

## **Installation of Radio Frequency Identification (RFID) for effective and credible ECC collection**

**Environment Pollution (Prevention & Control) Authority for Delhi and NCR**

**August 10, 2016**

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### **1. Background: Directions on installation of RFID for effective compliance**

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The Hon'ble Supreme Court in its order dated October 9, 2015 directed that Environment Compensation Charge (ECC) be imposed on all commercial light duty vehicles and trucks entering Delhi. For effective monitoring of this collection system, it directed "toll collectors will put in place Radio Frequency Identification (RFID) system at their own cost at nine main entry points in the city by November 30, 2015 and by January 31 2016 at all the remaining 118 entry points to the city, failing which the contractors will be treated as being in breach of their obligation. The RFID data will be supplied to the MCD and Transport Department of the Government of NCT Delhi."

The Hon'ble Supreme Court in its order dated January 6, 2016 stressed on the urgency of this matter. Discussing the issue, it noted, "Mr Salve submits on instructions that the Authorities are also toying with the idea of putting in place Radio Frequency Identification Device (RFID) for a more effective and credible toll collection. SG appearing for Union of India submits that there are some other equally effective options available. This is being examined for appropriate decision to make recovery of toll and ECC leakage free. We leave it open to the authority concerned to examine the feasibility of any better arrangement in place of the existing system, if the present system is not satisfactory or effective in any manner. We only hope that an appropriate decision on the subject will not be delayed any further and would expect the authorities to file a status report by the next date of hearing."

In its order of January 7, 2016, the Hon'ble Supreme Court listening to the matter of SMYR Consortium LLP versus Government of NCT, further discussed the issue of RFID. It noted the observations of the Amicus, senior counsel, Mr Harish N Salve that the changed situation in which the contractor is placed, on account of the orders passed by the Court, may have made the toll collection contract unworkable... "Even so, the Corporation (SDMC) may, argued Mr Salve, be justified in annulling the arrangement as the earlier contract, inter alia, provides for installation and operation of the RFID by the toll collecting contractor, which may not be the right thing to do keeping in view the fact that RFID system will remain available to the toll collecting contractor for any possible manipulation.

The ideal thing which according to Mr Salve could be done was to direct installation and operation of RFID system by an agency other than the contractor appointed to collect the toll.”

The Hon’ble Supreme Court observed that the “exit proposal given by Mr Divan, could therefore, be the reasonable solution not only for the contractor to part company ***but also for the Corporation (SDMC) to take a call on appointing independent agencies for collection of toll and installation of the RFID system.***”

In deciding the final terms of the termination of the contract with SMYR, the Hon’ble Supreme Court further observed that “the proposed installation of RFID to improve the existing system of collection, will according to Mr Harish Salve and Ms Pinky Anand take around nine months. An end of the current arrangements will help in taking steps for improving the system by using modern technology.”

It was therefore, agreed that SDMC should ensure that RFID is implemented through an independent contractor, who does not have the contract for toll collection and that this should be done expeditiously – within 9 months.

## **2. Status of implementation of RFID**

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EPCA has been working to oversee the implementation of the above directions of the Hon’ble Supreme Court. Since January 7, 2016, the following action has been taken and the status of compliance is as follows:

1. SDMC has terminated the toll collection arrangements with SMYR and in compliance with the directions of the Hon’ble Supreme Court all compensations towards this have been paid.
2. SDMC has appointed DEP Tolls LLP for a period of 40 weeks, beginning February 1, 2016 till November 5, 2016. The fixed payment contract of Rs 488 crore is for collection of toll, which is paid to SDMC. This contract also includes cost of collection of ECC, which is collected and deposited each week with the Transport Department of the Government of NCT Delhi.
3. EPCA/SDMC have consulted key experts to arrive at the scope of the RFID system. It was agreed that the system must be rigorous and able to manage traffic at volumes. The system would also be compatible with the proposed nationwide NHAI system. It was also agreed that to start with the RFID system would be installed at 13 key locations, which account for roughly 80 per cent of the commercial traffic. In the remaining locations, barriers would be installed so that heavy commercial traffic, which pays ECC cannot pass through.

4. Based on this, a detailed scope has been prepared with technical specifications and conditions for pre-qualification of bidders to ensure that the system is executed for full compliance. This RFP document, entitled *request for proposal for design, construction, development, finance, operations and maintenance of an integrated RFID based toll management system at 13 entry points (covering 65 toll lanes) on DBFOT basis*, is ready for tendering.
5. RITES has been given the task to vet the RFP document by SDMC.
6. SDMC has written to the Commissioner Transport Department vide letter no 1011 Tax/ltQ/2016/388 dated 11.7.2016 requesting for key decisions on payment for RFID system.
7. In the meeting convened on 21.7.2016 under the chairmanship of Principle Secretary, Urban Development/DLB, minutes of which were forwarded to EPCA the following decisions were taken for further action:
  - **Appointment of SDMC as the executing agency:** It was informed by the representative of Transport Department, GNCT of Delhi, that the Transport department has no difficulty/objection to this request. It was decided that transport department may place a proposal for taking orders from the Minister (Urban Development/Transport) in this regard.
  - **Payment of the pre-tendering incidental cost for preparing RFID document of Rs. 93-95 lakh:** It was collectively felt after discussion that it would be better to pay the whole cost from the ECC amount, as RFID has been necessitated due to a court order to GNCT of Delhi. ECC collection is also bound to increase due to efficient enforcement and technology intervention.
  - **Payment for RFID:** The estimated expenditure as per the draft RFP document for RFID system implementation (design, construction, developments, finance, operations and maintenance of the system at 13 entry points of NCT Delhi on DBFOT (Design, Built, Finance, Operate and Transfer) basis amounts to Rs. 120 crore for over the period of next five years. Hence, SDMC has sought an in principle approval for the same. It was decided that the transport department shall prepare a cabinet note/proposal for the above expenditure through ECC.
  - **Liability in case the ECC amount is withdrawn:** It was decided that the permission from the Hon'ble Supreme Court for funding by ECC till liability of the contract is over, may be obtained beforehand. It was also suggested that an ESCROW fund of Rs. 30 crore out of the ECC may be created by the Transport department to facilitate quick payments.

- **Integration of ECC and Toll Tax through RFID:** There was consensus that such an integration shall increase the efficiency of collection, reduce the harassment/hardships for the public/transporters and has a good potential for increase in revenue and hence shall be desirable.

### **3. EPCA's observation and reasons for urgent directions from the Hon'ble Supreme Court**

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The RFID system is essential to enforce the directions of the Hon'ble Supreme Court. The current system is based on collection in cash and it involves human discretion to check all vehicles, which is open for misuse.

The volumes of cash collected are large – currently collection of ECC is roughly Rs 9 crore/week. It is also difficult to estimate the quantum of leakage in the system as there is no physical verification of the number of vehicles that are entering Delhi. The CCTV cameras installed by Delhi government at key entry points are not designed to count the exact numbers of vehicles that are entering Delhi. EPCA has found that enforcement of the system, which is critical as laxity in allowing vehicles to enter Delhi will mean that the objectives of the Hon'ble Court Order are negated, is difficult without the use of modern technology.

It is therefore, imperative that RFID system should be installed and made operational at the earliest. With the implementation of RFID the following will happen:

1. The system of collection of toll and ECC will move from ***cash to cashless***. Each vehicle seeking to enter Delhi will have to pay toll and ECC on an online portal (for which discussions are underway with SBI). In addition, they will also be able to pay at RFID issuing points, which will be located at strategic points.
2. The system will necessitate pre-registration of vehicles, which will allow for checking of the age of the vehicle that seeks entry. This will ensure compliance of the orders of the Hon'ble Supreme Court that only commercial vehicles registered after 2005 will be allowed entry into Delhi.
3. The system will ensure compliance with directions of Hon'ble court that only vehicles destined for Delhi would be allowed entry as it would capture information on destination and also track if the vehicle has used Delhi as a bypass.
4. The system will allow vehicles, like ambulances, petroleum and water tankers to be pre-registered and therefore exempt from payment of ECC. All other exempt vehicles will also seek pre-registration based on the

nature of goods that they carry or seek cash reimbursements from government post entry into Delhi.

5. Implementation of RFID will make the system easier to operate and reduce the delays and harassment faced by transporters. It will also improve collection efficiency.
6. The RFID system as detailed in the RFP document is designed to be compatible with the nationwide e-tolling system that will be implemented through the Indian Highways Management Company, set up through 25% equity participation of NHAI.
7. The system will be rolled out at 13 points, which bring 80% of commercial traffic to Delhi. It is clear that in the remaining points, the volume of commercial traffic is low, but to ensure that there is no diversion of traffic barriers will be installed to stop heavy traffic from entering. It is not envisaged that the RFID system will have to be installed at all remaining 105 points and that if at all there is a need, it may be at another 5-10 points of entry, which can be done in the future. The cost of the system will therefore, not increase further.

In EPCA's view, without this technological upgradation, the ECC collection cannot be enforced. It is therefore, critical that the agencies make it operational at the earliest.

EPCA is also of the view that the cost of RFID should be paid from the collection of ECC, as it cost of enforcement of the system. The SDMC toll collection system is based on a fixed cost contract. Under this contract, there is minimal cost of enforcement and monitoring as the concessionaire pays fixed costs to SDMC based on an estimation of the volume of traffic and revenue from it. However, ECC is designed as a congestion charge – it needs to be paid on each vehicle as it enters Delhi as a deterrent to entry. The objective of ECC is to reduce numbers of vehicles entering the city so as to reduce pollution. Therefore, this system requires stringent and daily monitoring and enforcement. Without RFID, this is not possible. Therefore, RFID is necessitated because of the imposition of ECC and it is a cost of monitoring and surveillance that should be accounted for.

The question of non-permanence of ECC has been raised with EPCA. This issue is important as the RFID concessionaire will have to operate the system for 5 years and therefore, needs assurance that ECC will continue. The fact is that ECC has to be directed by the Hon'ble Supreme Court and it can only be removed through its orders. It is also a fact that ECC, when it has been implemented stringently, has shown that it has impact on the quality of air in Delhi. It is an important air pollution control measure. With the implementation of RFID, this will improve the situation further. However, in case of future exigencies, EPCA would support the proposal of the group that met under the chairmanship of the secretary,

Urban Development of the Government of Delhi that there should be ESCROW fund created by transport department to facilitate easy payment and to set aside costs in case of future exigencies.

**4. Directions sought from the Hon'ble Supreme Court:  
Amendment/directions regarding payment of the cost of RFID  
from ECC**

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The Hon'ble Supreme Court, in its order dated October 9, 2015 had directed that the ECC amount so collected ought to be exclusively used for augmenting public transport and improving roads, particularly for most vulnerable users that is cyclist and pedestrians in Delhi.

From November 6, 2015 to August 4 2016 a total amount of Rs 330 crore has been collected as ECC and deposited with the Transport Department. Out of this, Rs 7,26,30,799 has been deducted by SDMC as per the decision of the Hon'ble Court in the matter of termination of the erstwhile toll contractor. In addition, Rs 1 crore per week has been set aside by SDMC against the new toll contract, which is awaiting decision from the Hon'ble Supreme Court.

The total pre-tendering cost of RFID is an estimated Rs 93 lakh. The total project cost of RFID, which will be paid to the concessionaire based on the uptime of the system, is estimated at Rs 120 crore over the next five years (Rs 24 crore/year). The current collection of ECC is roughly Rs 432 crore/year and therefore, the RFID cost would be roughly 5.5 per cent of the current collection.

This is a relatively small cost to pay for effective compliance, which will improve the quality of air that we breathe in the city.

EPCA is seeking amendment from the Hon'ble Supreme Court to its directions of October 9, 2015 to include that the cost of RFID can be paid from ECC as it would improve enforcement and effective compliance of its order.

Figure 1: Proposed System Flow for Implementation of Automatic ECC Collection Using RFID

