 31 and battery range of 150 km) to Rs 1.75 per bus (for AC low floor of 400 mm, 12 metre with seating capacity 40 and battery range of 300 km). Only Bengaluru and Hyderabad have opted for the 12 metre low-floor e-bus and have ordered 100 buses together. The biggest procurement is by Bengaluru of 80 buses including 60 low-floor 12 metre buses, which Delhi proposes to order.

**3.4** Foreign companies, mainly Chinese and Polish have entered the Indian market and are setting up assembly-manufacturing plants. But their capacity to deliver buses is still not clear. The other manufacturers are Tata Motors, Ashok Leyland and Volvo-Eicher but their capacity to deliver on the current orders is also still not known as no bus has been supplied in the current orders.

**3.5** The gross cost contract has been opted by different cities but the range of the bid price is very high – ranging between Rs 29.28 per km to Rs 70 per km. Under the gross cost contract, the operator brings in the bus and pays for the driver and operational costs. The government provides the viability gap funding.

In current cases of gross cost model the operator also pays for the capital cost of the bus (as in Delhi's cluster scheme) and the gap funding takes this into account. In this case, the government is providing subsidy up to Rs 1 crore per bus, which lowers the operational costs. However, it is found that in spite of this subsidy the viability gap paid by government equals or is higher than the cost of a similar scheme where capital cost is borne by the operator.

In Delhi's cluster model, the rate paid by the government is at the maximum of Rs 55/km, whereas the cost of the bus procurement is with the operator. The revenue per km is roughly Rs 25-30/km and the government pays the different of Rs 30-25/km.

In the case of the limited tenders issued under the FAME scheme the cost is roughly Rs 40/km (in Bengaluru and Hyderabad) with the cost of electricity (fuel) being borne by the transport authority. If this cost is added to the cost, then the cost is equivalent to a contract where the operator pays the upfront capital cost. In other words, government is underwriting the entire cost of the rolling stock (bus).

**3.6.** There is a technology challenge when it comes to the type of battery charging infrastructure that will be provided. There are two main systems – slow and fast. The slow charging is provided in most cases in

depots for night time charging and fast during the daytime breaks. However, the decision is required to be taken on the type of charging infrastructure before procurement can be made. The charging infrastructure in most cases has to be pre-designed for the bus infrastructure and is specific to the type of bus inducted. Delhi government has not considered this issue further than what is given in the IA.

**3.7** There is also a technology challenge in terms of the type of bus and its specifications. Currently, the Central Motor Vehicle Rules (CMVR) provides specifications for electric buses. But experts say these rules are lacking in terms of engine and battery technology. There is a concern that companies will bring outdated technologies into India without clear specifications on these critical issues.

The counter view is that as the bus operator is taking responsibility for the bus running and maintenance the onus of technology will be on them. However, it is also clear that in this case the government of India/Delhi government will be underwriting the costs of the technology up to Rs 1 crore/bus. Therefore, public subsidy, particularly, if it involves large orders, must secure better returns.

## 4. Findings on fund allocation for bus procurement in Delhi

EPCA reviewed the past budgets of the Delhi government (as available on the website) to understand if the government lacked funds for bus procurement.

It found that over the years, funds have been allocated for transport department, which included procurement of buses in the GNCTD budget (see Table 1). However, the fleet augmentation did not take place.

Therefore, it is assumed that the allocated and earmarked funds for bus procurement lapsed at the end of the budget year.

**Table 1: Budget commitments by GNCTD for bus fleet augmentation and actual number of buses inducted**

| Year | Proposed DTC fleet augmentation | Proposed Cluster Buses fleet augmentation | Actual number of buses inducted during the year | Proposed budget allocation (in Rs. crores)* |
|---|---|---|---|---|
| 2014-15 | 1380 | 400 | 333 (May 2014 to January 2015) | Rs. 3702 crores (transport) |
| 2015-16 | N.A. | N.A. | | N.A. |
| 2016-17 | 1000 | 1000 (+1000 under aggregator model) | 203 cluster buses (February 2015 to December 2016) | Rs. 325 crores |
| 2017-18 | 0 | 736 | 0 | Rs. 5506 crores (transport) |
| 2018-19 | 1000 | 1000 (+1000 Electric buses) | Bidding in process for DTC and cluster buses. Proposal for E-buses with Hon'ble SC | Rs. 800 crores |

***Note: this budget allocation is for transport department and includes all its activities. The earmarking of funds for buses is not available but it is clear that budget announcements included purchase of buses and that these were not purchased in the year and so, it is assumed that the funds lapsed or were utilized for other purposes**

## 4. Findings on DMRC feeder buses

The representative of DMRC informed EPCA that they have decided to induct midi-sized CNG buses on a gross cost model. It is in the process of forming a special purpose vehicle (SPV) to take on this work and will bring feeder buses on the road at the earliest, to connect its stations to different areas.

## 5. EPCA's recommendations for the consideration of the Supreme Court

At the very outset, EPCA would like to state that it would support the use of ECC funds for augmentation of public transport. It is also in support of e-vehicles for public transport as these will be critical to improve air quality in the city. Also, it believes that large-scale procurement and transformation of public transport is needed. Currently, the city has only some 5815 buses, many of which are also reaching the end of their service life. Therefore, augmentation of public transport, combined with last mile connectivity, will be crucial if the city wants to reduce the numbers of vehicles on the road. It is also clear that the poor in the city need affordable public transport and so government subsidy – which is today available for buses run under the cluster or DTC model – is important.

However, EPCA is not in a position to recommend that the Hon'ble Supreme Court should clear the proposal as given in the IA of the Delhi government.

This is because of the following concerns;

The government of NCT Delhi has not done sufficient work to detail out the proposal for induction of 1000 e-buses and its necessary infrastructure. In the entire country, the experience is limited and the transition to e-vehicles has only just begun. Therefore, to be ambitious and bold requires more detailing so that the chance of success is improved.

The Delhi government's past track record of inducting conventional CNG buses (which were brought into the city from 2000 onwards) has been lacking. It is therefore, all the more imperative, that better design and detail, is provided for this necessary project.

Therefore, for this proposal to be considered by the Hon'ble Supreme Court, the Delhi government must provide information about the availability of such buses; its specifications; its infrastructure requirements and technology.

This is particularly important because the city cannot afford to delay the induction of buses into its fleet. Over the past few years, the government has not inducted significant numbers of buses and in fact, even now, there is some measure of uncertainty about the tenders for DTC bus fleet fructifying. In this scenario, every effort must be made to ensure that there is sufficient detailing so that the chances of success increase or are guaranteed. It is well accepted that the current public health crisis of air pollution demands urgent and scaled up responses.