

**MEMORANDUM OF UNDERSTANDING**

**BETWEEN**

**MINISTRY OF URBAN DEVELOPMENT  
GOVERNMENT OF INDIA**

**AND**

**BHARAT SANCHAR NIGAM LIMITED**

## **Memorandum of Understanding between BSNL and MoUD for providing eSBM Platform for Solid Waste Management in Urban Local Bodies**

This Memorandum of Understanding (MoU) is signed on 21st day of March 2016 by and between **PRESIDENT OF INDIA, acting through SHRI PRAVEEN PRAKASH, JOINT SECRETARY & MISSION DIRECTOR, MINISTRY OF URBAN DEVELOPMENT, GOVT. OF INDIA** (hereinafter called **MoUD** which expression shall unless repugnant to the context include its successors in Govt, business administrators and assigns or legal representative) of the **FIRST PARTY**"

AND

**BHARAT SANCHAR NIGAM LIMITED**, a Company registered under the Companies Act 1956 having its Registered Office at Bharat Sanchar Bhawan, Harish Chandra Mathur Lane, Janpath New Delhi-110001 **acting through MS SUJATA TAPAN RAY, DIRECTOR (HR & FINANCE), BSNL BOARD (hereinafter called BSNL** which expression shall, unless repugnant to the context includes its successor in business, administrators, liquidators and assigns or legal representatives) of the **SECOND PARTY**.

In the MoU, henceforth, MoUD and BSNL shall be individually referred to as "PARTY" and collectively as "PARTIES".

### **OBJECTIVE OF THE AGREEMENT**

This Memorandum of Understanding is for providing eSBM, an ICT Platform for enabling Solid Waste Management in Urban Local Bodies all over the country. Through this platform, a solution for tracking and monitoring all the vehicles engaged in collection and transportation of solid waste will be provided by BSNL in 4041 Urban Local Bodies (ULBs) in the country. Additional Services which can may also be offered by BSNL to supplement the Solid Waste Management handling process more effectively in future if required by respective ULBs at their sole discretion.

### **Now this Memorandum of Understanding witnesseth as follows:**

1. In consideration of the due observance & performance of all the terms and conditions mentioned in this Memorandum of Understanding alongwith Part-I to III attached hereto and forming part of this Memorandum of Understanding, MoUD and BSNL agree to sign this Memorandum of Understanding for enabling provision of eSBM, an ICT Platform for enabling Solid Waste Management in Urban Local Bodies all over the country.
2. This Memorandum of Understanding shall remain in force till 1<sup>st</sup> October 2019 or till such date the Swachh Bharat Mission (Urban) is under implementation (whichever is earlier) from the date of this MoU. This MoU can be extended through mutual consent after the completion of the period on such terms as may be then mutually agreed.

3. MoUD and BSNL hereby agree and unequivocally undertake to fully comply with all the terms and conditions stipulated in the MoU alongwith Part I to III attached hereto and without any deviation or reservations of any kind, unless mutually agreed between the Parties at any given time.
4. BSNL and MoUD hereby agree to develop a model agreement which may thereafter be executed between the concerned ULB/other related entities and BSNL for implementation of the solution as envisaged under this MoU.
5. The laws of India as promulgated/modified/amended or replaced from time to time shall govern this MoU.
6. BSNL shall follow the transparent contract/procurement policy/ies and adhere to the applicable contract/procurement rules.
7. This Memorandum of Understanding shall not be amended or modified or altered or changed in any way except in writing and duly executed by the authorized representatives of each party.
8. This MoU shall be subject to the jurisdiction of the Courts at New Delhi.

In witness where of the parties hereto have caused this MOU to be executed through their authorized representatives on the 21<sup>st</sup> day of March, 2016.



( PRAVEEN PRAKASH )

Joint Secretary & Mission Director (SBM)

Ministry of Urban Development, Govt. of India.



(SUJATA TAPAN RAY)

Director (HR & Finance)

BSNL Board, New Delhi.

In presence of:

1. Mr Saurabh Jain  
Dy Secretary (SBM)  
MoUD, Govt. of India.



21.3.16

2. Mr Rajesh Kumar  
Sr General Manager (NB)  
BSNL Corp Office, New Delhi.



21/3/16



## PART- I

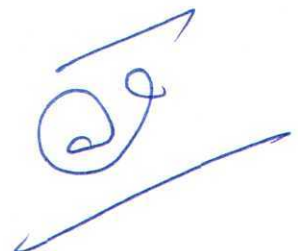
### Scope of Work

As part of this agreement, following services shall be provided by BSNL to the 4041 ULBs all over the country.

**Vehicle Tracking & Monitoring System** through e SBM- an ICT Platform for enabling effective reporting, monitoring and control of following activities through innovative Web application.

- a) Monitoring of fleet status by vehicle tracking system (GPS based).
  - b) MIS for waste collection and transportation.
  - c) Real time SMS delivery for vehicle breakdown and maintenance.
  - d) Transparency in civic Administration.
- **Additional Services** may also be offered by BSNL to supplement the Solid Waste Management handling process more effectively in future if required by respective ULBs at their sole discretion.

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## PART- II

### Commercial Terms & Conditions

#### A. Service Charges

- i) Service charge for providing solution for Vehicle Tracking & Monitoring based on an ICT platform for enabling Solid Waste Management in Urban Local Bodies on per vehicle per month basis

- INR 1500.00

Service Tax and other taxes will be charged extra as per actual. The present rate of Service Tax is 14.5%.

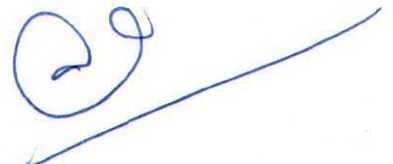
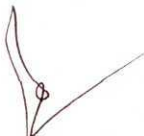
#### B. Payment Terms

- i) Since the solution will be implemented on OPEX model without any payment of CAPEX which will be required upfront, the payment of service charges will be made in advance for the first year of the operation. Thereafter, advance payments will be made on half yearly basis. The service will be stopped by BSNL if the advance payment is not made in time by any ULB.
- ii) The service charges for the operation of the ICT Solution during the 1<sup>st</sup> year in all the smaller ULBs where the number of vehicles are less than 100 will be paid in advance centrally from a single point in each state and BSNL will enter into a Single Group agreement with each State Government for all smaller ULBs in that state in place of separate agreements with each such smaller ULBs. MoUD will help BSNL (on a best effort basis) in making Group agreements centrally with smaller ULBs of each state and will advise the state govts. accordingly.
- iii) The advance payments to BSNL will be settled on the basis of digital/online records provided by the eSBM platform. In order to ensure the continuation of services without any interruption, the advance payment of the next half year block will be released by the ULBs / State Govt. (In case of group of smaller ULBs) before the end of preceding annual / half year block.
- iv) In order to have smooth operation of the system, MoUD will assist (on a best effort basis) in ensuring the timely release of advance payment to BSNL from ULBs during the entire period of the agreement.
- v) The service charge per vehicle per month will be revised after the validity period of this MoU (as defined in para 2 of the main part of MoU) as per mutual agreement.
- vi) In case of any willful damage/sabotage to the Vehicle Tracking Devices by the ULB staffs or any third party, a suitable replacement charge for each VTS will be required to be paid by the ULB as indicated in the Model Agreement at Annexure I.



**C. Other Terms and conditions:**

- i) MoUD will strive to ensure (on a best effort basis) that all the 4041 ULBs enter into agreement (in line with model agreement) with BSNL for this work. BSNL will sign separate agreements with all those ULBs where number of vehicles are more than 100 and a common group agreement with a state level Nodal office like State Mission Directorate for all the smaller ULBs in a state where numbers of vehicles are less than 100. The agreement between BSNL and individual ULB (or State Govt. for a group of smaller ULBs in a state) will be signed in the format enclosed herewith as Annexure-I to this MoU.
- ii) The eSBM ICT platform will be ready for launch within 60 days of signing of the agreement with respective ULB. Go-live of the solution including mapping of routes, installation of hardware devices in vehicles etc. will done within next 30 to 60 days depending upon the number of vehicles in a particular ULB.
- iii) In case of any non-compliance to the process laid down for smooth operation of the system by the ULB staff, BSNL will not be responsible for the shortfall in performance or in the MIS reports.
- iv) The maintenance and support for all the hardware devices & Software / Apps will be the responsibility of BSNL during the period of agreement.
- v) In the 1<sup>st</sup> phase, roll-out will be done in the major 75 cities for which the list is already provided by MoUD. Roll-out in the Cities/Town/Urban areas beyond the above 75 cities will be done in the 2<sup>nd</sup> phase after completing the implementation works of the 1st phase.
- vi) BSNL will provide the names & contact details of its Nodal Officers in each city for smooth coordination in implementation and operation of the system. Similarly, each ULB will also nominate a nodal officer on their behalf.
- vii) BSNL will provide adequate (Min. one day) training to each user of the system (Mobile and Web users) in a batch size of 30 – 50 persons. Nodal Officers of the ULBs (Admin) will be also imparted training to ensure that he can independently manage the Web Portal and can perform the function of taking out reports, user management, area management etc. These trainings shall be provided at BSNL's own cost however, ULBs ensure presence of users at a mutually convenient location and date)
- viii) BSNL will provide a help desk support (on toll free phone number basis) on all working days between 9 AM to 6 PM for providing IT and technical support whenever required by ULBs.
- ix) **Suspension, Revocation, Termination**
  - (a) Either party reserves the right to suspend the operation of the services under this MoU, at any time, due to change in its own license conditions or upon directions from the competent government authorities. Further, the suspension of the MoU will not be a cause or ground for extension of the period of the MoU and suspension period will be taken as period spent.
  - b) Breach of non-fulfillment of MoU conditions may come to the notice of either party through complaints or as a result of the regular monitoring. Wherever considered appropriate either party may conduct an inquiry either suo-moto or on complaint to determine whether there has been any breach in compliance of the terms and conditions of the MoU by the other party or not. Other party shall extend all reasonable facilities and shall endeavour to remove the hindrance of every type upon such inquiry.





- c) On expiry of the agreement, the ULB shall ensure the clearance of outstanding dues if any which is liable to be paid to BSNL. In case of failure to pay the amount of dues to BSNL, the outstanding amount shall be realized through pending bills dues from ULB if any under this agreement or any other agreement with BSNL and ULB without prejudice to any other actions for recovery of amount due to BSNL.

**x) Dispute Settlement**

- (a) In the event of any disputes, controversies or claims arising out of or in connection with this Agreement / MoU or the breach, termination or invalidity thereof the parties shall at first instance endeavor to amicably resolve/ reconcile by mutual discussion / reconciliation in good faith. If the dispute, difference, controversies / differences of opinion, breaches and violation arising from or related to the agreement cannot be resolved within 60 (sixty) days of commencement of reconciliation / discussions, in such case, the same shall be finally referred by either party to the arbitration to one of the Arbitrators in the Department of Public Enterprises to be nominated by the Secretary to the Government of India, in charge of Bureau of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to the Arbitration under this clause. The award of the Arbitrator shall be binding upon both the parties, provided, however, any Party aggrieved by such award may make a further reference for setting aside on revision of award to the Law Secretary, Department of legal Affairs, Ministry of Law & Justice, Government of India. Upon such reference, the dispute shall be decided by the Law Secretary, whose decision shall bind the parties finally and conclusively. The parties in the dispute will share equally the cost of arbitration as intimated by the Arbitrator.
- (b) The venue of the arbitration proceeding shall be New Delhi.

**xi) Force-Majeure**

If at any time, during the continuance of this MoU, the performance in whole or in part, by either party, of any obligation under this is prevented or delayed, by reason of war, or hostility, acts of the public enemy, civic commotion, sabotage, Act of State or direction from Statutory Authority, explosion, epidemic, quarantine restriction, strikes and lockouts, fire, floods, natural calamities or any act of God (hereinafter referred to as event), provided notice of happenings of any such event is given by the affected party to the other, within 21 Calendar days from the date of occurrence thereof, neither party shall, by reason of such event, be entitled to terminate the MoU, nor shall either party have any such claims for damages against the other, in respect of such non-performance or delay in performance. Provided Service under the MoU shall be the resumed as soon as practicable, after such event comes to an end or ceases to exist. The term of this MoU shall be extended corresponding to the period of force majeure event.

**xii) Indemnification**

Both Parties agree to protect, defend indemnify and hold harmless the other party and its employees, officers, directors, agents or representatives from and against any liabilities, damages, fines, penalties and costs (including legal costs and disbursements) arising from or relating to:

- (a) Any breach of any statute, regulation, direction, orders or standards from any governmental body, agency, Urban Local Bodies, telecommunications operator or regulator applicable to such party.
- (b) Any breach of the terms and conditions in this MoU by BSNL or MoUD.
- (c) Any claim of any infringement of any intellectual property right or any other right of any third party or of law by MoUD or BSNL as attributable to the party's role in services herein.

- (d) Any claim made by any third party arising out of the use of the services and arising in connection with interruptions or degradations of service caused.
- (e) Any breach or non-performance or of any of its undertaking, warranty or obligation under this Agreement including any loss or damage or claims due to any compromise in data integrity and such lapse directly attributed to the fraud , negligence or willful misconduct.

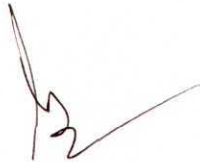
This clause shall survive the terminations or expiry of this Agreement.

**xiii) SLA**

The solution shall be designed to ensure a System Availability of 95% measured over a quarter (Systems / sub-systems shall not be down for more .than 108 hours in a quarter.) Scheduled backup and other recovery functions will be taken into account while designing the system.

Detailed SLA and related compensation / damages shall be as per the model agreement format at Annexure - I.

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## PART- III

### Functional Requirements

BSNL will develop advanced solution for Concerned ULB using latest web and mobile technologies in such a manner so that it is **quickly** implementable, easily configurable, modular, flexible to adopt changes, scalable and cost effective.

The solution will broadly comprise of following:

#### 1) **Vehicle tracking system**

- a) The System shall have functionality for monitoring of status of various types of vehicles used for garbage collection like dumpers/ tippers etc.
- b) Shall provide real time reports of fleet in operation, history, route taken, deviation from route and trip reports etc.
- c) The system shall be able to track the vehicle live and replay.
- d) The system shall be able to monitor route deviations and delays.
- e) The system shall be able to provide trip times for a vehicle/ route.
- f) The system shall help to create control mechanisms to help supervisors control movement of vehicles.
- g) The system shall be able to provide distance travelled by a vehicle in a day.
- h) VTS system allows the vehicles to be fully monitored right when starting from depot/ parking, when on road, when at collection points, when at disposal sites and when at queues.
- i) The system will be able to accept vehicle breakdown related issues on SMS.
- j) System will accept SMS only from the authorised user configured on the system. SMS format will be defined in the system and user will be trained to sent the SMS in the specified format only.
- k) The system will be able to accept vehicle break down issues on web by the officials.
- l) It will be able to forward the issues to the appropriate officials to enable them to make alternate arrangements/ sending support for repair.
- m) The portal will provide comprehensive information through intuitive GUI to citizens regarding overall status of the solid waste management in their cities.
- n) Information regarding status of solid waste disposal statistics, vehicle deployed trips made, route followed will be shown through the portal.

#### 2) **Mobile Application for ULB staff (Optional) – Suggested functional requirements**

- a) This mobile application shall be used by dumper vehicle drivers/staff for various tasks.
- b) The application will have facility to sending 'start of trip' messages and sending 'end of trip' messages as required.
- c) The application will also have facility for reporting breakdowns of vehicles.
- d) The application will have facility for sending photographs before and after lifting the solid waste from bins.
- e) App will also provide facility to report weight of the waste handled through the app.

#### 3) **Citizen Portal (Optional) – Suggested functional requirements**

- i) **Complain Management System:** Complaint booking, rating, locating garbage collectors/Dumpers, contacting officers etc. **Citizen mobile app** for Complaint booking, rating, locating garbage collectors/Dumpers, contacting officers etc.



**The citizen complaint management System have following features:**

Complaint registrations on the web along with photo upload.

- a) Complaint will be register-able over SMS also by sending a predefined formatted SMS to a short code or long code.
- b) Citizen will be able to view all their complaints with status of resolution through the same interface on portal. Facility to filter complaints based on different criteria will also be there.
- c) Citizen will be able to view the contact details of official dealing with his complaints and hierarchy of his higher ups, so that he can raise the issue at next higher level if he wishes or finds any issues with the resolution.
- d) Portal will facilitate star rating by the citizens on each complaint on quality of resolution, time taken, officer's response, overall satisfaction etc.
- e) System shall allot a unique identification number to each complaint. The ID shall comprise of city code and a unique serial number.
- f) Login based on portal registration, social media like facebook, twitter etc.
- g) Portal to have its pages on social media like facebook and twitter.
- h) The system will be able to automatically route the Complaints to the officials concerned.
- i) The system will have system to escalate complaints to the next level in case the complaints are not attended in defined time.
- j) The system will be able to send complaint resolution updates to citizens and management.
- k) The system will have a module for call centre. It should have a facility to search for the complaints, forward the complaints to persons concerned and provide status of complaints to the callers.
- l) The system will have module to show performance of various officers like best officers, worst officers etc.
- m) The system will be able to provide a detailed dashboard of complaints.
- n) The system will have provision to mark certain mobile numbers as privileged.
- o) The system will have capability to change the complaint jurisdictions online.
- p) The system shall have an administration interface which will be used by officers to view, update and attend complaints.
- q) The officers will be able to update the status of a complaint in system or close it when attended.
- r) System will be able to provide updates regarding complaints to citizens on SMS and email.
- s) System will have facility to return non-related complaints and forward the complaints to other officers if desired.

**ii) Transparency Portal**

- a) Complaints lodged and attended, Complaint resolution time, Rating of the complaint resolution quality etc must be shown through the transparency portal to the citizens.
- b) Facility of subscribing SMS/Email based alerts to the citizens on different events may also be provided to the citizens.
- c) It must also provide facility to notify important News, Announcements etc to the citizens through Portal and integrated social media like facebook, twitter etc.

**4) Central Platform**

It will comprise of Server, Storage, Networking, Security, Load Balancer, Internet/MPLS Bandwidth etc.

**5) Central Portal** for the MoUD and various ULBs for monitoring and management of all activities.

This portal will be the core of the eSBM platform as it will facilitate enablement and management of the entire user base of the system across the country.



This portal will be able to provide creation/modification/deletion of different types of users viz. Super Admins, Admins and others. Secured access facility shall be provided on the portal to these users. All requisite security measures to prevent unauthorized access, password hacking etc needs to be enforced by the system. The system shall show a comprehensive dashboard to show overall situation of the City with intuitive tables/graphs showing

- a) Garbage cleaning status.
- b) Garbage lifting status.
- c) Dumpers/tippers in operations.
- d) Quantity of solid waste disposed in dumping sites.
- e) Route maps.
- f) Complaints (optional).
- g) Rating of services by citizens (optional).
- h) There will be a facility to drill down to detailed reports level.
- i) Waste generated and handled – definable periodicity like day month etc.
- j) Waste transported by a particular vehicle, routes taken, deviations etc on Map and list based interface.
- k) Waste handled by disposal sites in daily, weekly etc. Periodicity.
- l) Report of staff attendance (optional).
- m) Reports related to complaints like long pending complaints, areas with best services, areas with worst services etc. (optional).
- n) Reports related to complaint redressal – like average time of attending a complaint, type of complaint received most, most complaints received from area etc. (optional).

This central portal will be provisioned by BSNL for use by MoUD / concerned ULB and other related entities within 30 calendar days of go-live of the first instance of implementation of this service at a ULB. Such provision shall be done on a no-cost basis. The functional requirements of this central portal would be mutually agreed between MoUD and BSNL.

#### 6) Role of City / ULB Admin:

- a) Populate master databases as required e.g. mapping of wards etc. using Excel sheets/ GUI forms.
- b) Populate data of ULB staff, field workers, supervisors, solid waste management vehicle, drivers etc.
- c) Create hierarchy of incident escalation with timelines.
- d) Create user accounts of the ULB officials for accessing Portals and rights of use of mobile apps.
- e) Will be able to reset / Change Password etc. of users under own department.
- f) View City Dashboards and reports.
- g) View SMS Usage reports.
- h) Can Broadcast bulk SMS to the target users, staff etc.

#### 7) Role of Super Admin at the national level.

The following facilities shall be provided by the system to super admin (rights to be given as requested by MoUD):

- a) Top level administrator with all privileges.
- b) Can add/modify cities (Urban Local Bodies).
- c) Set events on which SMS/ Email shall be triggered.
- d) Add and manage new polls/ surveys.
- e) Send SMS/Email notifications to ULBs.
- f) View and delete logs.

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**AGREEMENT**

**BETWEEN**

**BHARAT SANCHAR NIGAM LIMITED**

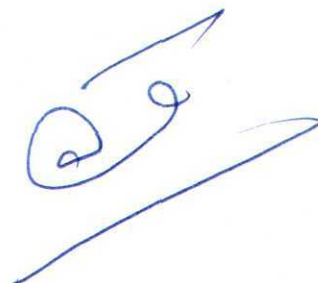
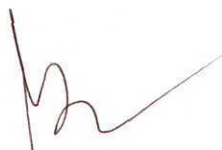
**AND**

-----  
**(NAME OF ULB OR NODAL AUTHORITY FOR A GROUP OF ULBS.)**

**FOR**

**PROVIDING eSBM PLATFORM FOR SOLID  
WASTE MANAGEMENT IN**

-----  
**(NAME OF ULB OR STATE)**





**Agreement between BSNL and----- (Name of ULB/ Nodal Authority for a Group of ULBs) for providing eSBM Platform for Solid Waste Management in---- (Name of City/ Town/State) Urban Local Body/Bodies**

This agreement is signed on day of 2016 by and between ----- (Name of ULB / Nodal Authority for a group of smaller ULBs) (hereinafter called ----- which expression shall unless repugnant to the context include its successors in Government, business administrators and assigns or legal representative) of the FIRST PARTY"

AND

BHARAT SANCHAR NIGAM LIMITED, a Company registered under the Companies Act 1956 having its Registered Office at Bharat Sanchar Bhawan, Harish Chandra Mathur Lane, Janpath New Delhi-110001 (hereinafter called BSNL which expression shall, unless repugnant to the context includes its successor in business, administrators, liquidators and assigns or legal representatives) of the SECOND PARTY.

**Objective of the Agreement:**

BSNL and MoUD have signed an enabling MoU vide no. \_\_\_\_\_ dated: \_\_\_\_\_ whereby BSNL has been entrusted with the responsibility of providing eSBM platform for monitoring of Solid Waste Management at ULB level across the country. This agreement is for providing eSBM, an ICT Platform for enabling Solid Waste Management in..... (Name of ULB/State). Through this platform, a solution for tracking and monitoring of all the vehicles engaged in collection and transportation of solid waste on an exclusive basis will be provided by BSNL in..... (Name of ULB/ Group of ULBs in a state). Additional services such as monitoring of point to point solid waste collection through smart phone and citizen complaint management and its redressal through SMS, Web portal and Mobile Apps will be also provided by BSNL (at ULB's option) to supplement the solid waste management handling process more effectively.

**Now this Agreement witnesseth as follows:**

1. In consideration of the due observance & performance of all the terms and conditions mentioned in this agreement the Part-I to III and forming part of this agreement, BSNL and ..... (Name of ULB / Nodal Authority for a group of smaller ULBs) agree to sign this agreement for providing eSBM, an ICT Platform for enabling Solid Waste Management in Urban Local Body/Bodies.



2. This Agreement shall remain in force till 1st October 2019 or till such date the Swachh Bharat Mission (Urban) is under implementation (whichever is earlier) from the date of this Agreement. This Agreement may be extended through mutual consent after the completion of the period on such terms as may be then mutually agreed.
3. .... (ULB/Nodal Authority of a group of ULBs in a state) and BSNL hereby agree and unequivocally undertake to fully comply with all the terms and conditions stipulated alongwith Part I to III and without any deviation or reservations of any kind, unless mutually agreed in writing between the Parties at any given time.
4. The laws of India as promulgated/modified/amended or replaced from time to time shall govern this agreement.
5. BSNL shall follow transparent contract/procurement policies and adhere to the contract /procurement rules as may be applicable from time to time.
6. This agreement shall not be amended or modified or altered or changed in any way except in writing and duly executed by the authorized representatives of each party.
7. This Agreement shall be subject to the jurisdiction of the courts at..... (Name of the City/Town).

In witness where of the parties hereto have caused this agreement to be executed through their representatives authorized on the --- day of 2016.

**Representative of**  
..... (Name of ULB/ Nodal Authority in a State

**Representative of**  
.... (Name of BSNL Circle/ Unit)

**In presence of:**

1)

2)





## PART-I

### Scope of Work

Complete eSBM platform is offered on Software as a Service (SaaS) model to the ULBs. At ULB level, VTS devices will be installed on the Solid Waste disposal vehicles. All other activities i.e. configuration, management, monitoring, reporting etc shall be through the secured Portals provided on eSBM platform. As part of this agreement, following services shall be provided by BSNL to the ----- (Name of ULB/ Group of ULBs in a State).

1. **Vehicle Tracking & Monitoring System** through eSBM - an ICT Platform for enabling effective reporting, monitoring and control of following activities through innovative Web application.
  - a) Monitoring of fleet status by vehicle tracking system (GPS based):- Each waste disposal truck will be fitted with the SIM based Vehicle Tracking Device by BSNL. User accounts will be created on the eSBM Portal for the ULB using which they will be able to monitor the fleet status, routes followed, distance travelled, halts etc. BSNL's eSBM platform will provide all the facilities using which ULBs can do activities like Management of data of wards, areas, vehicles, officers, Lodging tickets for VTS faults, view resolution status etc which will be required to run the system. Necessary backend infrastructure viz Servers, Storage, Internet bandwidth etc shall be provisioned and managed by BSNL at its central data center to host the system for the ULB/ULBs.
  - b) MIS for waste collection and transportation:- BSNL will provide suitable web forms and applications on eSBM platform to gather waste collection and transportation data from the field staff/waste disposal points of ULBs. Facility to submit waste collection report through SMS shall also be provided
  - c) Real time SMS delivery for vehicle breakdown and maintenance:- ULB staff will be provided facility to send vehicle breakdown report through SMS also. eSBM platform will provide facility to auto forward the report to pre-defined numbers for taking necessary action
  - d) Transparency in civic Administration:-eSBM Portal will also provide a public web portal which can be accessed by the citizens of the city to view the garbage cleaning reports, Vehicles in operations, Waste handling statistics etc.

Detailed scope of work shall be as per Part-III.




**Optional services (to be excluded in case an ULB is not desirous of the same):**

**Additional Services** which will also be provided by BSNL to supplement the Solid Waste Management handling process more effectively will be as under:

2. Mobile application for providing additional features (taking photos of BIN before waste collection and after cleaning with Geo Location, Waste Quantity reporting, Attendance etc) for effective monitoring and control of point to point (Bin-Wise) solid waste collection.
3. Citizen complaint management & its redressal system alongwith citizen portal for providing complete transparency in civic administration.

Detailed scope of work shall be as per Part-III.

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## PART-II

### Commercial Terms & Conditions

#### A. Service Charges

Service charge for providing an ICT platform for enabling Solid Waste Management Urban Local Bodies on per vehicle per month basis will be as under:

- |   |   |            |
|---|---|------------|
| a) Charges for providing simple Vehicle Tracking System (VTS)   | - | Rs 1500.00 |
| b) Charges for providing additional features (Android Mobile app to capture BIN images before and after cleaning with Geo Tagging, Waste quantity reporting, staff attendance etc) with the help of smart phone (Optional). | - | Rs 83.00   |
| c) Charges for providing citizen Complaint Management & its redressal with the help of SMS, web portal & Mobile Apps(Optional).   | - | Rs 83.00   |

Service Tax and other taxes will be charged extra as per actual. The present rate of Service Tax is 14.5%.

#### B. Mobile Handset (Optional item )

Unit Rate – Rs. 8000 to Rs 20,000 depending on Make and Model.

#### C. Payment Terms

- i) Since the solution will be implemented on OPEX model without any payment of CAPEX which will be required upfront, the payment of service charges will be made in advance for the first year of the operation. Thereafter, advance payments will be made on half yearly basis. The service will be stopped by BSNL if the advance payment is not made in time by ----- (Name of ULB/Nodal Authority of the State ).
- ii) The advance payments to BSNL will be settled on the basis of digital/online records provided by the eSBM platform. In order to ensure the continuation of services without any interruption, the advance payment of the next half year block will be released by the ULBs / State Govt. (In case of group of smaller ULBs) before the end of preceding annual / half year block.
- iii) The service charge per vehicle per month will be revised suitably after the initial duration of the Agreement (as per para 2 of the agreement) with the ULB/ Group of ULBs on mutually agreed price.

- iv) The GPS or any other device provided under this agreement shall be covered under warranty during the tenure of this agreement and BSNL shall be responsible to make good the manufacturing defects and malfunctioning of these devices, however, willful tampering of the device like water damage, physical damage (breaking of GSM/GPS antenna, wire harness cutting/damage etc) by the ULB staff or any other third party is not covered under warranty. If any issue arises/happens with the device during the tenure of this agreement due to physical tampering and water damage, the Cost for such repair will have to be paid by the <name> ULB at actuals. In case the device is totally damaged beyond repair, the Cost for the device replacement will be Rs.10,000/-+Taxes.
- v) The <name> ULB will return back the devices in running condition after the expiry of the period of Contract. The Cost of repair of all devices which are Non-Functional/Damaged after the Expiry of Agreement period has to be paid by the <name> ULB as per the above rates.

**D. Other Terms and conditions.**

- i) The above service charge per vehicle per month has been worked out considering the following.

*Minimum committed period of agreement with each ULB for 3 years and will be counted from the date of signing of the agreement.*

- ----- (Name of ULB/State) will provide BSNL the list and details of the vehicles in their City/Town/Group of Town & Urban Areas within 15 days of signing of agreement.
- BSNL will provide SIM card in the device of each vehicle with appropriate data plan.

- ii) The eSBM ICT platform will be ready for launch within 75 days of signing of the enabling MoU with MoUD. Go-live of the solution for <ULB name> including mapping of routes, installation of VTS devices in vehicles etc. will done within next 30 to 60 days depending upon the number of vehicles in the ULB.

- iii) In case of any non-compliance to the process laid down for smooth operation of the system by the ULB staff, BSNL will not be responsible for the shortfall in performance or in the MIS reports.

- iv) If ULB opts for Mobile app for Waste collection reporting etc then BSNL offers to supply Mobile Handsets with following broad specification for the ULB staffs engaged in Solid Waste Disposal.

- GSM SIM, 3G, Wi-Fi.
- Quadcore, 1.2 GHz processor.
- 1 GB RAM, 8GB inbuilt memory.
- 4.5 inches, 480 X 800 PX display.
- 5 MP Camera with Flash, 2 MP front camera.
- 2000 mAH Battery.
- In-built GPS.
- Memory Card supported upto 32GB.





- Rugged and sturdy design with impact proof (in normal working condition of ULB staffs) and water resistant (In rainy season) features in order to provide trouble free service in the hands of ULB staffs involved in Solid Waste Management/handling.
- One year warrant.

The ULBs may, at their **option**, get the above handsets from BSNL at the quoted price.

- v) The maintenance and support for all the hardware devices & Software / Apps will be the responsibility of BSNL during the period of agreement.
- vi) BSNL will provide the names & contact details of its Nodal Officers for smooth coordination in implementation and operation of the system. Similarly, the ULB will also nominate a nodal officer on their behalf.
- vii) BSNL will provide adequate (Min. one day) training to each user of the system (Mobile and Web users) in a batch size of 30 – 50 persons. Nodal Officers of the ULBs (Admin) will be also imparted training to ensure that he can independently manage the Web Portal and can perform the function of taking out reports, user management, area management etc. The cost of the training shall be borne by BSNL.
- viii) BSNL will provide a help desk support (on a toll free phone basis) on all working days between 9 AM to 6 PM for providing IT and technical support whenever required by the ULBs.

**ix) Suspension, Revocation or Termination**

- (a) Either party reserves the right to suspend the operation of the services under this MoU, at any time, due to change in its own license conditions or upon directions from the competent government authorities. Further, the suspension of the MoU will not be a cause or ground for extension of the period of the MoU and suspension period will be taken as period spent.
- b) Breach of non-fulfillment of MoU conditions may come to the notice of either party through complaints or as a result of the regular monitoring. Wherever considered appropriate either party may conduct an inquiry either suo-moto or on complaint to determine whether there has been any breach in compliance of the terms and conditions of the MoU by the other party or not. Other party shall extend all reasonable facilities and shall endeavor to remove the hindrance of every type upon such inquiry.
- c) On expiry of the agreement, the ULB shall ensure the clearance of outstanding dues if any which is liable to be paid to BSNL. In case of failure to pay the amount of dues to BSNL, the outstanding amount shall be realized through pending bills dues from ULB if any under this agreement or any other agreement with BSNL and ULB without prejudice to any other actions for recovery of amount due to BSNL.

**x) Dispute Settlement**

- a) In the event of any disputes, controversies or claims arising out of or in connection with this Agreement / MOU or the breach, termination or invalidity thereof the parties shall at first instance endeavor to amicably resolve/ reconcile by mutual discussion / reconciliation in good faith. If the dispute, difference, controversies / differences of opinion, breaches and violation arising from or related to the agreement cannot be resolved within 60 (sixty) days of commencement of reconciliation / discussions, in such case, the same shall be finally referred by either party to the arbitration to one of the Arbitrators in the Department of public



Enterprises to be nominated by the Secretary to the Government of India, in charge of Bureau of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to the Arbitration under this clause. The award of the Arbitrator shall be binding upon both the parties, provided, however, any Party aggrieved by such award may make a further reference for setting aside on revision of award to the Law Secretary, Department of legal Affairs, Ministry of Law & Justice, Government of India. Upon such reference, the dispute shall be decided by the Law Secretary, whose decision shall bind the parties finally and conclusively. The parties in the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

b) The venue of the arbitration proceeding shall be ----- (Relevant State capital).

**xi) Force-Majeure**

If at any time, during the continuance of this agreement, the performance in whole or in part, by either party, of any obligation under this is prevented or delayed, by reason of war, or hostility, acts of the public enemy, civic commotion, sabotage, Act of State or direction from Statutory Authority, explosion, epidemic, quarantine restriction, strikes and lockouts, fire, floods, natural calamities or any act of God (hereinafter referred to as event), provided notice of happenings of any such event is given by the affected party to the other, within 21 Calendar days from the date of occurrence thereof, neither party shall, by reason of such event, be entitled to terminate the agreement, nor shall either party have any such claims for damages against the other, in respect of such non-performance or delay in performance. Provided Service under the agreement shall be the resumed as soon as practicable, after such event comes to an end or ceases to exist. The term of this agreement shall be extended corresponding to the period of force majeure event.

**(xii) Indemnification and Limitation of Liability**

Both parties agree to protect, defend indemnify and hold harmless the other party and its employees, officers, directors, agents or representatives from and against any liabilities, damages, fines, penalties and costs (including legal costs and disbursements) arising from or relating to:

- a) Any breach of any statute, regulation, direction, orders or standards from any governmental body, agency, ULB, telecommunications operator or regulator applicable to such party.
- b) Any breach of the terms and conditions in this agreement by BSNL or ULB.
- c) Any claim of any infringement of any intellectual property right or any other right of any third party or of law by ULB or BSNL as attributable to the party's role in service herein.
- d) Any claim made by any third party arising out of the use of the services and arising in connection with interruptions or degradations of service to BSNL's customers caused solely by ASP.
- e) Any breach or non-performance or of any of its undertaking, warranty or obligation under this Agreement including any loss or damage or claims due to any compromise in data integrity and such lapse directly attributed to the fraud, negligence or willful misconduct.

This clause shall survive the terminations or expiry of this Agreement.





The liability of BSNL (whether in contract, tort, negligence, strict liability in tort, by statute or otherwise) for any claim in any manner related to this Agreement, including the work, deliverables or Services covered by this Agreement, shall be the payment of direct damages only which shall in no event in the aggregate exceed one (1) times average annual fees payable under this Agreement calculated over a reasonable period of months before the cause of action arose with respect to the work involved under the applicable Schedule/Annexure. The liability cap given under this Clause shall not be applicable to the indemnification obligations set out in earlier clauses.

In no event shall either party be liable for any consequential, incidental, indirect, special or punitive damage, loss or expenses (including but not limited to business interruption, lost business, lost profits, or lost savings) nor for any third party claims even if it has been advised of their possible existence.

The allocations of liability in this Section represent the agreed and bargained-for understanding of the parties and compensation for the Services reflects such allocations. Each Party has a duty to mitigate the damages and any amounts payable under an indemnity that would otherwise be recoverable from the other Party pursuant to this Agreement by taking appropriate and commercially reasonable actions to reduce or limit the amount of such damages or amounts.

**(xiii) SLA**

- a. The e-SBM platform uptime will be more than 95% (measured on quarterly basis- Systems/ sub-systems shall not be down for more than 108 hours in a quarter). Uptime shall be calculated in the following manner.

$$\% \text{ Uptime} = (\text{Total uptime} / (\text{Total time} - \text{planned downtime})) * 100$$

If the above SLA is not maintained, penalty equivalent to the 2% of the payment due in the quarter shall be imposed on BSNL. Any complaint relating to the system/VTS device etc. has to be attended by the BSNL within 72 hours of the reporting, failing which a penalty at the rate of 0.5% per day of the charge payable per vehicle per month (with faulty device) will be recovered by ULB.

- b. Fault reporting Mechanism :

BSNL will provide a fault logging portal to ULB through which they can raise trouble ticket describing the fault. Each trouble ticket will have unique no and date and time. BSNL will attend the fault and report through the portal and Email/SMS alert to the ULB official. From this portal, SLA status can be viewed and monitored.

(xiv) **Project Plan and Governance Mechanism:**

**a. Project Plan and timelines:**

S. No.	Task	Responsibility	Time
1.	Signing of agreement between ULB/Nodal Authority for group of smaller ULBs and BSNL and release of Annual advance by ULB/ Nodal Authority to BSNL.	BSNL/ ULB	T0
2.	Nomination of Nodal officers by BSNL and ULB. Arrange initial stakeholder meeting (kick-off meeting) with BSNL and ULB ( To discuss modalities)	BSNL/ ULB	T0+3
3.	Provide data related to various areas/ localities in the city for population of system database. Provide data related to vehicles which are to be monitored. Provide staff details of vehicle drivers/ assistants. Provide staff details of persons of ULB who will login to the system	ULB	T0+6
4.	Analyse the provided data and verify its correctness and revert for corrections by ULB.	BSNL/ ULB	T0+8
5.	Populate the system database with the above verified and correct data	BSNL	T0+11
6.	Map City Bins (and route) to the system using BSNL provided mobile app (Send photo and co-ordinates) or the web interface.	ULB	T0+25
7.	Enable the routes in system from back end after due verification	BSNL	T0+28
8.	Create route geofences on different routes	ULB	T0+32
9.	Finalise alert related parameters in consultation with city officers	BSNL	T0+35
10.	Arrange for fixing of VTS devices in vehicles at parking depot or other convenient location	ULB	T0+42
11.	Fix VTS in each vehicle and get it tested at the portal for proper integration (time depends on number of vehicles)	BSNL	T0+40 to 50
12.	Provide a demo of the configured system to ULB officers	BSNL/ ULB	T0+45
13.	Impart Training to ULB officers	BSNL	T0+40
14.	Impart for stakeholder training at BSNL/ ULB location	BSNL/ ULB	T0+45
15.	System go live for ULB	BSNL	T0+60

**b. Governance Mechanism :**

BSNL will appoint dedicated nodal officer for implementing the system and program management at ULB. ULB level nodal officer of BSNL will be reporting to a Circle/State level officer who will be overseeing the project implementation for the entire State. BSNL will also appoint an officer at National level who will be eSBM Project in-charge for entire country. Details of these officials shall be shared with the ULB officials.



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## PART-III

### Technical Details

BSNL will develop advanced solution for ULBs using latest web and mobile technologies in such a manner so that its quickly implementable, easily configurable, modular, flexible to adopt changes, scalable and cost effective.

The solution will broadly comprise of following:

#### 1) Vehicle Tracking System

- a) The System shall have functionality for monitoring of status of various types of vehicles used for garbage collection like dumpers/ tippers etc.
- b) Shall provide real time reports of fleet in operation, history, route taken, deviation from route and trip reports etc.
- c) The system shall be able to track the vehicle live and replay.
- d) The system shall be able to monitor route deviations and delays.
- e) The system shall be able to provide trip times for a vehicle/ route.
- f) The system shall help to create control mechanisms to help supervisors control movement of vehicles.
- g) The system shall be able to provide distance travelled by a vehicle in a day.
- h) VTS system allows the vehicles to be fully monitored right when starting from depot/ parking, when on road, when at collection points, when at disposal sites and when at queues.
- i) The system will be able to accept vehicle breakdown related issues on SMS.
- j) System will accept SMS only from the authorised user configured on the system. SMS format will be defined in the system and user will be trained to sent the SMS in the specified format only.
- k) The system will be able to accept vehicle break down issues on web by the officials.
- l) It will be able to forward the issues to the appropriate officials to enable them to make alternate arrangements/ sending support for repair.
- m) The portal will provide comprehensive information through intuitive GUI to citizens regarding overall status of the solid waste management in their cities.
- n) Information regarding status of solid waste disposal statistics, vehicle deployed trips made, route followed will be shown through the portal.
- o) GPS based VTS Device provided by BSNL will have following facility:
  - Capability to store off line data for min 2 days @ 30 sec frequency.
  - Internal Battery backup will be min 2 Hrs.
  - Device will be housed in a Water resistant casing.
  - Device will support auto sensing and configuration facility for data sending frequency from device based on the vehicle status viz. For moving vehicle send data @ 30 secs, for stationary vehicle send data @ 5 min interval or so.

#### 2) Mobile Application for ULB staff (Optional Item)

- a) This mobile application shall be used by dumper vehicle drivers/staff for various tasks.
- b) The application will have facility to sending 'start of trip' messages and sending 'end of trip' messages as required.
- c) The application will also have facility for reporting breakdowns of vehicles.



- d) The application will have facility for sending photographs before and after lifting the solid waste from bins.
- e) App will also provide facility to report weight of the waste handled through the app.

### 3) Citizen Portal (Optional Item)

- i) **Complain Management System:** Complaint booking, rating, locating garbage collectors/Dumpers, contacting officers etc. **Citizen mobile app** for Complaint booking, rating, locating garbage collectors/Dumpers, contacting officers etc.

**The citizen complaint management System have following features:**

Complaint registrations on the web along with photo upload.

- a) Complaint will be register-able over SMS also by sending a predefined formatted SMS to a short code or long code.
- b) Citizen will be able to view all their complaints with status of resolution through the same interface on portal. Facility to filter complaints based on different criteria will also be there.
- c) Citizen will be able to view the contact details of official dealing with his complaints and hierarchy of his higher ups, so that he can raise the issue at next higher level if he wishes or finds any issues with the resolution.
- d) Portal will facilitate star rating by the citizens on each complaint on quality of resolution, time taken, officer's response, overall satisfaction etc.
- e) System shall allot a unique identification number to each complaint. The ID shall comprise of city code and a unique serial number.
- f) Login based on portal registration, social media like facebook, twitter etc.
- g) Portal to have its pages on social media like facebook and twitter.
- h) The system will be able to automatically route the Complaints to the officials concerned.
- i) The system will have system to escalate complaints to the next level in case the complaints are not attended in defined time.
- j) The system will be able to send complaint resolution updates to citizens and management.
- k) The system will have a module for call centre. It should have a facility to search for the complaints, forward the complaints to persons concerned and provide status of complaints to the callers.
- l) The system will have module to show performance of various officers like best officers, worst officers etc.
- m) The system will be able to provide a detailed dashboard of complaints.
- n) The system will have provision to mark certain mobile numbers as privileged.
- o) The system will have capability to change the complaint jurisdictions online.
- p) The system shall have an administration interface which will be used by officers to view, update and attend complaints.
- q) The officers will be able to update the status of a complaint in system or close it when attended.
- r) System will be able to provide updates regarding complaints to citizens on SMS and email.
- s) System will have facility to return non-related complaints and forward the complaints to other officers if desired.



ii) **Transparency Portal**

- a) Complaints lodged and attended, Complaint resolution time, Rating of the complaint resolution quality etc must be shown through the transparency portal to the citizens.
- b) Facility of subscribing SMS/Email based alerts to the citizens on different events may also be provided to the citizens.
- c) It must also provide facility to notify important News, Announcements etc to the citizens through Portal and integrated social media like facebook, twitter etc.

4) **Central Platform**

It will comprise of Server, Storage, Networking, Security, Load Balancer, Internet / MPLS Bandwidth etc.

5) **Central Portal** for the GOI and various ULBs for monitoring and management of all activities.


This portal will be the core of the eSBM platform as it will facilitate enablement and management of the entire user base of the system across the country.

This portal will be able to provide creation/modification/deletion of different types of users viz. Super Admins, Admins and others. Secured access facility shall be provided on the portal to these users. All requisite security measures to prevent unauthorized access, password hacking etc needs to be enforced by the system. The system shall show a comprehensive dashboard to show overall situation of the City with intuitive tables/graphs showing

- a) Garbage cleaning status.
- b) Garbage lifting status.
- c) Dumpers/tippers in operations.
- d) Quantity of solid waste disposed in dumping sites.
- e) Route maps.
- f) Complaints (optional).
- g) Rating of services by citizens (optional).
- h) There will be a facility to drill down to detailed reports level.
- i) Waste generated and handled – definable periodicity like day month etc.
- j) Waste transported by a particular vehicle, routes taken, deviations etc on Map and list based interface.
- k) Waste handled by disposal sites in daily, weekly etc. Periodicity.
- l) Report of staff attendance (optional).
- m) Reports related to complaints like long pending complaints, areas with best services, areas with worst services etc. (optional).
- n) Reports related to complaint redressal – like average time of attending a complaint, type of complaint received most, most complaints received from area etc. (optional).

6) **Role of City/ ULB Admin:**

- a) Populate master databases as required e.g. mapping of wards etc. using Excel Sheets/ GUI forms.
- b) Populate data of ULB staff, field workers, supervisors, solid waste management vehicle, drivers etc.
- c) Create hierarchy of incident escalation with timelines.
- d) Create user accounts of the ULB officials for accessing Portals and rights of use of mobile apps.
- e) Will be able to reset / Change Password etc. of users under own department.



- f) View City Dashboards and reports.
- g) View SMS Usage reports.
- h) Can Broadcast bulk SMS to the target users, staff etc.

**7) Role of Super Admin at the national level.**

The following facilities shall be provided by the system to super admin:

- a) Top level administrator with all privileges.
- b) Can add/modify cities (Urban Local Bodies).
- c) Add and manage new polls/ surveys.
- d) Send SMS/Email notifications to ULBs.
- e) View and delete logs.

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