

Minutes of the 50th Meeting of State Level Task Force on Solid Waste Management for discussion on several issues of solid waste management

In the Chair : Director, SUDA

Meeting Date : 2nd March, 2023

Meeting Venue : SUDA Conference Hall (2nd Floor)

Meeting Time : 12 Noon

Meeting Attendees :

➤ List of Members and participants : Annexed

Director, State Urban Development Agency (SUDA) chaired the meeting.

At the outset, he welcomed all the members present and explained the discussion points of the meeting. A threadbare discussion was held regarding the agenda points and following decisions were taken:

1. The Committee noted the minutes of the 1st meeting of the Technical Sub Committee under SLTF held on 20.02.2023 (**copy enclosed**) regarding general guidelines for checking the layout plan of different units of fresh municipal solid waste processing plant and recommended the same for future course of action.
2. The Committee appraised that Sigma Foundation had engaged 70 Programme Coordinators in 33 ULBs and withdrawn their service in phases during January 2023 without paying their remuneration since November 2022. Due to their complete understanding regarding SWM activities of respective ULBs and their service is very much essential for compliance of the directions of Hon'ble NGT and SWM Rules 2016, 32 ULBs are continuing the service of 66 Programme Coordinators till date and requested SUDA to make necessary arrangements for retaining their service and ensure regular payment of remuneration. Though these Programme Coordinators are still continuing the service in their respective ULBs and working satisfactorily, but they are completely demoralized due to non payment of their monthly remuneration since November, 2022 i.e. for 4 months. The attention of the Committee was further drawn to 'THE CONTRACT LABOUR (REGULATION AND ABOLITION) ACT, 1970'.

In Clause-21 (3) & (4) of Chapter-V of page-9 of 'THE CONTRACT LABOUR (REGULATION AND ABOLITION) ACT, 1970', it is mentioned that

- It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the authorised representative of the principal employer.
- In case the contractor fails to make payment of wages within the prescribed period or makes short payment, then the principal employer shall be liable to make payment of wages in full or the unpaid balance due, as the case may be, to the contract labour employed by the contractor and recover the amount so paid from the contractor either by deduction from any amount payable to the contractor under any contract or as a debt payable by the contractor.



As the service of these Programme Coordinators are very much essential in the ULBs for achieving the full cycle end to end scientific management of municipal solid waste activities as per the direction of Hon'ble NGT and SWM Rules, 2016, hence the Committee recommended that considering the above mentioned provisions of the Contract Labour Act, 1970 the monthly remuneration of the Programme Coordinators may be provided to the ULBs from the Capacity Building and A&OE component of SBM (U) since February, 2023 and the pending remuneration from November, 2022 to January, 2023 may be provided through similar arrangement after closure of the contract with Sigma Foundation. The existing Programme Coordinators may be retained in the respective ULBs against the wage of Rs.404 per day (as per Skilled labour wage rate under West Bengal Urban Employment scheme) for 29 days and Rs.3500 as fixed travel allowance per month from Capacity Building and A&OE component of SBM (U).

3. The Committee noted the proposal of KMDA for engagement of 78 Site Supervisors for legacy waste sites of 39 ULBs for 6 to 12 months (upto completion of legacy waste processing) through the Microplanning/ Facilitation Organization of SUDA with following scope of work. :

- Supervision and continuous monitoring of the legacy waste processing at dump sites as stated above.
- Regular monitoring of windrow formation
- Supervision of application of bio culture on windrows
- Churning of windrows at a regular interval of 5-7 days
- Monitoring of temperature and moisture content (equipment for such will be supplied by the agency)
- Monitoring of weighment of stabilized waste to be put to trommel/vibratory screen for processing.
- Checking of weighment of output fractions viz. good earth, inert and RDF
- Maintaining Register of (i) input legacy waste, (ii) output RDF, (III) Inert, (iv) good earth
- Monitoring of disposal of all such output fractions off the sites
- Monitoring of CCTV footages
- Taking GPS tagged photograph and sharing with KMDA Officials on daily basis.
- Regular liaison with the Officials of KMDA, ULB & SUDA
- The manpower engaged at sites shall monitor in two shifts.

It was decided that the wage of Rs.404 per day as per skilled labour wage rate under West Bengal Urban Employment scheme for 26 days in a month may be paid to these Site Supervisors and the payment will be made through voucher.

4. It was decided that Sri Subir Das, Executive Engineer, SUDA will prepare data on plastic waste generation of different ULBs and after that WBPCB will be requested to convene a meeting with plastic resellers.



5. Budge Budge Municipality has informed that Hon'ble NGT has directed to install an Effluent Treatment Plant at their Slaughter House and requested to make necessary arrangements for preparation of DPR and fund. It was decided that the file may be forwarded to KMDA for further action.
6. The discussion was carried out regarding the invitation of 'Request for Proposal' of Integrated Solid Waste Management (ISWM), and the following points were noted and those points were unanimously agreed upon by the Committee.
 - 2(two) types of clauses should be considered while drafting the RfP – namely; Standard Clauses and Specific Clauses
 - Span (in years) of processing of waste to be considered in the tender of ISWM; whether the same is extendable further based on the performance of the concessionaire/agency.
 - Construction of boundary wall and approach road to the ISWM plant/ unit is out of the scope of the bidder.
 - It was also noted that an infrastructure (for plant) may have a life span of 15 years, which will also undergo a depreciation, and all such factors may be accounted for while drafting the RfP.
 - As technological development is inevitable, and therefore, adaptability of the bidders should be enlisted as a clause in the RfP.
 - The number of weigh-bridges should depend upon the generation of daily waste in TPD.
 - Not more than 10 % of the processed waste can be send for landfilling at LFS.
 - The period of Performance Security, for construction tenure and other operational tenure will be considered in RfP.
 - Payment process - output basis or input-basis, or on input-basis however on the exit of fractions.
 - The tipping fee, and the adjustment (increment) parameter: proportional to the increase in inflation rate in India. The tipping fee (evaluated in percentage) may be set based on the Performance Indicator of the bidder.
 - Eligibility criteria of the bidders: (a) Eligibility for processing and removal; (b) JV Criteria. It was suggested that for JV a Joint Bank Account is mandatory.
 - Penalty norms: raising the penalty for the following (i) non-compliance with statutory norms, and (ii) record maintenance. The penalty clause should be considered and incorporated along with and relative to the Key Performance Indicators.
 - In the pre-tender meeting, SD&SWM Sector should mention all the important issues relating to segregation of waste, real-time monitoring system, Third party monitoring system, etc.
 - Engagement of independent engineers (PMC), or in-situ person.

With no other issue for discussion the meeting ended with vote of tanks to and from the chair.


(Supriya Ghosal) 21/3/2023
Director, SUDA

Minutes of the 1st meeting of the Technical Sub Committee of State Level Task Force held at the Conference Room of SUDA, Sector-III, Salt Lake City, Kolkata-106 on 20th February 2023 at 03:30 pm.

Committee Members present:

1. Dr. A. Majumder, Ex. Director- Professor & Head, Sanitary Engineering Department, All India Institute of Hygiene and Public Health
2. Dr. T. Kr. Gupta, Chief Technical Advisor, WBPCB, Govt. of West Bengal
3. Shri B. Das, CE, MEDte., Govt. of West Bengal
4. Shri D. Naskar, SE, SUDA

Dr. A. Majumder, Ex. Director- Professor & Head, Sanitary Engineering Department, All India Institute of Hygiene and Public Health chaired the meeting.

At the outset, he welcomed all the members present and explained the discussion points of the meeting. After threadbare discussion the following decisions were taken:

General Guidelines for Checking the Layout Plan of Different Units of Fresh Municipal Solid Waste Processing Plant:

1. Windrow Composting:

- During aerobic composting in windrow process, microorganisms oxidize organic compounds to carbon di-oxide, nitrite and nitrate. Carbon from organic compounds is used as a source of energy while nitrogen is recycled. Due to exothermic reaction, temperature of the mass in windrows rises.
 - Windrow composting process consists of placing the source segregated organic part of municipal solid waste (MSW) in long narrow pile called windrows that are turned on regular basis for boosting passive aeration. The turning operation also facilitates mixing of composting materials.
 - At thermophilic stage in windrows the following criteria is significant:
 - Moisture: 55 - 60%
 - Temperature: 55° - 65°C
 - Air voids: 20 - 30%
 - Microorganisms: Thermo-tolerant fungi, thermophilic bacteria, actinomycetes etc.
- [Ref: CPHEEO Manual Part II, 2016, Page 227]

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27/02/2023

- Density :- Municipal solid waste (mixed) density may be in the range of 450kgs – 500kgs per cum. (CPHEEO Manual Part II, 2016).

The density of organic and inorganic waste may be as follows considering mixed MSW density range as mentioned above.

- Density of organic MSW: 600 – 700 kg/m³
- Density of inorganic MSW: 300 – 350 kg/m³

2. Compost Pad

The segregated organic (wet) waste is transferred onto the compost pad into the windrows. The compost pad is an area where windrows are stacked. The compost pad must be stable, durable and impervious, so it is constructed with an appropriately designed combination of reinforced cement concrete (RCC) and plain cement concrete (PCC). Compost pad shall have a slope of about 1% to drain the excess water (storm water or leachate) from the windrows into a leachate collection tank.

3. Windrow Formation

The size, shape and spacing of windrows depend on the equipment used for turning. For example, bucket loaders are used to build high windrows, whereas turning machines create low and wide windrows. Manual labor is also used for windrows of a smaller scale, where additional equipment costs and use of machinery are not feasible (CPHEEO Manual 2016, Page 247).

Tentative windrow dimensions are suggested below:

- Windrow Composting Plant receiving organic waste up to 50 TPD:
Base Width: 2.0 m to 2.75 m Height: 1.5 m to 1.75 m
- Windrow Composting Plant receiving more than 50 TPD but less than 100TPD:
Base Width: 2.0 m to 4.0 m Height: 1.5 m to 3.0 m
- Windrow Composting Plant receiving 100 TPD or more:
Base Width: 5.0 m to 8.0 m Height: 2.0 m to 3.0 m

However, height to base width ratio of the windrow depends basically on the angle of repose of the materials. In general, as the average windrow shape is between an oval and trapezoid, a factor of 0.66 is assumed to estimate windrow volume.

Therefore, the equation of windrow volume is:

$$\text{Volume} = \text{Height} \times \text{Width} \times \text{length} \times 0.66. \text{ (Ref: CPHEEO Manual Part II, 2016).}$$

4. Windrow Spacing

The space between windrows should be sufficient for movement of windrow turning machine. Normally it is 1 – 3 meters (CPHEEO Manual, Page 246). However horizontal

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(cross-sectional) and longitudinal spacing may preferably be 2.0 to 3.0 meters to facilitate windrow turning machine to function properly. In case of pay loader movement, longitudinal spacing of windrows may be kept between 4.0 to 5.0 meters.

5. Maturation area

A Space should be kept for maturation of compost. Following guidelines may be considered for construction of maturation area.

- Reduced volume after 21 days compost : 30% of original volume of windrow pad.
- Height of compost in maturation area may be upto 1.5M.
- Area may be confirmed by considering 15 days maturation period.
- Add 20% to 25% additional area for movement of vehicle.
- In general, maturation area will be around 40% of the windrow pad area.

6. Unloading Area / Platform

A space for unloading / platform of organic (wet) waste needs to be provided. There should not be any accumulation of waste in this area.

7. Screening and Packing Area

There must be adequate space for screening and packing of finished compost. It is suggested that a space of 20 to 25 m² / MT can be provided.

8. Total Area of Windrow Compost Plant

Total area of windrow composting plant will comprise of = Total windrow pad area + Clear spacing among windrows + Space for windrow turning machine movement or pay-loader movement + Maturation area + Unloading area / platform + Screening and packing area.

In addition, 10% area may be kept for office, weighbridge installation wash room etc. The above area calculation does not include buffer zone around compost plant.

9. Duration Composting

Duration of composting may be 5 weeks or 35 days (CPHEEO Manual Part II, 2016). In order to minimize land area, compost pads for 20 days may be appropriate. Accordingly, 21st day compost may be kept separately in an ear-marked area for maturation for at least 15 days.

10. Compost Refinement

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At the end of composting phase, the material usually contains 30 – 35 % moisture. The composting is normally taken to be complete when active decomposition stage is over and C/N ratio is around 20.

11. Protection against Rain

The windrow composting plant should be covered with structural shed to be built by installing columns and truss. Structural design calculation with drawing (duly vetted by Engineering Educational Institution) should be submitted before construction.

12. Quality of Organic Compost

In order to ensure safe application of compost, the quality must conform to FCO-2009. (Refer SWM Rules, 2016).

[Appropriate Compost Plant Design and Specification has been incorporated in Annexure 4 of Municipal Solid Waste Management Manual Part III : The Compendium. CPHEEO, Ministry of Urban Development, Government of India].

13. Material Recovery Facility (MRF)

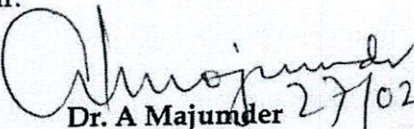
The SWM Rules, 2016 defines 'Material Recovery Facility' (MRF), means a facility where non-compostable solid waste can be temporarily stored by the local body or any other entity mentioned in Rule 2 or any person or agency authorized by any of them to facilitate segregation, sorting and recovery of recyclables from various components of waste by authorized informal sector of waste pickers, informal recyclers or any other work force engaged by the local body or entity mentioned in Rule 2 for the purpose before the waste is delivered or taken up for its processing or disposal.

Depending on the scale of operation and the level of mechanization in the facility, MRFs can be classified as manual or mechanized.

Suggested MRF area may be in the range of 20 m² to 25 m² per MT of dry waste.

The above mentioned guidelines may be placed in the next meeting of State Level Task Force for consideration.

The meeting ended with a vote to thanks to and the chair.


Dr. A Majumder 27/02/2023

Ex. Director- Professor & Head
Sanitary Engineering Department
All India Institute of Hygiene and Public Health

রাজ্য নগর উন্নয়ন সংস্থা
STATE URBAN DEVELOPMENT AGENCY

“ইলগাস ভবন”, এইচসি ব্লক, সেক্টর-৩, বিধাননগর, কলকাতা-৭০০ ১০৬, পশ্চিমবঙ্গ
“ILGUS BHAVAN”, HC Block, Sector - III, Bidhannagar, Kolkata - 700 106, West Bengal

No. SUDA-759/2020/1340 (13)

Date. 22.02.2023

To

1. Sri Supriya Ghosal, Director, SUDA
2. Sri Amit Sarkar, Financial Adviser, UD & MA Department
3. Sri Debapriya Biswas, Additional Secretary, UD & MA Deptt & Additional Director, SUDA
4. Sri Arup Ratan Mukhopadhyay, Additional Secretary (Budget), UD & MA Deptt.
5. Sri Kaushik Das, Secretary, Municipal Engineering Directorates, Govt. of West Bengal
6. Sri Amitava Das, Deputy Director, SUDA
7. Dr. Arunabha Majumder, Ex. Director - Professor & Head, Sanitary Engineering Department, All India Institute of Hygiene and Public Health
8. Dr Tapas Kumar Gupta, Chief Technical Advisor, West Bengal Pollution Control Board
9. Sri Subhasish Chattapadhyay, Chief Municipal Engineer (SWM), Kolkata MC
10. Sri Rajib Sadhu, Chief Engineer, S & SWM, Water & Sanitation Sector, KMDA
11. Sri Biswajit Das, Chief Engineer, Municipal Engineering Directorate
12. Dr Sukhdeb Das, Senior Law Officer, UD & MA Department
13. Sri Dipak Naskar, Superintending Engineer, SUDA

Sub: 50th Meeting of State Level Task Force on Solid waste management regarding several issues of solid waste management scheduled on 27.02.2023 at 01.00 PM in the Conference Hall (2nd Floor) of SUDA

Sir,

This is to inform you that a meeting has been scheduled on 27.02.2023 at 01.00 PM in the Conference Hall (2nd Floor) of SUDA, for discussion on several issues of solid waste management.

You are requested kindly to remain present in the meeting as a member of the committee on the above mentioned date, time and venue.

Yours faithfully


22.02.2023

Additional Director, SUDA

No. SUDA-759/2020/1340(13)/1(3)

Date. 22.02.2023

Copy forwarded for kind information with the request to remain present in the meeting to Sri Biswanath Das, M/s Green House Gas Solution - with the request to make a presentation before the Committee

Pranab
22.02.2023

Additional Director, SUDA

No. SUDA-759/2020/1340(13)/2(4)

Date. 22.02.2023

Copy forwarded for kind information with the request to attend the meeting:

1. Financial Advisor, SUDA
2. Joint Director, SUDA
3. Deputy Director, SUDA
4. Finance Officer, SUDA

Pranab 22-02-2023

Additional Director, SUDA

No. SUDA-759/2020/1340(13)/3(1)

Date. 22.02.2023

Copy forwarded for kind information to P.S. to the Principal Secretary, UD&MA Department, GoWB

Pranab
22-02-2023

Additional Director, SUDA