

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

Principal Bench, New Delhi

In

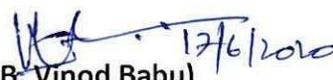
Original Application No. 72/2020

In the Matter of: -

Re: Scientific Disposal of Bio-Medical Waste Arising Out of Covid-19 Treatment-  
Compliance of BMWM Rules, 2016

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(B. Vinod Babu)

Scientist 'E'

Central Pollution Control Board,  
Parivesh Bhawan, East Arjun Nagar,  
Delhi-110032

Place: Delhi

Date: 17<sup>th</sup> June, 2020

**Consolidated Status Report in the matter of O.A. NO. 72 of 2020 In re: Scientific Disposal of Bio-Medical Waste arising out of Covid-19 treatment - Compliance of BMWM Rules, 2016 before Hon'ble National Green Tribunal, Principle Bench, New Delhi**

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**1. Background**

Hon'ble National Green Tribunal in O.A. No. 72 of 2020, heard the matter related to "Scientific Disposal of Bio-Medical Waste arising out of Covid-19 treatment - Compliance of BMWM Rules 2016" on 20.05.2020. In the said hearing Hon'ble Tribunal interacted with Member Secretary and perused the guidelines prepared by CPCB for "Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients". In its hearing, Hon'ble Tribunal emphasized the need for addressing safety of waste handlers, monitoring of burial pits, concerns of individual/citizen and the need for revision of guideline. In its interim Order dated 20/04/2020, Hon'ble Tribunal observed that "...we are of the view that to the above extent, the task of PCBs and the CPCB is part of essential health services for COVID-19. The CPCB may convey this to all concerned." Specific action points directed by Hon'ble vide order dated 24.04.2020 is re-produced below;

*"9. There appears to be need for further revision of the guidelines to cover all aspects covering not merely institutions but also individual households and dealing with situations where scientific disposal facilities like incinerators are not available and any unmindful deep burial without adequate safeguards can adversely affect the ground water and pose danger to health and safety of people.*

*Disposal of COVID-19 waste in general bins so as to be part of municipal waste or unscientific handling sewage and other liquid waste without safeguards can also be hazardous. There is also need to incorporate best practices in the light of further experience and new thoughts emerging from time to time, apart from continued supervision and monitoring, compiling data in an online format, use of electronic /digital manifest system to track and log COVID-19 waste from all sources, preventing its accidental spillage, analyzing the data for strategic planning and the feedback by creating necessary software, to the extent viable.*

*There is also need for creating awareness about the precautions and steps to be taken by all handlers and workers as well as citizens, making a model plan, to be adopted locally by the Panchayat, Sub division, District and State authorities with such further changes as may be necessary in local conditions. Health of all operators has been protected and preventive measures taken. There is need for orientation/training of persons responsible for compliance in Local Bodies and Health department by an online mechanism besides providing them with adequate protective gear. CPCB has to take lead and coordinate with media as well as the concerned Central/State departments.*

*Let the Chief Secretary of States/UTs by coordinating the activities of State's concerned departments like of Urban Development, Health, Irrigation & Public Health also closely monitor the scientific storage, transport, handling, management and disposal of COVID-19 waste as its unscientific handling poses a grave threat environment and health of people. At the national level, let a high level task team of Ministry of MoEF&CC, Health UD, Jal Shakti, Defence and CPCB supervise the handling and scientific disposal of COVID-19 waste in accordance with the guidelines.*

*Let the State Departments of Environment and PCBs/PCCs ensure compliance of Biomedical Waste Management Rules, 2016 and furnish action take report to CPCB and CPCB take further steps and furnish a consolidated report to this Tribunal of the steps taken and the ground status as on 31.5.2020."*

Copy of orders dated 21.04.2020 and 24.04.2020 are given at **Annexure-I** and **Annexure-II** respectively.

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**2. Action Taken by CPCB**

Action Taken by CPCB for effective management of COVID-19 biomedical waste and in compliance to Orders of Hon'ble NGT dated 20/04/2020 and 24/04/2020 respectively, as given below;

- (a) CPCB has circulated orders of Hon'ble Tribunal dated 20/04/2020 to all SPCBs/PCCs and also to Joint Secretary of Disaster Management Division, Ministry of Home Affairs, vide E-mails dated 22/04/2020, to communicate views of Hon'ble Tribunal that task of Central and State Pollution Control Boards is part of essential health services pertaining to management of waste generated during COVID-19 pandemic situation. Copy of the e-mails issued are given at **Annexure IIIA** and **Annexure IIIB** respectively.
- (b) Review of compliance by SPCBs/PCCs – Member Secretary, CPCB held meeting with SPCBs and PCCs on 30/04/2020 to review compliance to COVID-19 waste management in respective States, and to draw roadmap for compliance to Orders of Hon'ble NGT. In the said meeting, SPCBs were also requested to assist concerned departments in State for developing model plans for Panchayat and Sub-divisions considering the local conditions.
- (c) Awareness Material – A separate page “ <https://cpcb.nic.in/covid-waste-management/> “ has been created on CPCB website for sharing information related to COVID-19 Waste Management with SPCBs and other stakeholders. Awareness material comprises of CPCB Guidelines; Posters for Hospitals; Dos and Don'ts; COVID-19 related videos; Pictorial Guidelines on overall biomedical waste management including COVID-19 waste management in hospitals; User manual for Mobile Application and Web Application for COVID-19 biomedical waste tracking App and COVID-19 related Audios – Radio Jingles. Screen-shot of CPCB webpage on COVID-19 waste management given at **Annexure IV**.
- (d) COVID-19 waste Tracking App – CPCB completed development of COVID-19 biomedical waste tracking App named 'COVID19BWM' and 1<sup>st</sup> version of the App has been introduced and a demonstration was given to SPCBs/PCCs on 06/05/2020. Thereafter, implemented COVID19BWM Mobile and Web Portal App for tracking of COVID related biomedical waste.
- (e) High Level Task Team – CPCB constituted High Level Task Team (HLTT) under the Chairmanship of Chairman, Central Pollution Control Committee with representative members from following Ministries / Departments:
  - Ministry of Environment Forest & Climate Change
  - Ministry of Health & Family Welfare
  - Ministry of Jal Shakti
  - Ministry of Housing & Urban Affairs
  - Ministry of Defence

High Level Task Team held a review meeting under the chairmanship of Chairman, CPCB on 26.05.2020, with State Government Departments of Environment, Health and Urban Development, and SPCBs/PCCs to discuss management of COVID-19 waste in respective State / Union Territory. Member Secretary, CPCB had also attended the said meeting. Action points decided by Task Team were circulated to State Pollution Control Boards / Pollution Control Committees, State Health Departments and State Environment Departments for further compliance vide email dated 30.05.2020. Minutes of the Task Team meeting given at **Annexure V**.

- (f) Model Plans for Villages and Sub-Divisions – CPCB has requested SPCBs/PCCs to assist concerned departments in State to prepare model plans for management of COVID-19 waste in Villages and Sub-Divisions specific to local conditions. Further, as per the recommendation of High Level Task Team, CPCB has also prepared draft template of model plan for management of COVID-19 related wastes in the jurisdiction of village Panchayats and Sub-Divisions or Tehsils. Copy of the same is given at **Annexure VI**.

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- (g) Revision of Guidelines - CPCB issued guidelines for "Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients" on 19.03.2020 and thereafter revised said guidelines on 25.03.2020 and 18.04.2020 respectively to address more stakeholders, preparedness for disposing large volume of wastes, segregation of wastes and treatment of wastewater in the premises of Healthcare facilities.

Further, in compliance to orders of Hon'ble NGT dated 24/04/2020, CPCB initiated third revision of guidelines in consultations with subject experts on 06.05.2020 to address guidance to common citizen on segregation, awareness and training to waste handlers. These guidelines have been finalized on 10/06/2020 covering following aspects;

- a. Description of general solid waste including indicative list of items for segregation in isolation wards, quarantine centres and homecare;
- b. Scope of Training and awareness to waste handlers in hospitals and quarantine centres;
- c. Use of COVID-19 biomedical waste tracking App "COVID19BWM" developed by CPCB by waste generators, transporters, CBWTF operators and SPCBs.
- d. Guidance on handling of general solid waste from quarantine centres and isolation wards and disposal of solid waste.
- e. Options for safe disposal of COVID-19 related biomedical waste, in case capacity of existing capacity of common biomedical waste treatment and disposal facilities (CBWTFs) is exhausted.

Revision 3 guidelines have been circulated to concerned Ministries at Central government; State Departments of Health, Urban Development and Environment; SPCBs/PCCs and Association of Common Biomedical Treatment and Disposal Facilities for their compliance. Copy of "Revision 3 : Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients" given at **Annexure VII**.

### **3. COVID-19 Waste Tracking System:**

- a. In order to monitor COVID-19 related biomedical waste and to compile the data through electronic manifest system, CPCB developed COVID-19 waste tracking software named "COVID19BWM". Both Android Mobile and Web versions of software application was designed for waste generators, Common Biomedical Waste Treatment and Disposal Facility (CBWTF) Operators, State Pollution Control Boards / Pollution Control Committees and Urban Local Bodies.
- b. This software tracks COVID-19 related biomedical waste at the time of generation, collection and disposal. Health Care facilities/Hospitals (HCF), Quarantine Centres, Isolation wards, Testing Labs, Covid-19 Sample Collection Centres and Urban Local Bodies monitoring quarantine centres/homecare report generation of waste, whereas collection and disposal is reported by Transporter (waste handler) and CBWTF operator respectively. This Application provides dashboard for monitoring daily waste collection and disposal including tracking of vehicles. There is provision for SPCBs to monitor State's data and report daily status to CPCB. Copy of operational manual for COVID-19 biomedical waste tracking App given at **Annexure-VIII**.
- c. CPCB has provided details of the App and shared login credentials for all CBWTF operators, SPCBs and transporters. As on 31/05/2020, 28 States namely Andhra Pradesh, Assam, Bihar, Chandigarh, Chhattisgarh, Daman Diu & Dadar Nagar Haveli, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Odisha, Puducherry, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttarakhand, Uttar Pradesh and West Bengal have initiated use of Tracking App. Karnataka & Maharashtra SPCB has already developed their

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own waste tracking application. Remaining 7 States/UTs are yet to initiate using the Tracking App.

- d. 13 SPCBs/PCCs namely Bihar, Chandigarh, Daman & Diu, Himachal Pradesh, Kerala, Madhya Pradesh, Mizoram, Puducherry, Punjab, Telangana, Uttarakhand, Uttar Pradesh and West Bengal SPCBs/PCCs have initiated submission of daily status report through CPCB tracking software, while rest of the States are submitting status manually by e-mail. CPCB vide letter dated 21.05.2020 requested SPCBs to expedite the process of operationalizing tracking software by effective following-up with generators of COVID-19 waste and CBWTFs/Captive disposal facilities. SPCBs were also requested to monitor daily reports of generators, waste transporter and disposal facility and verify the daily data on Tracking software.

**4. COVID-19 Waste Management Scenario:**

- (i) CPCB has received compliance status report as on 31/05/2020 from all the states.
- (ii) As per the information given by SPCBs/PCCs, 2,907 hospitals, 20,707 quarantine centres, 1,539 sample collection centres and 264 testing laboratories, are involved in generation of COVID-19 waste. Generation of COVID-19 related biomedical waste in the country is about 101 Metric Tonnes per day (MT/day). State-wise generation of COVID-19 biomedical waste generation and its management is given in Table-4.1.

**Table 4.1: Details on Generation of COVID-19 BMW and Facilities for Disposal**

S. No.	Name of State/UT	COVID-19 BMW (in TPD)	Details of Facilities for Disposal of COVID-19 BMW			Adequacy of existing treatment facility
			No. of CBWTFs engaged	Captive facilities Yes/No	Deep burial pits Yes/No	
1	Andaman and Nicobar Islands	0.014	0	Yes	No	Adequate with captive facilities
2	Andhra Pradesh	5.516	11	No	No	Adequate
3	Arunachal Pradesh	0.112	0	No	Yes	Need to depend on Burial pits
4	Assam	0.946	1	Yes	Yes	CBWTFs capacity is not adequate and 1 facility cannot cater to entire State. Need to depend on captive facilities and burial pits.
5	Bihar	0.228	4	No	No	80% of incinerator capacity utilised. Need to ensure proper segregation.
6	Chandigarh	0.995	1	No	No	Adequate
7	Chhattisgarh	0.373	2	INP	INP	Adequate capacity of CBWTFs. Details of other disposal options not provided.
8	Dadar Nagar Haveli	0.015	1	No	No	Adequate. Waste is being disposed through CBWTF at Surat, Gujarat
9	Delhi	11.114	2	No	No	70% of existing capacity of 2 incinerators utilised. Need to ensure proper segregation.

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S. No.	Name of State/UT	COVID-19 BMW (in TPD)	Details of Facilities for Disposal of COVID-19 BMW			Adequacy of existing treatment facility
			No. of CBWTFs engaged	Captive facilities Yes/No	Deep burial pits Yes/No	
10	Goa	0.027	0	Yes	Yes	No CBWTF. Need to depend on captive facilities and Bural pits.
11	Gujarat	11.693	20	No	No	Adequate
12	Haryana	2.511	11	No	No	Adequate
13	Himachal Pradesh	0.127	2	Yes	Yes	Adequate capacity with incinerators. 2 CBWTFs may not be adequate to cover entire State.
14	Jammu and Kashmir	0.357	2	Yes	Yes	2 CBWTFs may not be adequate to cover entire State. Need to depend on captive facilities and burial pits.
15	Jharkhand		2	Information not provided	Information not provided	Compiled Information not provided hence adequacy could not be assessed.
16	Karnataka	2.8	25	No	No	Adequate
17	Kerala	4.71	1	Yes	No	All COVID biomedical waste sent to CBWTF. Capacity of CBWTF not adequate for total BMW. Hence captive facilities need to be operated.
18	Lakshadweep	0.01	2	Yes	Yes	Adequate. May use 2 captive incinerator in 2 isilands and deep burial pits in rest of the islands.
19	Madhya Pradesh	7.486	11	No	No	Adequate
20	Maharashtra	17.494	29	No	Yes	Adequate. Stand-by arrangement also made with TSDFs in Mumbai, Pune and Nagpur cities.
21	Manipur	0.171	1			Adequate. However single facility may not cater to entire State.
22	Meghalaya	0.17	1	Information not provided	Information not provided	Adequate Information not Submitted. Existing incinerator cannot dispose entire waste from State
23	Mizoram	0.14	0	Information not provided	Information not provided	Adequate Information not Submitted
24	Nagaland	0.12	0	Yes	Yes	Adequate Information not Submitted
25	Odisha	1.062	5	No	No	79% of common incinerators capacity utilised. Need to esnure proper segregation.

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S. No.	Name of State/UT	COVID-19 BMW (in TPD)	Details of Facilities for Disposal of COVID-19 BMW			Adequacy of existing treatment facility
			No. of CBWTFs engaged	Captive facilities Yes/No	Deep burial pits Yes/No	
26	Puducherry	0.621	2	No	No	Adequate
27	Punjab	1.6	5	No	No	Adequate
28	Rajasthan	5.9	8	No	Yes	88% of common incinerators capacity utilised. Need to ensure proper segregation and identify alternate facilities
29	Sikkim	0.2	0	Yes	No	Adequate Information not Submitted
30	Tamil Nadu	10.41	8	No	No	91% of incinerator capacity utilised. Need to ensure proper segregation and identify alternate incinerators / disposal options
31	Telangana	0.41	11	No	No	Adequate
32	Tripura	0.015	1	Yes	Yes	71% of incinerator capacity utilised..
33	Uttarakhand	0.53	2	No	Yes	92% of Incinerator capacity utilised. Only 2 incinerators may not be adequate to cater entire State area. Need to depend on deep burial.
34	Uttar Pradesh	7	18	No	No	Adequate
35	West Bengal	6.5	6	No	No	Adequate
<b>Total</b>		<b>101 MT/Day</b>	<b>195</b>			

- (iii) As per the information received from SPCBs/PCCs, about 101 MT per day of COVID-19 related biomedical waste generated in the country, this quantity is in addition to normal biomedical waste generation of about 609 MT per day. Further, about 195 CBWTFs are providing the services of collection, transportation and disposal of COVID-19 biomedical waste from hospitals, isolation wards, quarantine centres, home quarantines, homecare, sample collection centres and testing laboratories.
- (iv) Available capacity for incineration of COVID-19 biomedical waste in the country is about 840 Metric Tons (MT) against the total generation of about 710 MT per day (comprising of 609 MT/day of regular biomedical waste and 101 MT/day of COVID related biomedical waste). It is estimated that about 55% of cumulative incinerator capacity in the country is being utilised. However, there may be capacity limitation in specific areas or cities when the available capacity of CBWTFs in a coverage area of 150 Km may not be adequate due to spike in generation of biomedical waste.
- (v) Sudden spike in generation of biomedical waste may create critical situation in States with 70% or more capacity utilization of incinerators, therefore such States may identify stand-by facilities such as common hazardous waste incinerators, industrial captive incinerators and captive disposal facilities at HCFs. Use of deep-burial pits may be considered as a last option. Proper segregation of waste will also increase disposal capacity of incinerators.
- (vi) Status of compliance by State/UTs and SPCBs/PCCs with respect to awareness & training to waste handlers, preparation of model plans for villages and usage of COVID-19 biomedical waste tracking app are given in Table 4.2 below;

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Table 4.2: Status of State-wise compliance to Order dated 24/04/2020 in OA 72/2020

S.No	Name of State	Submission of Status report	Training and awareness programs	Model Plans for villages and Sub-Divisions	Implementation of CPCB Waste tracking App.
1	Andaman and Nicobar Islands	Submitted	Conducted	Information not provided	Not Implemented
2	Andhra Pradesh	Submitted	Information not provided	Information not provided	Implemented
3	Arunachal Pradesh	Submitted	Information not provided	Information not provided	Not Implemented
4	Assam	Submitted	Conducted	Information not provided	Partially Implemented
5	Bihar	Submitted	Conducted	Information not provided	Partially Implemented
6	Chandigarh	Submitted	Conducted	Information not provided	Implemented
7	Chhattisgarh	Submitted	Conducted	Information not provided	Implemented
8	Dadar Nagar Haveli	Submitted	Conducted	Constituted separate team to follow-up at Village Panchayat level	Implemented
9	Delhi	Submitted	Conducted	Information not provided	Implemented
10	Goa	Submitted	Conducted	Information not provided	Not Implemented
11	Gujarat	Submitted	Conducted	Information not provided	Partially Implemented
12	Haryana	Submitted	Conducted	Under Process	Partially Implemented
13	Himachal Pradesh	Submitted	Conducted	Information not provided	Partially implemented
14	Jammu and Kashmir	Submitted	Conducted	Information not provided	Implemented
15	Jharkhand	Submitted	Conducted	Information not provided	Not Implemented
16	Karnataka	Submitted	Conducted	Information not provided	Partially Implemented
17	Kerala	Submitted	Conducted	Not prepared	Implemented
18	Lakshadweep	Submitted	Conducted	Information not provided	Not Implemented
19	Madhya Pradesh	Submitted	Conducted	Information not provided	Partially implemented
20	Maharashtra	Submitted	Conducted	Constituted at Village Panchayat level	Implemented
21	Manipur	Submitted	Conducted	Information not provided	Implemented
22	Meghalaya	Submitted	Conducted	Information not provided	Partially implemented
23	Mizoram	Submitted	Conducted	Information not provided	Implemented
24	Nagaland	Submitted	Conducted	No Information	No Information
25	Odisha	Submitted	Conducted	Constituted at Village Panchayat level	Partially implemented
26	Puducherry	Submitted	Conducted	Information not provided	Implemented

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S.No	Name of State	Submission of Status report	Training and awareness programs	Model Plans for villages and Sub-Divisions	Implementation of CPCB Waste tracking App.
27	Punjab	Submitted	Conducted	Information not provided	Implemented
28	Rajasthan	Submitted	Conducted	Constituted at Village Panchayat level	Partially implemented
29	Sikkim	Submitted	No information	Information not provided	Not implement
30	Tamil Nadu	Submitted	Conducted	Under Process	Implemented
31	Telangana	Submitted	Conducted	Under Process	Implemented
32	Tripura	Submitted	Conducted	Information not provided	Not Implemented
33	Uttarakhand	Submitted	Conducted	Information not provided	Implemented
34	Uttar Pradesh	Submitted	Conducted	Information not provided	Partially implemented
35	West Bengal	Submitted	Information is not provided	Information not provided	Partially implemented

- (vii) Improper segregation of waste has been reported from COVID-19 isolation wards, quarantine centres and quarantine homes. As per the provisions under Biomedical Waste Management Rules, 2016, Solid Waste Management Rules, 2016 and CPCB's COVID-19 guidelines, segregation of wastes is essential for effective management of wastes.
- (viii) Mixing of general solid waste with biomedical waste would result in additional load on CBWTF incinerators, which are not designed for domestic solid waste.
- (ix) It is also observed that non-segregation of waste also result in incineration of contaminated plastics, which otherwise should have been collected in red bag for sterilization and recycling.
- (x) SPCBs/PCCs are required to follow-up with ULBs to ensure regular collection of solid waste and biomedical waste from isolation wards, home quarantine centres and homecare units. SPCBs/PCCs may also issue appropriate instructions to concerned departments in State to ensure compliance to CPCB guidelines.

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Item No.01

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

**(Through Video Conferencing)**

Original Application No. 72/2020

In Re: Scientific Disposal of Bio-Medical Waste arising out of  
COVID-19 treatment- Compliance of BMW Rules, 2016

Date of hearing: 21.04.2020

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE S.P WANGDI, JUDICIAL MEMBER  
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

For CPCB : Dr. Prashant Gargava, Member Secretary for CPCB with  
Mr. Rajkumar, Advocate

Type your text

**ORDER**

1. The issue for consideration is the remedial action to address the gaps in compliance of the BMW Rules, 2016, as applicable to the disposal of bio-medical waste arising out of handling of COVID-19 disease, so as to ensure protection of environment and public health, in view of potential of such infectious waste adversely affecting public health, concerned workers and professionals etc.
2. We have also taken into consideration the concern on the subject expressed in news item dated 19.04.2020, published in the Indian Express titled '*Biomedical waste facilities, a red flag in coronavirus fight*', authored by Apurva Vishwanath and Karishma Mehrotra.
3. This Tribunal is already dealing with the subject of addressing gaps in bio-medical waste management generally in O.A No.710/2017, *Shailesh Singh v. Sheela Hospital & Trauma Center, Shahjahanpur &*

Ors. and has given further directions on 22.1.2020 in respect of gaps emerging from report of CPCB dated 15.11.2019 based on information furnished by the States/UTs. The waste generated on account of Covid-19 disease has presented further challenge which calls for this order.

4. We have perused the '*Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/ Diagnosis/ Quarantine of COVID-19 Patients*' issued by the CPCB, last revised on 18.4.2020 and heard Dr. Prashant Gargava, Member Secretary, CPCB. We had interaction broadly on the need for revision of the laid down guidelines to address all concerns in the light of best practices and experience from time to time so that all aspects of scientific disposal of liquid and solid waste management are taken care of not only at institution level but also at individual levels (such as manner of disposal of used PPEs, used bags, gloves, goggles, etc., without the same getting straightaway mixed with other municipal solid waste causing contamination etc.), dealing with situations where adequate facilities (like incinerators) are not available, distinct colour guidelines for the bins etc., reviewing effectiveness of the monitoring mechanism, including securing information by way of electronic manifest system from the handlers of such waste and its online reporting by the State PCBs/PCCs on daily basis by developing necessary software, creating awareness by special awareness programmes, organizing trainings in concerned Local Bodies, Health Departments, etc., providing workers handling COVID-19 waste with adequate protective gear, adequate coordination with media and other concerned regulatory authorities in the States and the Central Government. We have also observed that out of 2.7 lakh HCFs identified, only 1.1 lakh HCFs are authorized under the BMW Management Rules, 2016 so far. The State PCBs/PCCs have to make

serious efforts to bridge this gap to mitigate possible risk in terms of unscientific disposal of bio-medical waste and to enforce rule of law.

5. We are of the view that to the above extent, the task of PCBs and the CPCB is part of essential health services for COVID-19. The CPCB may convey this to all concerned.
6. Further order reserved. The same will be uploaded on or before 27.04.2020, after due interaction with the members.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

Dr. Nagin Nanda, EM

April 21, 2020  
Original Application No. 72/2020  
AK



**Corrected Order Dated 24.04.2020**

Item No.01

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

**(Through Video Conferencing)**

Original Application No. 72/2020

In Re: Scientific Disposal of Bio-Medical Waste arising out of  
COVID-19 treatment- Compliance of BMW Rules, 2016

Date of hearing: 21.04.2020

Date of uploading of order: 23.04.2020

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE S.P WANGDI, JUDICIAL MEMBER  
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

For CPCB :

Dr. Prashant Gargava, Member Secretary  
for CPCB with Mr. Rajkumar, Advocate

**ORDER**

1. The issue for consideration is the remedial action to address the gaps in compliance of the BMW Rules, 2016, as applicable to the disposal of bio-medical waste arising out of handling of COVID-19 disease, so as to ensure protection of environment and public health, in view of potential of such infectious waste adversely affecting public health, concerned workers and professionals etc.
2. The matter was heard on 21.04.2020 when we interacted with the Member Secretary, CPCB and perused the guidelines issued by the CPCB, last revised on 18.04.2020. It was observed:  
  
“2. *We have also taken into consideration the concern on the subject expressed in news item dated 19.04.2020, published in the Indian Express titled ‘Biomedical waste facilities, a red flag in coronavirus fight’, authored by Apurva Vishwanath and Karishma Mehrotra.*”

3. *This Tribunal is already dealing with the subject of addressing gaps in bio-medical waste management generally in O.A No.710/2017, Shailesh Singh v. Sheela Hospital & Trauma Center, Shahjahanpur & Ors. and has given further directions on 22.1.2020 in respect of gaps emerging from report of CPCB dated 15.11.2019 based on information furnished by the States/UTs. The waste generated on account of Covid-19 disease has presented further challenge which calls for this order.*
  4. *We have perused the 'Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/ Diagnosis/ Quarantine of COVID-19 Patients' issued by the CPCB, last revised on 18.4.2020 and heard Dr. Prashant Gargava, Member Secretary, CPCB. We had interaction broadly on the need for revision of the laid down guidelines to address all concerns in the light of best practices and experience from time to time so that all aspects of scientific disposal of liquid and solid waste management are taken care of not only at institution level but also at individual levels (such as manner of disposal of used PPEs, used bags, gloves, goggles, etc., without the same getting straightaway mixed with other municipal solid waste causing contamination etc.), dealing with situations where adequate facilities (like incinerators) are not available, distinct colour guidelines for the bins etc., reviewing effectiveness of the monitoring mechanism, including securing information by way of electronic manifest system from the handlers of such waste and its online reporting by the State PCBs/PCCs on daily basis by developing necessary software, creating awareness by special awareness programmers, organizing trainings in concerned Local Bodies, Health Departments, etc., providing workers handling COVID-19 waste with adequate protective gear, adequate coordination with media and other concerned regulatory authorities in the States and the Central Government. We have also observed that out of 2.7 lakh HCFs identified, only 1.1 lakh HCFs are authorized under the BMW Management Rules, 2016 so far. The State PCBs/PCCs have to make serious efforts to bridge this gap to mitigate possible risk in terms of unscientific disposal of bio-medical waste and to enforce rule of law.*
  5. *We are of the view that to the above extent, the task of PCBs and the CPCB is part of essential health services for COVID-19. The CPCB may convey this to all concerned.*
  6. *Further order reserved. The same will be uploaded on or before 27.04.2020, after due interaction with the members."*
3. As already noted, the matter of addressing gaps in compliance of Bio-Medical Waste Management Rules, 2016 generally is already subject matter of consideration before the Tribunal in O.A No. 710/2017,

*Shailesh Singh v. Sheela Hospital & Trauma Center, Shahjahanpur &*

Ors. which last came up for hearing on 22.01.2020. It was observed:

“2. .. .. **..unscientific disposal of bio-medical waste had potential of serious diseases such as Gastrointestinal infection, Respiratory infection, Eye infection, Genital infection, Skin infection, Anthrax, Meningitis, AIDS, Haemorrhagic fevers, Septicaemia, Viral Hepatitis type A, Viral Hepatitis type B and C, etc. Such unscientific disposal also causes environmental pollution leading to unpleasant smell, growth and multiplication of vectors like insects, rodents and worms and may lead to the transmission of diseases like typhoid, cholera, hepatitis and AIDS through injuries from syringes and needles contaminated with various communicable diseases .. ..** ..

3. Reference was also made to the report of the CAG placed on its website in May, 2017 as follows:

“Inadequate facility of bio-medical waste (BMW) treatment. As per the report paragraph 2.1.9.5 there were 8,366 Health Care Establishments (HCEs) out of which 3,362 HCEs were operating without authorization. **Total BMW generated in the State was 37,498 kg/day out of which only 35,816 kg/day was treated and disposed of. BMW of 1,682 kg/day was being disposed of untreated due to inadequate treatment facility. But UPPCB failed to monitor unauthorised operation and untreated disposal of BMW and did not take any action against the defaulters.**”

4. The matter was again reviewed on 15.07.2019 in the light of the report of the CPCB particularly with reference to inventory of HCFs and biomedical waste generation, operation of healthcare facilities without authorization, **action by the States with no treatment & disposal facilities, implementation of Barcode system, constitution of State Level Advisory Committees, submission of Action Plans by State Governments, key performance indicators, Environmental Compensation for violation by the healthcare facilities and Environmental Compensation for common biomedical waste treatment facility.**

5. The recommendations in the report were accepted. All the States/UTs were directed to take further action on that basis. The Tribunal also directed:-

“1to7

xxx

xxx

xxx

7. The States/UTs may furnish complete inventory of HCFs and BMW generation within two months and where the inventories are incomplete, the same may be completed. We place on record our disapproval of the inaction of States in furnishing the inventory studies as well as for incomplete inventories. **It is regretful to note that 25% of identified HCFs have not even taken authorization from the**

**concerned State PCBs in absence of which, monitoring of waste management is not taking place. The States which have not set up common treatment and disposal facility must do so within two months as per Rules.** The States who have not furnished the information on the barcode system may also furnish such information at the earliest but not beyond two months. The States which have not yet constituted State Level Advisory Committee may also do so within two months. The action plans and their execution must be carried out having regard to the key performance indicators. **The States which have inadequate action plans, not satisfactory action plans, needing further actions must also do the needful within two months realizing their responsibility to the environment and public health which ought to be monitored directly by the Chief Secretaries in terms of order of this Tribunal dated 16.01.2019 in O.A. No. 606/2018 and further orders in the said matter.** By the further order in the said matter in the case of all the States, directions were issued that Chief Secretaries may personally monitor compliance of environmental norms (including BMW Rules) with the District Magistrate once every month. The District Magistrates may conduct such monitoring twice every month. We find it necessary to add that in view of Constitutional provisions under Articles 243 G, 243 W, 243 ZD read with Schedules 11 and 12 and Rule 15 of the Solid Waste Management Rules, 2016, it is necessary to have a District Environment Plan to be operated by a District Committee (as a part of District Planning Committee under Article 243 ZD) with representatives from Panchayats, Local Bodies, Regional Officers, State PCB and a suitable officer representing the administration, which may in turn be chaired and monitored by the District Magistrate. Such District Environment Plans and Constitution of District Committee may be placed on the website of Districts concerned. The monthly report of monitoring by the District Magistrate may be furnished to the Chief Secretary and may be placed on the website of the District and kept on such websites for a period of one year. This may be made operative from 1.08.2019. Compliance of this direction may also be seen by the Chief Secretaries of the States/UTs. This may not only comply with mandate of law but provide an institutional mechanism for effective monitoring of environment norms. Needless to say that right to clean environment being part of right to life, such effective monitoring is a must. Such monitoring must include issues specified in the order of this Tribunal dated 16.01.2019, O.A No. 606/2018, Para 40 which is as follows:-

- "a. Status of compliance of SWM Rule, 2016, Plastic Waste Management Rules, 2016 and **Bio-Medical Waste Management Rules, 2016** in their respective areas.
- b. Status of functioning of Committees constituted by this order.

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- c. Status of the Action Plan in compliance vide order dated 20.09.2018 in the News Item published in “The Hindu” authored 25 by Shri Jacob Koshy Titled “More river stretches are now critically polluted: CPCB (Original Application No. 673/2018).
- d. Status of functioning of Committees constituted in News Item Published in “The Times of India’ Authored by Shri Vishwa Mohan Titled “NCAP with Multiple 5 timelines to Clear Air in 102 Cities to be released around August 15” dated 08.10.2018.
- e. Status of Action Plan with regard to identification of polluted industrial clusters in O.A. No. 1038/2018, News item published in “The Asian Age” Authored by Sanjay Kaw Titled “CPCB to rank industrial units on pollution levels” dated 13.12.2018.
- f. Status of the work in compliance of the directions passed in O.A. No. 173 of 2018, Sudarsan Das v. State of West Bengal &Ors. Order dated 04.09.2018.
- g. Total amount collected from erring industries on the basis of ‘Polluter Pays’ principle, ‘Precautionary principle’ and details of utilization of funds collected.
- h. Status of the identification and development of Model Cities and Towns in the State in the first phase which can be replicated later for other cities and towns of the State.”
9. Further important issues flagged for monitoring include training programs for the officers concerned with enforcement of environment norms at the ground level, reuse of treated water, recharge of ground water, conservation of water bodies.<sup>1</sup> It has been brought to our notice that State PCBs are facing certain handicaps in performing their functions for want of adequate staff and infrastructure. While this is a matter to be reviewed by concerned Chief Secretaries, the State PCBs/PCCs are free to prepare and execute appropriate plans for utilizing the environment restoration fund with the approval of CPCB. The expenditure may include hiring of experts and consultants, expanding air and water quality monitoring network, procurement of scientific equipment, undertaking restitution remediation and specialized studies on contaminated sites so that there is effective oversight for enforcement of law. Under no circumstances these funds be spent on salaries, logistics etc.
10. The compensation regime suggested by the CPCB may be adopted. It will be open to the State PCBs/PCCs to adopt a higher scale of compensation, having regard to the problems faced in such States/UTs.
11. It is made clear that if even after two months the States/UTs are found to be non-compliant, the compensation will be liable to be recovered from the said States/UTs at the rate of Rs. 1 Crore per month till the non-compliance continues.

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<sup>1</sup> See order dated 17.05.2019, O.A. No 606/2018, Para No. 27 (vi, vii, viii)

12. The CPCB may file further progress report in the matter after coordination through the concerned authorities of the States, including the State Boards/other Health Departments.

13. The Chief Secretaries may furnish their respective compliance reports as per orders passed in O.A No. 606/2018, Compliance of Municipal Solid Waste Management Rules, 2016.”

6. The CPCB has filed further report dated 15.11.2019 which sets out the reports from different States/UTs with reference to the following action points:-

1. Complete inventory of HCFs generating biomedical waste.
2. Authorization to all non-bedded HCFs like clinics, laboratories, research institutes as well as veterinary hospitals etc. identified in inventory of HCFs within 3 months.
- 3(i). Adequate number of Common Facilities and to cover all HCFs in the State. [Also to ensure adequate number of Common Biomedical].
- 3(ii). Restriction of Deep Burial pits [should be permitted only if necessary and to ensure that they are constructed as per standards given under BMW Rules, 2016.]
4. Constitution of State and District Advisory Committees. 5. Barcodes system in every HCF and CBWTFs.
6. Monitoring of Healthcare Facilities other than hospitals/clinics – Veterinary Hospitals, Animal Houses, AYUSH Hospitals, blood banks, Pathological labs etc.
7. Availability of adequate infrastructure with SPCBs/PCCs to monitor compliance.
- 8(i). **Training and Capacity Building of officials of health Department and SPCBs.**
- 8(ii). **Training and Capacity Building of Healthcare workers in HCFs.**
9. **Installation of OCEMS by CBWTFs as a tool for self monitoring and compliance verification by SPCBs/PCCs.**
10. Submission of Annual Reports to CPCB.
11. **Compliance to standards by CBWTFs.**
12. **Compliance of HCFs [For on-site segregation, pretreatment of infectious waste-yellow (h), separate storage space for BMW and treatment of wastewater].**
13. Monitoring of compliance of BMW management as per District environmental Plan by the District Magistrates.”

7. COVID 19 pandemic has emerged in the last few months and has affected number of people across the world. More than one and a half lac people have died world over and more than 600 in India. The virus

spreads mainly by droplets and also by touch of contaminated articles. To prevent spread, lock down has been enforced, restricting people to their homes, so as to avoid social contact. Affected persons are treated in hospitals and those suspected are quarantined in various facilities or at home. Large scale testing has been and is being done. By way of precaution, masks, gloves, PPE etc. are used which are disposed of thereafter. In the process, huge bio-medical waste is generated which itself can be source of disease. While the BMW Rules generally take care of the situation by way elaborate provisions to deal with biomedical waste generated in dealing with infectious diseases such as HIV, HINI etc., present pandemic has presented further challenge inter-alia on account of:

- i. Existing gaps in compliance of BMW Rules in terms of capacity to scientifically dispose of generated waste and non-compliance of procedural and monitoring aspects;
  - ii. COVID-19 virus has emerged suddenly and is highly infectious, requiring more precautions compared to other infectious diseases.
8. To deal with the situation, CPCB has issued guidelines which were last updated on 18.04.2020. The updated guidelines are:

***“Guidelines for Handling, Treatment, and Disposal of Waste Generated during Treatment /Diagnosis/Quarantine of COVID-19 patients-Rev.2***

*“In order to deal with COVID-19 pandemic, State and Central Governments have initiated various steps, which include setting up of quarantine centers/camps, Isolation wards, sample collection centers and laboratories.*

*Following specific guidelines for management of waste generated during diagnostics and treatment of COVID-19 suspected / confirmed patients, are required to be followed by all the stakeholders including*

isolation wards, quarantine centers, sample collection centers, laboratories, ULBs and common biomedical waste treatment and disposal facilities, in addition to existing practices under BMW Management Rules, 2016.

These guidelines are based on current knowledge on COVID-19 and existing practices in management of infectious waste generated in hospitals while treating viral and other contagious diseases like HIV, H1N1, etc. These guidelines will be updated if need arises. This Revision-2 of guidelines is mainly to incorporate specific requirements and responsibilities of persons operating sewage treatment plants at Healthcare Facilities and to clarify on management of general waste from quarantine homes and masks/gloves from other households.

Guidelines brought out by WHO, MoH&FW, ICMR, CDC and other concerned agencies from time to time may also be referred.

Guidelines for handling, treatment and disposal of COVID-19 waste at Healthcare Facilities, Quarantine Camps/ Quarantine-homes/ Home-care, Sample Collection Centers, Laboratories, SPCBs/PCCs, ULBs and CBWTFs is give below;

**(a) COVID-19 Isolation wards: (isolation wards are those where COVID-19 positive patients are being kept for treatment / diagnosis)**

Healthcare Facilities having isolation wards for COVID-19 patients need to follow these steps to ensure safe handling and disposal of biomedical waste generated during treatment;

- Keep separate color coded bins/bags/containers in wards and maintain proper segregation of waste as per BMWM Rules, 2016 as amended and CPCB guidelines for implementation of BMW Management Rules.
- As precaution double layered bags (using 2 bags) should be used for collection of waste from COVID-19 isolation wards so as to ensure adequate strength and no-leaks;
- Collect and store biomedical waste separately prior to handing over the same CBWTF. Use a dedicated collection bin labelled as "COVID-19" to store COVID-19 waste and keep separately in temporary storage room prior to handing over to authorized staff of CBWTF. Biomedical waste collected in such isolation wards can also be lifted directly from ward into CBWTF collection van.
- In addition to mandatory labelling, bags/containers used for collecting biomedical waste from COVID-19 wards, should be labelled as "COVID-19 Waste". This marking would enable CBWTFs to identify the waste easily for priority treatment and disposal immediately upon the receipt.
- General waste not having contamination should be disposed as solid waste as per SWM Rules, 2016.
- Maintain separate record of waste generated from COVID-19

isolation wards

- Use dedicated trolleys and collection bins in COVID-19 isolation wards. A label "COVID-19 Waste" to be pasted on these items also.
- The (inner and outer) surface of containers/bins/trolleys used for storage of COVID-19 waste should be disinfected with 1% sodium hypochlorite solution daily.
- Report opening or operation of COVID-19 ward and COVID ICU ward to SPCBs and respective CBWTF located in the area.
- Depute dedicated sanitation workers separately for biomedical waste and general solid waste so that waste can be collected and transferred timely to temporary waste storage area.
- Feces from COVID-19 confirmed patient, who is unable to use toilets and excreta is collected in diaper, must be treated as biomedical waste and should be placed in yellow bag/container. However, if a bedpan is used, then feces to be washed into toilet and cleaned with a neutral detergent and water, disinfected with a 0.5% chlorine solution, then rinsed with clean water. <sup>a1</sup>
- Collect used PPEs such as goggles, face-shield, splash proof apron, Plastic Coverall, Hazmet suit, nitrile gloves into Red bag; <sup>a2</sup>
- Collect used masks (including triple layer mask, N95 mask, etc.), head cover/cap, shoe-cover, disposable linen Gown, non-plastic or semi-plastic coverall in Yellow bags. <sup>a3</sup>

[<sup>a1</sup> to <sup>a3</sup> Inserted in Rev. 2 of guidelines dated 18/04/2020]

#### **(b) Sample Collection Centers and Laboratories for COVID-19 suspected patients**

Report opening or operation of COVID-19 sample collection centers and laboratories to concerned SPCB. Guidelines given at section (a) for isolation wards should be applied suitably in in case of test centers and laboratories. Pre-treat viral transport media, plastic vials, vacutainers, Eppendorf tubes, plastic cryovials, pipette tips as per BMWM Rules, 2016 and collect in Red bags. <sup>b1</sup>

[<sup>b1</sup> Inserted in Rev. 2 of guidelines dated 18/04/2020]

#### **(c) Responsibilities of persons operating Quarantine Camps/Homes or Home-Care facilities\***

Less quantity of biomedical waste is expected from quarantine Camps / Quarantine Home/ Home-care facilities. However, the persons responsible for operating quarantine camps/centers/home-care for suspected COVID-19 persons need to follow the below mentioned steps

*to ensure safe handling and disposal of waste;*

- *General solid waste (household waste) generated from quarantine centers or camps should be handed over to waste collector identified by Urban Local Bodies or as per the prevailing local method of disposing general solid waste.*
- *Biomedical waste if any generated from quarantine centers/ camps should be collected separately in yellow colored bags (suitable for biomedical waste collection) provided by ULBs. These bags can be placed in separate and dedicated dust-bins of appropriate size.*
- *Persons operating Quarantine camps/centers should call the CBWTF operator to collect biomedical waste as and when it gets generated. Contact details of CBWTFs would be available with Local Authorities.*
- *Persons taking care of quarantine home / Home-care should deposit biomedical waste if any generated from suspected or recovered COVID-19 patients, by following any of the following methods as may be arranged by ULBs;*
  - *Hand over the yellow bags containing biomedical waste to authorized waste collectors at door steps engaged by local bodies; or*
  - *Deposit biomedical waste in yellow bags at designated deposition Centers established by ULBs. The bag again be stored in yellow bag or container; or*
  - *Handover the biomedical waste to waste collector engaged by CBWTF operator at the doorstep.*
- *Persons operating Quarantine camps/centers or Quarantine-homes/Home-care should report to ULBs in case of any difficulty in getting the services for disposal of solid waste or biomedical waste.*

**Clarifications:**

- *Quarantine Camps / Quarantine-Home are the places where suspected people or the contacts of suspected / confirmed cases who have been directed by authorized hospitals or local authorities to stay at home for at least 14 days or more for observation for any symptom of COVID-19, if any.*
- *Homecare – Home care facility is a home where care is to be provided to a COVID-19 positive patient at home. <sup>C1</sup>*
- *Biomedical waste at Quarantine Camps / Home-care may also comprise of used syringes, date expired or discarded medicines, used masks/gloves and in case of patients with other chronic diseases may also include drain bags, urine bags, body fluid or blood soaked tissues/cotton, empty ampules etc.*
- *Biomedical waste generated from Quarantine Camps / Quarantine-Home / Home-care would be treated as ‘domestic hazardous waste’ as defined under Solid Waste Management Rules, 2016, and shall be disposed as per provisions under Biomedical Waste Management Rules, 2016 and these guidelines.*

- *General waste from Quarantine Camps / Quarantine-Home / Home-care shall be disposed as solid waste as per provisions under SWM Rules, 2016*
- *Used masks and gloves generated from home quarantine or other households should be kept in paper bag for a minimum of 72 hours prior to disposal of the same as general waste. It is advisable to cut the masks prior to disposal to prevent reuse.<sup>c2</sup>*

*[\*Amended in Rev. 1 of guidelines dated 25/03/2020]*

*[c1 and c2 Amended in Rev. 2 of guidelines dated 18/04/2020]*

*[c2: Criteria for 72 hours is as per CDC guidelines for Decontamination and Reuse of Filtering Facepiece Respirators]*

**(d) Duties of Common Biomedical Waste Treatment Facility (CBWTF):**

- *Report to SPCBs/PCCs about receiving of waste from COVID-19 isolation wards / Quarantine Camps / Quarantined homes / COVID-19 Testing Centers;*
  - *Operator of CBWTF shall ensure regular sanitization of workers involved in handling and collection of biomedical waste;*
  - *Workers shall be provided with adequate PPEs including three layer masks, splash proof aprons/gowns, nitrile gloves, gum boots and safety goggles;*
  - *Use dedicated vehicle to collect COVID-19 ward waste. It is not necessary to place separate label on such vehicles;*
  - *Vehicle should be sanitized with sodium hypochlorite or any appropriate chemical disinfectant after every trip.*
  - *COVID-19 waste should be disposed-off immediately upon receipt at facility.*
- In case it is required to treat and dispose more quantity of biomedical waste generated from COVID-19 treatment, CBWTF may operate their facilities for extra hours, by giving information to SPCBs/PCCs.*
- *Operator of CBWTF shall maintain separate record for collection, treatment and disposal of COVID-19 waste.*
  - *Do not allow any worker showing symptoms of illness to work at the facility. May provide adequate leave to such workers and by protecting their salary.*

**(e) Duties of SPCBs/PCCs**

- *Shall maintain records of COVID-19 treatment wards / quarantine centers / quarantine homes in respective States.*
- *Ensure proper collection and disposal of biomedical waste as per BMW Rules, 2016 and SOPs given in this guidance document;*
- *Allow CBWTFs to operate for extra hours as per requirement;*
- *May not insist on authorisation of quarantine camps as such facilities does not qualify as health facilities. However, may allow CBWTFs to*

*collect biomedical waste as and when required;*

- *In case of States not having CBWTFs as well as rural or remote areas, not having access to CBWTFs, the existing captive facilities of any hospital may be identified for disposal of COVID- 19 waste as per provisions under BMW Rules, 2016 and these guidelines. This may include permitting use of deep burial pits for disposal of yellow category waste as per standards prescribed in Schedule II of Bio-medical Waste Management Rules, 2016.<sup>1</sup>*
- *Coordinate with CBWTFs and ULBs in establishing adequate facilities for collection and disposal of COVID-19 waste.*
- *In case of generation of large volume of yellow color coded (incinerable) COVID-19 waste, permit HW incinerators at existing TSDFs to incinerate the same by ensuring separate arrangement for handling and waste feeding.*

*[e<sup>1</sup> Amended in Rev. 2 of guidelines dated 18/04/2020]*

**(f) Duties of Urban Local Bodies +**

*Urban Local Bodies are responsible for ensuring safe collection and disposal of biomedical waste, if any, generated from Quarantine Camps/ Quarantine Homes/ Home Care for COVID-19 suspected persons.*

- *Information on each Quarantine Camps/ Quarantine Homes/ Home-Care should be available with local administration and provide updated list to SPCBs from time to time;*
- *In case of quarantine camps, ensure that biomedical waste is collected directly by CBWTFs identified by ULB. Waste from quarantine camps to be lifted by CBWTFs on call basis as and when the biomedical waste gets generated. Provide contact details of CBWTF operator at Quarantine Camps;*
- *Provide necessary support, security including authorisation to staff of CBWTFs;*
- *ULB shall engage CBWTF operator for ultimate disposal of biomedical waste collected from quarantine home/home care or waste deposition centers or from door steps as may be required depending on local situation; ULB shall make agreement with CBWTF in this regard.*
- *ULBs envisage following options to facilitate safe collection and disposal of biomedical waste from quarantined homes/Home care;*
  - a) *Engage authorized waste collectors for door steps collection of biomedical waste and transfer to collection points for further pick-up by CBWTF; and/or*
  - b) *In case number of quarantined homes/Home-care units are less, ULBs may engage services of CBWTFs to collect the waste directly from door-steps.*
- *Provide yellow colored bags (designated for BMW) to the persons*

responsible for operating Quarantine Camp or home-care. If required, such bags may be provided through CBWTF.

- ULBs shall ensure the following in engaging authorized waste collectors at door-steps or at waste deposition centers;
  - o Create a separate team of workers who shall be engaged in door step waste collection at waste deposition centres or at quarantine homes or home care.
  - o Ensure that only designated staff collects biomedical waste from quarantine homes or home care.
  - o Training should be provided for sanitization, about collection of biomedical waste, precautionary measures to handle biomedical waste.
  - o Impart training to waste collector in handling of biomedical waste including methods of sanitization. Training to waste collectors should be arranged through CBWTF operators;
  - o The staff involved in handling and collection of waste from quarantine homes or home care centers shall be provided with adequate Personnel Protective Equipment such as three layer masks, splash proof aprons/gowns, heavy-duty gloves, gum boots and safety goggles. These PPEs are required to be worn all the time while collecting of waste from quarantine center/quarantine homes/home care/waste deposition centres.
  - o Use dedicated carts / trolleys / vehicles for transport of biomedical waste. Ensure sanitization of vehicles with 1% hypochlorite after each trip.
  - o Ensure that, waste collectors arriving at quarantine center or at home care shall spray the disinfectant (1% hypochlorite solution) on the bin used for yellow bag.
- Establish common waste deposition centers (as stipulated under SWM Rules, 2016) for receiving / collection of biomedical waste. For this purpose, existing Dhalaos if any may be converted suitably.
- The general solid waste collected from quarantine homes or home care shall be disposed of as per SWM Rules, 2016.
- Services of Common Biomedical Waste Treatment & Disposal Facilities (CBWTFs) and staff associated with CBWTFs for collection, transportation, treatment and disposal of biomedical waste generated from hospitals including COVID-19 isolation wards, Quarantine Camps, etc. may be considered an essential service as part of health infrastructure.
- Facilitate smooth operations of CBWTFs.
- Local agencies / ULBs may take additional measures considering prevailing ground situations and feasibility, however while implementing such measures requirements outlined in these guidelines should be complied.<sup>f1</sup>

[<sup>+</sup> Inserted in Rev. 1 of guidelines dated

25/03/2020] [f<sup>1</sup> Amended  
in Rev. 2 of guidelines dated  
18/04/2020]

**(g) Management of wastewater from HCFs / Isolation Wards <sup>\*\*</sup>**

As per the information available at CDC, the risk of transmission of virus that causes COVID-19 through sewerage systems is thought to be low. Transmission to operators may be possible during treatment of sewage treatment plants, however there is no evidence to date that this has occurred. Therefore, following guidance recommended for HCFs and the operators of STPs;

- Responsible agencies are Healthcare Facilities / Isolation Wards / operators of terminal sewage treatment plants (PHED/ Jal Board/ etc.).
- HCFs and the agencies operating Sewage Treatment Plants should continue to ensure disinfection of treated wastewater as per prevailing practices to inactivate coronaviruses.
- Operators of ETPs/STPs attached with discharge from Healthcare Facilities and isolation wards should adopt standard operational practices, practice basic hygiene precautions, and wear personal protective equipment (PPE) prescribed for operation of STPs. PPEs should include Goggles, face mask, liquid repellent coveralls, waterproof gloves and Rubber boots.
- During the period of COVID-19 pandemic, utilization of treated wastewater in utilities within HCFs may be avoided.”

[\* \* inserted in Rev. 2 of guidelines dated 18/04/2020] ”

9. There appears to be need for further revision of the guidelines to cover all aspects covering not merely institutions but also individual households and dealing with situations where scientific disposal facilities like incinerators are not available and any unmindful deep burial without adequate safeguards can adversely affect the ground water and pose danger to health and safety of people.

Disposal of COVID-19 waste in general bins so as to be part of municipal waste or unscientific handling sewage and other liquid waste without safeguards can also be hazardous. There is also need to incorporate best practices in the light of further experience and new thoughts emerging from time to time, apart from continued supervision

and monitoring, compiling data in an online format, use of electronic /digital manifest system to track and log COVID-19 waste from all sources, preventing its accidental spillage, analyzing the data for strategic planning and the feedback by creating necessary software, to the extent viable.

There is also need for creating awareness about the precautions and steps to be taken by all handlers and workers as well as citizens, making a model plan, to be adopted locally by the Panchayat, Sub-division, District and State authorities with such further changes as may be necessary in local conditions. Health of all operators has been protected and preventive measures taken. There is need for orientation/training of persons responsible for compliance in Local Bodies and Health department by an online mechanism besides providing them with adequate protective gear. CPCB has to take lead and coordinate with media as well as the concerned Central/State departments.

Let the Chief Secretary of States/UTs by coordinating the activities of State's concerned departments like of Urban Development, Health, Irrigation & Public Health also closely monitor the scientific storage, transport, handling, management and disposal of COVID-19 waste as its unscientific handling poses a grave threat environment and health of people. At the national level, let a high level task team of Ministry of MoEF&CC, Health UD, Jal Shakti, Defence and CPCB supervise the handling and scientific disposal of COVID-19 waste in accordance with the guidelines.

Let the State Departments of Environment and PCBs/PCCs ensure compliance of Biomedical Waste Management Rules, 2016 and

furnish action take report to CPCB and CPCB take further steps and furnish a consolidated report to this Tribunal of the steps taken and the ground status as on 31.5.2020. The report may be furnished by 15.06.2020.

List for further consideration on 22.06.2020.

Copies of this order be sent to Chief Secretaries, PCBs/PCCs of all States/UTs, CPCB and Ministries of EF&CC, Health UD, Jal Shakti and Defence.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

Dr. Nagin Nanda, EM

April 23, 2020  
Original Application No. 72/2020  
AK



**Email****bvbabu.cpcb@nic.in**

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**O. A. NO. 72 of 2020 In Re : Scientific Disposal of Bio-Medical Waste arising out of COVID-19 treatment - Compliance of BMW Rules, 2016 before Hon'ble National Green Tribunal, Principle Bench – reg.**

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Type your text

**From :** Vinod Babu Bommathula <bvbabu.cpcb@nic.in> Wed, Apr 22, 2020 07:42 PM  
**Subject :** O. A. NO. 72 of 2020 In Re : Scientific Disposal of Bio-Medical Waste arising out of COVID-19 treatment - Compliance of BMW Rules, 2016 before Hon'ble National Green Tribunal, Principle Bench – reg.  1 attachment  
**To :** JS DM MHA <jsdm@nic.in>  
**Cc :** Ravi S Prasad <ravis.prasad@nic.in>, dirdmi@nic.in, Member Secretary CPCB <mscb.cpcb@nic.in>, Youthika Puri <youthika.cpcb@nic.in>, Aditya Narayan Singh <aditya.narayan@nic.in>, Dharmendra Kumar Gupta <gupta.dharmendra@gov.in>

B-31011/BMW(94)/2020/WMD-I

April 22, 2020

To,  
The Joint Secretary  
Disaster Management Division  
Ministry of Home Affairs

Sir,

This has reference to Original Application no. 72 of 2020 on above matter before Hon'ble National Green Tribunal, Principle Bench. The matter was heard on 21.04.2020 through Video Conferencing. In its interim order dated 21/04/2020, Hon'ble Tribunal was of the view that the task of Central and State Pollution Control Boards is part of essential health services for COVID-19.

A copy of aforesaid order dated 21.04.2020 is attached herewith for kind information.

Yours faithfully,

B Vinod Babu,  
Additional Director (Scientist-'E') &  
Nodal Officer, Waste Management Division,  
Central Pollution Control Board  
(Ministry of Environment, Forest and Climate Change)  
Delhi

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**Email****bvbabu.cpcb@nic.in****O. A. NO. 72 of 2020 In Re : Scientific Disposal of Bio-Medical Waste arising out of COVID-19 treatment- Compliance of BMW Rules, 2016 before Hon'ble NGT, New Delhi**

**From :** Vinod Babu Bommathula <bvbabu.cpcb@nic.in> Wed, Apr 22, 2020 07:02 PM

**Subject :** O. A. NO. 72 of 2020 In Re : Scientific Disposal of Bio-Medical Waste arising out of COVID-19 treatment- Compliance of BMW Rules, 2016 before Hon'ble NGT, New Delhi  1 attachment

**To :** Member Secretary APPCB <membersecy@appcb.gov.in>, arunachalspcb@gmail.com, hocecb@gmail.com, Member Secretary GSPCB <ms-gspcb.goa@nic.in>, goapcb@rediffmail.com, membersecretarygpcb@gmail.com, Member Secretary Karnataka State Pollution Control Board <memsecy@kspcb.gov.in>, Head office Karnataka State Pollution Control Board <ho@kspcb.gov.in>, Sreekala S <ms.kspcb@gov.in>, ms@mpcb.gov.in, megspcb@rediffmail.com, membersecretary@ospboard.org, Member Secretary <msppcb@punjab.gov.in>, tnpbmembersecretary@yahoo.com, ts ms <ts\_ms@pcb.ap.gov.in>, dstandamans@gmail.com, mspcc dmn <mspcc\_dmn@pccdaman.info>, Director, S&T <lk-dst@nic.in>, Pondicherry Pollution Control Committee Pondicherry <ppcc.pon@nic.in>, ms@wbpcb.gov.in, membersecretary@pcbassam.org, mscellbspcb@gmail.com, mizorampcb@gmail.com, Chandigarh Pollution Control Committee <cpcc-chd@nic.in>, Member Secretary <msdpcc@nic.in>, mshspcb@gmail.com, mspcb-hp <mspcb-hp@nic.in>, ms@uppcb.com, msukpcb@gmail.com, membersecretaryjkspcb@gmail.com, ranchijspcb@gmail.com, It mppcb <It\_mppcb@rediffmail.com>, Pollution Control Board <pcb-man@nic.in>, duhawma15@yahoo.com, rusoviljohn@yahoo.co.in, Member Secretary <member-secretary@rpcb.nic.in>, spcbsikkim@gmail.com, mukherjee manas <mukherjee\_manas@rediffmail.com>, MPCB <mpcb@mizoram.gov.in>, Sekar D <tnpcb-chn@gov.in>, spsubudhi <spsubudhi@gmail.com>, msukpcb <msukpcb@yahoo.com>, hspcbho <hspcbho@gmail.com>, Jerold Hollis Nengnong <memsecy.spcb-meg@gov.in>

**Cc :** Prashant Gargava <prashant.cpcb@gov.in>, Youthika Puri <youthika.cpcb@nic.in>, Aditya Narayan Singh

<aditya.narayan@nic.in>, Dharmendra Kumar Gupta  
<gupta.dharmendra@gov.in>

**B-31011/BMW(94)/2020/WM-I**  
**April 22, 2020**

E-Mail to:

Member Secretaries  
SPCBs/PCCs

Subject: O. A. NO. 72 of 2020 In Re : Scientific Disposal of Bio-Medical Waste arising out of COVID-19 treatment- Compliance of BMW Rules, 2016 before Hon'ble NGT, New Delhi

Sir / Madam,

This has reference to Original Application no. 72 of 2020 on above matter before Hon'ble National Green Tribunal, Principle Bench. The matter was heard on 21.04.2020 to assess the status of biomedical waste management in COVID-19 pandemic situation and also discussed the 'Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/ Diagnosis/ Quarantine of COVID-19 Patients' issued by CPCB.

In its interim order, Hon'ble Tribunal was of the view that State Pollution Control Board/Pollution Control Committees have to make serious efforts to mitigate possible risk in terms of unscientific disposal of bio-medical waste and to enforce rule of law so as to ensure proper disposal of COVID-19 waste as well.

Hon'ble Tribunal has also observed that the task of Pollution Control Boards is part of essential health services for COVID-19.

A copy of aforesaid order dated 21.04.2020 is enclosed herewith for kind reference and necessary compliance.

Yours faithfully

B Vinod Babu,  
Additional Director (Scientist-'E') &  
Nodal Officer, Waste Management Division,  
Central Pollution Control Board  
Delhi

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**Central Pollution Control Board**  
Ministry of Environment, Forest and Climate Change  
Government of India

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*In Pursuit of Clean Environment*



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Waste Management +

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Pollution Control Planning +

Information Technology +

Environmental Training +

NGT/Court Cases

Public Relations +

Infrastructure Development +

Regional Directorates / Project Office +

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## COVID-19 Waste Management Updated On : 14 Jun 2020

1. CPCB Guidelines on COVID-19 related Waste Management

  - ▶ **NEW** Revision 3: Guidelines for Handling, treatment and disposal of waste generated during treatment, diagnostics and quarantine of COVID-19 patients

2. Posters

  - ▶ Poster 1: On-site segregation and collection of biomedical waste from COVID-19 Ward
  - ▶ Poster 2: Handling of COVID-19 Biomedical Waste at Temporary Storage Area at Hospitals

3. Dos and Don'ts

  - ▶ : For management of Biomedical waste generated from quarantine homes, Quarantine Camps and home-care
  - ▶ : For ULBs

4. COVID-19 related Videos

  - ▶ MoEF&CC and UNIDO Video on Safe Waste Management Practices for COVID-19 at Hospitals as per CPCB guidelines

5. Pictorial-Guide on biomedical waste management including COVID-19 waste as per CPCB guidelines
6. Version 1 : User Manual for Android Mobile & Web Application for COVID-19 BWM Tracking
7. COVID-19 related Audios

  - ▶ COVID-19 Waste Management Audio - 1

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**Central Pollution Control Board**  
**Waste Management Division – I**

**Minutes of meeting of High Level Task Team with SPCBs/PCCs and State Health, UD and Environment Departments to Review Status of COVID-19 Waste Management by States/UTs**

**1. Background:**

CPCB constituted a High Level Task Team (HLTT) comprising senior officers representing MoEF&CC, MoHFW, MoHUA, Ministry of Defence and Ministry of Jal Shakti to review overall management and scientific treatment of COVID-19 waste in the Country. HLTT held first review meeting under the Chairmanship of Shri Shiv Das Meena, Chairman, CPCB on 26/05/2020 with Chairmen/Member Secretaries of State Pollution Control Boards(SPCBs) / Pollution Control Committees(PCCs) and officials representing Health, Environment and Urban Development Departments of respective States. Meeting was conducted through Video Conference in two slots at 11:30AM and 3:30PM. List of participants is given at Annexure I.

Chairman, welcomed the members of HLTT and participants from SPCBs/PCCs, State Health, Environment and Urban Departments. In his opening remarks, he pointed out that strict implementation of provisions of BMW Rules, 2016 is necessary for safe disposal of COVID-19 related biomedical waste. Subsequently he emphasized on following points;

- Need to ensure segregation of general solid waste and biomedical waste in isolation wards, quarantine centers, quarantine homes and homecare units.
- Identify the incinerators in existing TSDFs as well as the captive disposal facilities of industry as stand-by facilities for disposal of waste in case need arises.
- Closely monitor the chain of disposal of biomedical waste generated by hospitals, quarantine centers/camps, home care etc.
- Usage of CPCB tracking App (mobile application & web portal) to ensure every Kg of waste gets accounted.

2. Sh. B Vinod Babu, Nodal Officer Waste Management Division, CPCB gave presentation (copy enclosed) on CPCB guidelines, responsibilities of different stakeholders and Action Points for compliance by States/UTs
3. Thereafter, member representing MoH&FW re-emphasized the need for proper segregation of waste for effective management of waste related to COVID-19 situation. Colonel Ghosh from DGAFMS has informed that AFMS has established one of the first quarantine centers and developed several other

quarantine facilities and isolation wards across the country. He informed that DGAFMS has taken adequate facilities for management of COVID-19 related waste as per CPCB guidelines. Member representing Ministry of Jal Shakti has emphasized that the CPCB guideline should address safe methods for disposal of personal protection gear in common households. Member representing MoHUA has informed that issues with regard to segregation of general wastes in quarantine centers and quarantine homes, are getting resolved gradually in line with CPCB guidelines.

4. States/UTs have highlighted the actions taken, practical difficulties faced in implementation and also suggested for revision of CPCB guidelines for more clarity. States/UTs have also requested intervention of CPCB in some of the issues.

After deliberations, following actions points have been decided for compliance;

(i) **Use of CPCB tracking App. for COVID19 waste:**

- a. SPCBs/PCCs shall ensure that every generator and is registered on CPCB's Tracking App and make daily entries. The system should be made functional within 7 days. SPCBs/UTs should also start submitting daily status reports only through Tracking App (Web-portal).
- b. States/UTs who are presently not generating COVID-19 waste should also implement the App and may report the data as 'nil'.
- c. Waste Management and IT Divisions in CPCB shall resolve the issues raised by SPCBs/UTs in implementing Tracking App and also circulate user manual.

(ii) **Segregation of Biomedical Waste:**

- a. SPCBs/PCCs and State Health Department should ensure that segregation of biomedical waste is practiced by hospitals treating COVID-19 patients as per the colour categorization stipulated under BMW Rules, 2016 and CPCB guidelines.
- b. SPCBs/PCCs and State UD Department should ensure strict segregation of general waste and biomedical waste at quarantine centers, quarantine homes and homecare.
- c. As a matter of abundant caution, general waste generated from these facilities may be treated with disinfectant prior to disposal.

- (iii) **Ensure daily lifting of solid waste from hospitals treating COVID-19 patients:** State/UT Department of UD shall ensure that the solid waste is lifted every day from hospitals treating COVID-19 patients as well as quarantine camps/homes as per their usual practice. They shall also ensure that personal protection gear is given to waste handlers engaged by ULBs.

- (iv) **Revision of CPCB guidelines:** CPCB may revise the existing guidelines to bring in clarity, guidance on segregation of wastes, safety of waste handler associated with healthcare

facilities, ULBs and CBWTFs. Revision of guidelines may also include citizen specific guidance on segregation of waste at homecare.

- (v) **Monitoring of deep burial pits:** SPCBs/PCCs being prescribed authorities shall maintain inventory of deep-burial pits, monitor the practice of using deep burial for disposal of COVID-19 waste and ensure scientific disposal as per standards given under BMWM Rules, 2016.
- (vi) **Directions to concerned Departments in the State:** In case the situation warrants, SPCBs/PCCs may issue appropriate directions to concerned Departments in the State to ensure compliance to CPCB guidelines.
- (vii) **Compliance to CPCB guidelines:** Stakeholders like hospitals, CBWTF operators, Urban Local Bodies shall perform their duties in line with CPCB guidelines for proper disposal of COVID-19 waste.
- (viii) **Safety & security of waste handlers:** MoHUA shall ensure that adequate PPEs are available with concerned departments for COVID-19 waste handlers.
- (ix) **Awareness among the waste handlers:** SPCBs/PCCs, State Health and Urban Departments should provide awareness / trainings to the workers involved in handling of COVID-19 waste. Records of training should be submitted as part of compliance reporting.
- (x) **Template for District Model Plan:** CPCB shall prepare a Model Plan on management of COVID-19 waste suitable for Panchayat, sub-Divisions and District level to facilitate States/UTs to prepare similar plans considering local conditions.
- (xi) **Submission of Action Taken Report:** A status report on compliance shall be submitted by 04.06.2020 by SPCBs/PCCs. The report may be prepared jointly by SPCBs/PCCs and State Health and UD Departments.

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## List of participants

High Level Task Team / State/UT	Name of Participants
High level task team members	Sh. Brijesh Sikka, Sr. Consultant, NMCG
	Col. S. Ghosh, DGAFMS
	Dr. V. K. Chaurasia, Joint Advisor, MoHUA Sh. Aditya Narayan, AD, MoEF&CC
	Dr. Nandini Duggal, Sr. Microbiologist, RML Hospital (Representative from MoHFW)
	Dr. V. K. Chaurasia, Joint Advisor, MoHUA
	Sh. Aditya Narayan, AD, MoEF&CC
<b>Morning Slot 11:30am</b>	
Andhra Pradesh	APPCB official
Assam	Member Secretary
Bihar	Chairman
Goa	Member Secretary
Himachal Pradesh	HPPCB official
Jharkhand	Member Secretary
J & K	Member Secretary
Karnataka	KSPCB official
Kerala	Member Secretary
Madhya Pradesh	Member Secretary
Maharashtra	Member Secretary
Manipur	Member Secretary
Meghalaya	Member Secretary
Mizoram	Member Secretary
Nagaland	NSPCB official
Uttarakhand	Member Secretary
<b>After Noon Slot 03:30pm</b>	
Andaman Nicobar	Chairman and Member Secretary
Arunachal Pradesh	Arunachal Pradesh PCB officials
Chandigarh	Member Secretary
Chhattisgarh	Member Secretary
Daman & Diu and Dadra & Nagar Haveli	Chairman
Delhi	Member Secretary
Gujarat	Member Secretary
Haryana	Chairman
Lakshadweep	Member Secretary and official from Environment and Forest Department

Odisha	Member Secretary
Puducherry	Chairman
Punjab	Chairman and MS
Rajasthan	Member Secretary
Sikkim	Member Secretary
Tamil Nadu	Chairman
Telangana	Member Secretary & Principle Secretary, Environment Department
Tripura	Member Secretary
Uttar Pradesh	Member Secretary
West Bengal	Officials from WBSPCB and Health Department of West Bengal

**Draft Model Plan for COVID-19 Biomedical Waste Management at Village Panchayats and Sub-Divisions**

**17<sup>th</sup> June, 2020**

**[As per recommendations of High Level Task Team constituted by Hon'ble NGT vide Order dated 24/04/2020 in OA 72 of 2020]**



**Central Pollution Control Board**  
**(Ministry of Environment, Forest & Climate Change)**  
**Parivesh Bhawan, East Arjun Nagar**  
**Delhi – 110032**

# Draft Model Plan for COVID-19 Biomedical Waste Management at Village Panchayats and Sub-Divisions

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## 1. Introduction:

Bio-medical waste means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or research activities pertaining thereto or in the production or testing of biological or in health camps. Accordingly, waste that came in contact with blood or body fluids of patients including the persons suffering from COVID-19 shall also be treated as biomedical waste.

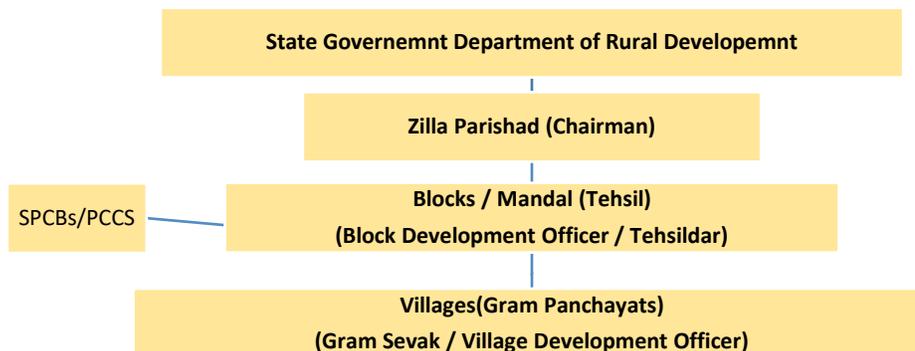
Bio Medical Waste Management Rules, 2016 categorizes the biomedical waste into four colour categories namely yellow, red, white and blue based on disposal pathway and accordingly stipulates requirement of segregation prior to disposal.

Segregation, Collection, pre-treatment, and Storage are the essential responsibilities of the generator of biomedical waste such as clinics, hospitals, isolation wards, quarantine centres etc.. Collection, Treatment and Disposal is primarily the responsibility of CBWTF operator. However, in case the CBWTF is located far away from generator, it will be the responsibility of waste generator to ensure disposal by setting up adequate disposal facilities.

During the COVID-19 pandemic situation, there is a possibility that COVID-19 related biomedical waste gets generated at villages from symptomatic persons in village quarantine centers, test centers at PHC and in homecare or home quarantine of COVID-19 patients. Biomedical waste may also generate from households from persons suffering pre-existing diseases.

In villages, civic amenities including services of waste management is the responsibility of Gram Panchayats, Panchayat Samitis, Group-Gram Panchayats, Gram Sewaks, Block/Tehsil level Offices, along with Zilla Parishad to implement over-all waste management, which includes safe disposal of domestic hazardous waste and COVID-19 related biomedical waste at villages.

The prevailing hierarchy of responsible stakeholders for overall waste management at village panchayat levels are shown schematically as below;



## **2. Management of Biomedical Waste at Villages**

Biomedical waste including COVID-19 biomedical waste at Village level is required to be managed in line with the provisions under BMWM Rules, 2016 as well as CPCB guidelines. Separate collection of general solid waste and biomedical waste is the basic requirement for effective waste management, which need to be need to be practiced at villages also. Waste generated from PHCs and other healthcare facilities such as clinics/nursing-homes at village level shall segregate biomedical waste as per colour coding under BMW Management Rule, 2016.

The responsibility of PHCs, village Samitis is to ensure segregation, collection, and safe storage of biomedical waste prior to pick-up and final disposal by Common Biomedical Waste Treatment and Disposal Facilities (CBWTFs). However, in case linkage with CBWTF is not available, it will be the responsibility of PHC, village Samiti or the Sub-Division to set-up adequate disposal facilities to ensure safe and scientific disposal of COVID-19 biomedical waste in Villages. A model template for action plan given at Section 7 of this document may be referred, however, local practices and conditions may be considered while preparing local action plans for management of COVID waste. The Regional Offices of SPCBs/PCCs may assist villages / sub-division in finalizing Village / sub-division level action plans.

## **3. Source of COVID-19 waste generation in Villages**

COVID-19 related biomedical waste may generate in a village in following scenarios;

- Primary Health Centers, if patients are screened for COVID-19;
- Home Quarantine of suspected COVID-19 patients;
- Homecare Units for COVID-19 patients;
- Temporary Quarantine Centers (such as temporary shelters, Schools, Community centers, etc.) if developed in a village.

## **4. Role of Village Panchayat and Panchayat Samitis**

Gram Pancharat and its Samitis may play active role in dealing with waste related to COVID-19 if any generated in villages. Waste generated from quarantine centers shall not be treated as biomedical waste unless the quarantined person exhibits disease symptoms or if suffering from any pre-existing medical condition.

Given below are major responsibilities of Gram Panchayats in management of COVID-19 related waste;

- Need for setting up quarantine shelter or camp for village.

## Draft Model Plan for COVID-19 Biomedical Waste Management at Village Panchayats and Sub-Divisions

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- Identify COVID-19 patient in village under homecare.
- Identify quarantine homes in village
- Report information regarding existence of Quarantine Center/shelter, home quarantine, home care, Fever Clinic at PHC etc. to concerned Tehsil Office and SPCB/PCC;
- Ensure separate collection of general solid waste and biomedical waste
- Appoint a nodal person in Gram Samithi responsible for management of COVID-19 waste generated at Quarantine Center/camp, home quarantine, home care, fever clinic, etc.
- Assess the requirement of collection bins / bags for quarantine centers for collection of biomedical waste and general solid waste.
- Ensure that biomedical waste if any is collected separately in yellow colour bags at quarantine centers, home quarantine or home-care units.
- Identify location and space for waste deposition center for temporary storage of COVID-19 biomedical waste generated from Quarantine Center/shelters, home quarantine, home care, fever clinic at PHC etc. This center may also receive domestic hazardous waste or other biomedical waste from other households, if any.
- Waste deposition centers should not be located close to any dwelling. It may be kept along village Road to facilitate easy access and collection through CBWTF or for any other means of disposal;
- Provide dedicated waste collection bins at waste collection center.
- Identify dedicated staff for handling and collection of COVID-19 related biomedical waste and general solid waste from generated from Quarantine Center/shelters, home quarantine and home care.
- Dispose general solid waste as per existing practices. However, ensure that access to dumpsites is strictly restricted.
- Inform Sub-Division/Tehsil office to facilitate disposal of COVID-19 biomedical waste if any generated in Village.

### 5. Responsibilities of Block/ Sub-Division

- Role of Sub-Division for disposal of COVID-19 BMW may include;
  - o Identification of CBWTF if available within 150 Km in consultation with concerned SPCB/PCC (or Regional Office of SPCB/PCC) and engage CBWTF after agreement

## Draft Model Plan for COVID-19 Biomedical Waste Management at Village Panchayats and Sub-Divisions

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of rates for collection, treatment & disposal of COVID-19 biomedical waste from common or village wise waste deposition centers;

- If services of CBWTF is not available, explore the possibility of disposal of waste through any captive treatment facility installed at Government hospital located nearby;
  - Deep Burial pits may be constructed as per standards with prior approval / authorization from concerned SPCB/PCC and Inform SPCB/PCC on operation and/or closure of burial pits;
- Ensure that every village has access for disposal of biomedical waste;
  - Report quantity of COVID-19 biomedical waste generated in Sub-Division on CPCB's COVID-19 biomedical waste tracking App;
  - May provide bins for waste deposition centres and quarantine camps;
  - Distribute yellow color bags to village panchayats for collection of biomedical waste ;
  - Ensure that general solid waste and biomedical wastes are collected separately.

### 6. Responsibilities of Zilla Parishad

- Monitor over-all compliance by villages and Sub-Divisions ensuring safe collection and disposal of COVID-19 related biomedical in the District;
- Ensure that every sub-division has adequate inventory of material to manage COVID-19 biomedical waste;
- Facilitate engaging suitable CBWTF for waste collection in the District in association with regional office of SPCBs/PCCs.

### 7. Model Template for preparation of Action Plan for Village / Sub-Division

The following model template of information may be prepared to implement action plan for management of COVID-19 biomedical waste at villages and Sub-Divisions, specific to local conditions;

S.No.	Particulars	Details
<b>1.</b>	<b>Inventory of Waste Generation at Village and Sub-Division</b>	[Name of Sub-Division, District]
i.	Name of Sub-Division and District	[Name of Sub-Division and District]
ii.	Number of Villages and their location on map	[prepare a map showing village locations in sub-Division]

**Draft Model Plan for COVID-19 Biomedical Waste Management at Village Panchayats and Sub-Divisions**

iii.	List of Village Panchayats	[Prepare list of Villages in the Sub-Division]
iv.	Details of PHCs, Sample testing centers, fever clinics etc.	Collect information pertaining to PHCs and the villages covered by each PHC in Sub-Division
v.	Location of quarantine centers in Sub-Division and PHCs in Sub-Division	[prepare list and show ion map]
vi.	Village wise List of quarantine Homes / Homecare	[collect village-wise list]
vii.	Estimate quantity of biomedical generation.	[Assess quantity of biomedical waste expected to generate from quarantine cancers / homecare / quarantine homes, PHCs and nursing homes and hospitals in Sub Division with list of generators]
<b>2</b>	<b>Explore Common Facilities for waste Disposal</b>	
i.	Does the village has solid waste disposal facility	[List of villages in Sub-Division with own landfills / shared landfills or linkage to material recovery facilities]
ii.	Does the villages have common domestic hazardous waste (biomedical waste) deposition points	[Prepare list of villages needing biomedical waste deposition Centers]
iii.	Does the PHCs have biomedical waste disposal mechanism	[Prepare list of PHCs in Sub-Division needing scientific disposal facilities for biomedical waste] [officials from health department and Regional Office of SPCBs may verify the facilities]
<b>3.</b>	<b>Assess Existing Infrastructure for disposal of BMW generated from Villages / Sub-Division</b>	
i.	Details of CBWTFs	[Identify CBWTFs located within or adjoining districts within a distance of about 150Km]
ii.	Identify captive disposal facilities	[Identify Captive Treatment Facilities available with exiting Hospitals /Nursing Homes in Sub-Division or District which can received waste from Sub-Division / villages] [identify captive incinerators at existing TSDFs, Industries within a lead distance of 150Km and may have agreement with such facilities for incineration of waste from villages]

**Draft Model Plan for COVID-19 Biomedical Waste Management at Village Panchayats and Sub-Divisions**

iii.	Existing Deep Burial Pits for biomedical waste	[Identify number of deep burial pits operated in Sub-Division and prepare Village-wise list]
<b>4.</b>	<b>Prepare COVID-19 Waste Management Plan</b>	
i.	Agreement with CBWTFs	[Establish agreement with CBWTFs at Sub-Division level for collection of BMW from deposition points at villages and PHCs]
ii.	Use captive disposal facilities for disposal of COVID-19 BMW	[explore possibility of agreement with captive facilities for receiving COVID-19 waste]
iii.	Deep burial pits	[in case of non-availability of common infrastructure for disposal of biomedical wastes, construction of Deep burial pits may be taken up at Sub-Division level, with permission from SPCBs]
iv.	Awareness and Training	[Arrange training to waste handlers at Village Samitis , Sub-Divisions and sanitation workers attached with PHCs, hospitals and nursing homes. May be conducted in association with Regional Offices of SPCBs]
v.	Personal protection Equipment (PPEs)	[Plan to ensure that Workers are provided with adequate PPEs including three layer masks, splash proof aprons/gowns, hard gloves, gum boots and safety goggles - maintain adequate stock and distribution to village panchayats]
vi.	Waste and waste collection bags	[ Sub-Division may maintain adequate stock of biomedical waste collection bags (Yellow-colored bags with bio-hazard symbol) for distribution to Village panchayats where COVID-19 waste is generated]
vii	Waste Deposition Centres	[Each village has waste deposition center, from where COVID-19 waste may be picked for final disposal]

**Note:** The above model plan is a draft template for villages and Sub-Divisions. However, concerned departments in the State may prepare specific models considering local conditions, in consultation with SPCBs/PCCs.

--OO--

**USER MANUAL**  
**Android Mobile Application**  
**&**  
**Web Application**



**COVID19BWM**  
**COVID-19 Biomedical Waste Tracking App**

Version 1.0

28.05.2020



**Central Pollution Control Board**  
(Ministry of Environment, Forest and Climate Change)

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## 1.0 General Information

This user manual explains various sections of COVID-19 BWM tracking application for its users that is Waste Generator, Waste Handlers, Common Biomedical Waste Treatment Facilities (CBWTF), State Pollution Control Boards/ Pollution Control Committees, and others. This manual also provides information on downloading and operating the application. This Tracking App is initially developed for android mobiles, however, iOS version is under progress. The manual explains the process of collection of waste together with responsibilities of its stake holders.

### 1.1 Application Overview

“COVID19BWM” – is a software application for tracking of generation, collection and disposal of COVID-19 Bio-medical waste, generated at various Health Care facilities/Hospitals (HCF), Quarantine Centers, Isolation wards, Testing Labs, Covid-19 Sample Collection Centers and Urban Local Bodies involved in performing the duties of waste collection from Home Quarantine centers / homecare units. This application will enable information exchange between various stake holders involved.

## 2.0 Hardware Requirements & User Access

This section explains about the hardware and software requirements for accessing COVID-19 BWM application and user access levels.

### 2.1 Hardware and Software Requirements

- Requires a smart phone with Android operating system (OS).
- The minimum Android version should be 4.0.3 and up to avail all the features in the application.

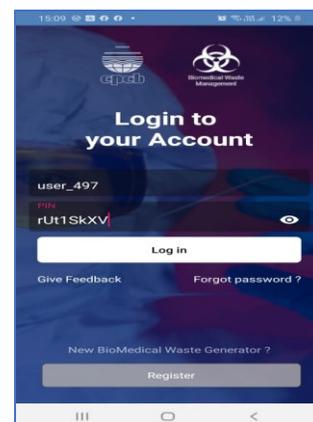
To download and use the functionalities of COVID-19 BWM mobile app, you require an Internet connection in your mobile.

### 2.2 User Registration & Access

#### 2.2.1 Registration Process

##### Waste Generators

- a. Hospitals and Health Care Facilities (HCF)
- b. Quarantine Centers
- c. Isolation Wards
- d. Captive Treatment Facilities
- e. Urban Local Bodies (ULB)
- f. Sample Testing Centers
- g. Laboratories



- A. All the Waste Generator entities are required to register through Mobile APP registration process for which ICON is available on Home Page of the Mobile Application.

- B. CBWTF: Common Bio Medical Waste Treatment & Disposal Facilities and Waste Handlers (Vehicle Drivers) of CBWTF are being registered by CPCB. For registration, these CBWTF require to submit the format of CBWTF registration available at annexure-1. These formats have to be submitted to CPCB Helpline details (email ids) available at Annexure-3.
- C. SPCBs/PCCs: Nodal Officers of State Pollution Control Boards and Pollution Control Committees Board are being registered by CPCB. For registration, these SPCBs/PCCs require to submit the format of SPCBs/PCCs registration at annexure-2. These formats have to be submitted to CPCB Helpline email ids available at Annexure-3.

### 2.2.2 Procedure to access the Application by its stake holders

#### **APPLICATION DETAILS**

- Mobile Application named as **COVID19BWM** (Central Pollution Control Board) can be downloaded in Android Mobile from google play store
- Desktop/Laptop Application can be downloaded from URL <https://bwm.cpcbccr.com>

#### **APPLICATION USE BY STAKE HOLDERS**

- Waste Generator, to use application through Mobile Only
- Health Care Facilities (HCF), to use application through Mobile Only
- Quarantine Center, to use application through Mobile Only
- Urban Local Bodies (ULBs) or Municipal Corporations (MC), to use application through Mobile Only
- CBWTF Operators to use application through Mobile for accepting waste and through Laptop/Desktop to verify the records.
- Waste Handlers (i.e. Drivers of vehicles) to use Mobile Application through Mobile Only
- SPCBs/PCCs to use application through Laptop/Desktop only
- CPCB to use application through Laptop/Desktop only

## 3.0 How to download the application

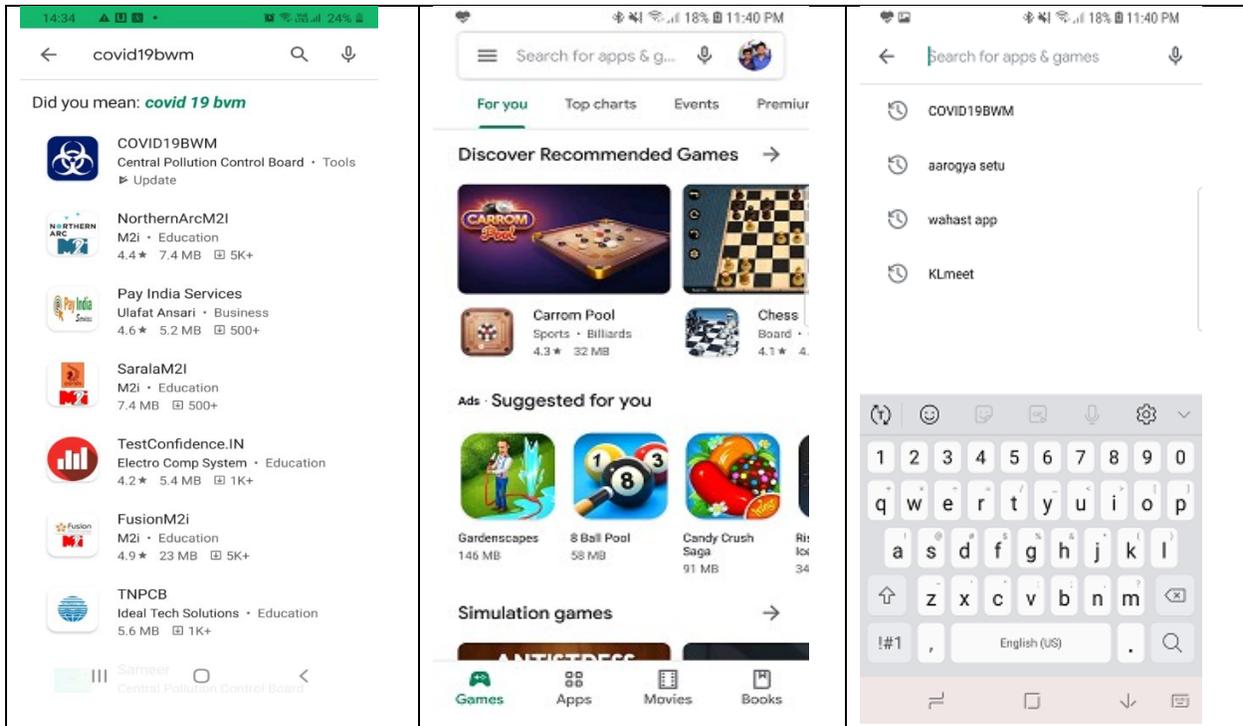
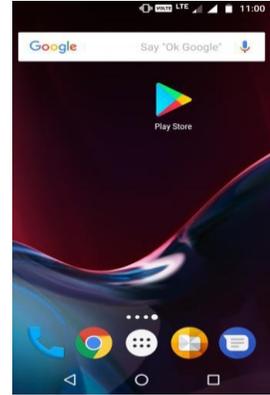
COVID-19 BWM App can be downloaded in following ways.

- Google Play Store
- Downloading the application through APK by using COVID-19 BWM web Portal ([bwm.cpcbccr.com](http://bwm.cpcbccr.com))

### 3.1 Google Play Store

Open Play Store application on your mobile by clicking on the Play Store icon as shown in the image below.

Click on the Google Play text at the top and enter the text "COVID19BWM" in the search bar. Click on the COVID19 BWM application icon from the search result. Now below page will open which asks to install the application. Click on the "INSTALL" button to install the application.



## 4.0 Waste Generator Registration

COVID-19 biomedical Waste Generators like HCF (Hospital)/Isolation-Ward / Quarantine Centre / Laboratory / Quarantine Homes / ULBs / require to register in the application. While registering they shall ensure that correct state, district is selected. Based on selection available Common Biomedical Waste treatment Facility will appear in drop down.

Use correct email id & Phone numbers so that OTP & user id generated could be accessed. OTP shall also be available on phone while user id is only available at email id given

Select correct Common Biomedical waste treatment facility name through which waste disposal is planned.

If correct name does not appear contact Helpline available in Annexure-3.

Use Register Button after filling all correct information

## 5.0 Waste Tracking System

Steps involved in waste tracking are as below

**GENERATORS**

1. Enter Waste Data
2. Handover Waste

**Waste Handler**

1. Reach each generator location
2. Review and Accept waste Data

**CBWTF**

1. Review and Accept Waste from Waste Handler
2. Submit Data to SPCB

All the Waste Generators (HCF/ULB), Waste Handlers (drivers) & CBWTF require use of Mobile Application to 1. To Handover waste 2. To accept waste from Waste Generator & 3. To accept waste from Waste Handlers through Mobile Application. This will automatically create entry into the system and all other entities will visualize the data.

## 6.0 How to Sign in

Waste Generators have to use user id and password generated through registration process shared at email id entered in the registration form by the Mobile Application automatically.

However, CBWTFs, Waste Handlers, SPCBs/PCCs have to use login credentials obtained through CPCB after submission of formats.

If system does not allow and pops up message “User not found” that means user id and password entered is incorrect and you require to carefully read both id and password and enter the letters/umbers as given in the mail received through the system. Sometime there is illusion with l(el) with l(capital eye) or O(O for OK with 0(Zero). Use these combinations and even if fail to get sign in then use “Forgot Password” and regenerate.



Note: The above credentials is only for the Generator, for Waste Handler and CBWTFs, CPCB will share details separately

## 6.1 Waste Generator Login Home screen



Launch the application by clicking on the COVID19BWM icon on your mobile. Login with Generator credentials received over your mail. As soon as application is launched, Home Screen will be displayed, which shows the main features of the application as shown in the image.

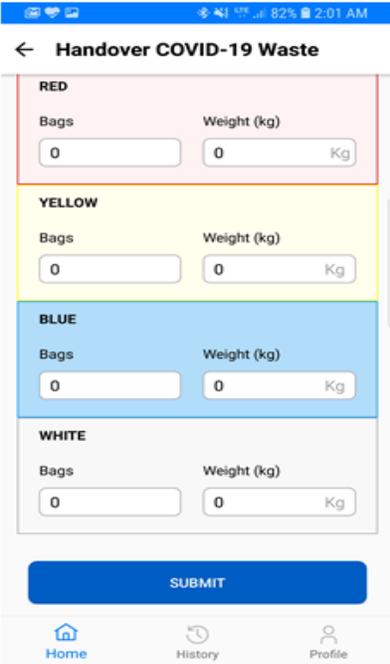
Main Dashboard will Consists of

- Option to Handover COVID-19 Waste. Designed for adding waste and initiating the request for waste Pick Up.
- Dashboard Statistics with Today's Data. It Show's current day statistics of waste that has been submitted.
- Year to Date Statistics which shows the Cumulative sum of Total the waste from day 1 to till date.
- History to view all the submitted records.
- Profile screen with personal Information.

### 6.1.1 Handover Waste (By Generators)







- Navigate to the “Handover Covid-19 Waste” Show at the top and click on it.
- On Clicking on the icon above screen will be opened, this screen is designed to add waste that has been generated till the time of handing over. After entering the Data. Click on “Submit” button given at the bottom.
- A Pop-up will appear on the screen, seeking final approval for submission. Select the appropriate action.
- Finally, successfully submission message will prompt on the screen.

### 6.1.2 View History (Waste Generator)



Click on, History icon given at the bottom menu.

The following screen will be appeared.

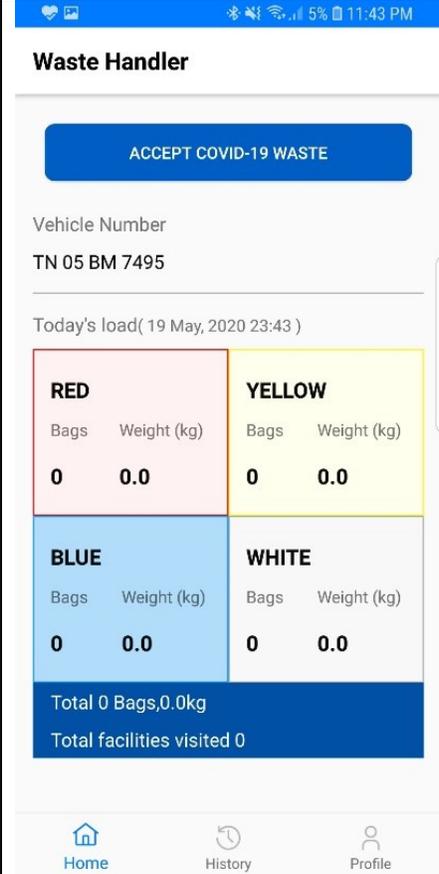
It shows entire history of records of waste that has been submitted to CPCB for Day1 to till.

You also view on record just by clicking on specific record.

### 6.1.3 Profile Setup (Waste Generator)

	<p>In this Screen, User’s personal and necessary information has been available.</p> <p>An Option to change language is also given here made easy to switch almost 11 Regional Languages of India.</p> <p>If any change in profile is required, send details of change required from the registered phone number through whatsapp or email provided in helpline.</p>
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## 6.2 Waste Handler Login (Vehicle Driver)

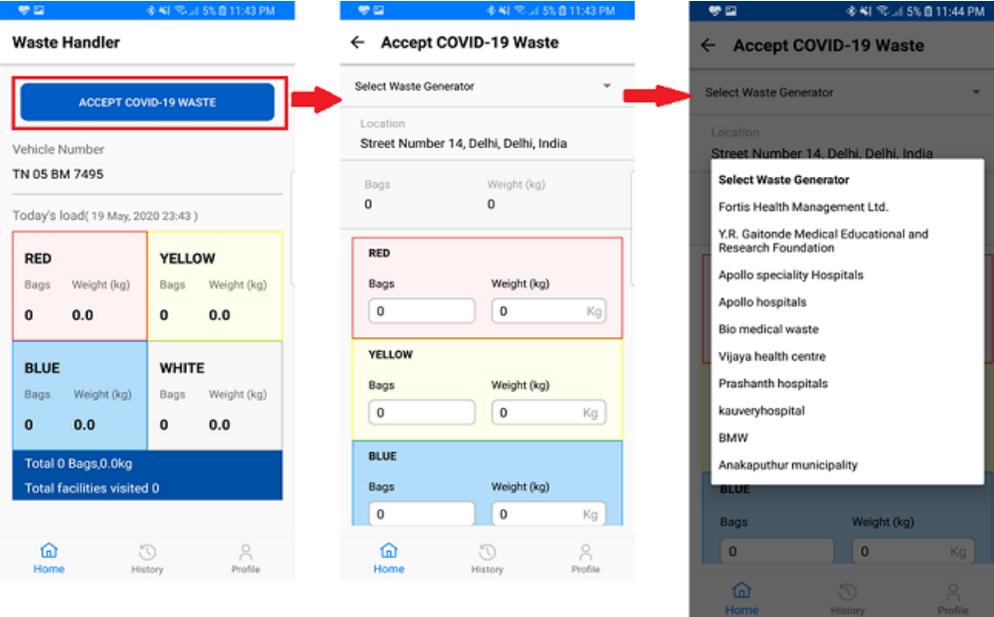


Launch the application by clicking on the COVID 19 BWM icon on your mobile. Login with Transporter credentials received over your mail. As soon as application is launched, Home Screen will be displayed, which shows the main features of the application as shown in the image.

Main Dashboard will Consists of

- Option to Accept COVID-19 Waste. Designed for Accepting/Adding waste and initiating the request for CBWTF Acceptation.
- Dashboard Statistics with Today's Data. It Show's current day statistics of waste that has been submitted.
- History to view all the submitted records.
- Profile screen with personal Information.

### 6.2.1. Accept COVID 19 Waste (Waste Handler / Vehicle Driver)

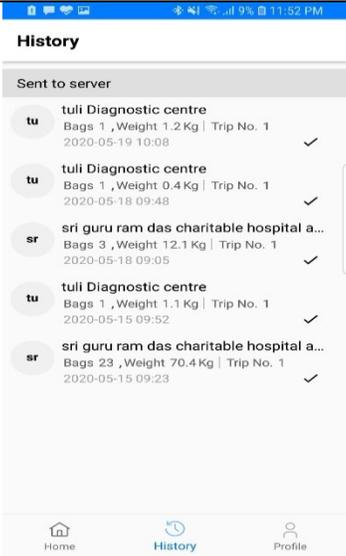


- Navigate to the “Accept Covid-19 Waste” Show at the top and click on it.
- On Clicking on the icon above screen will be opened, now select generator list from the dropdown, this screen is designed to accept waste that has been generated from a generator. Verify the data and correct if necessary.

Note: If in the drop down list, name of Waste Generator does not appear, then Waste Generator had selected some other Associated CBWTF and require correction. Immediately take help from CPCB Helpline by submitting details.

	<ul style="list-style-type: none"> <li>• After entering the Data. Click on “Submit” button given at the bottom.</li> <li>• A Pop-up will appear on the screen, seeking final approval for submission. Select the appropriate action.</li> <li>• Finally, successfully submission message will prompt on the screen.</li> </ul>
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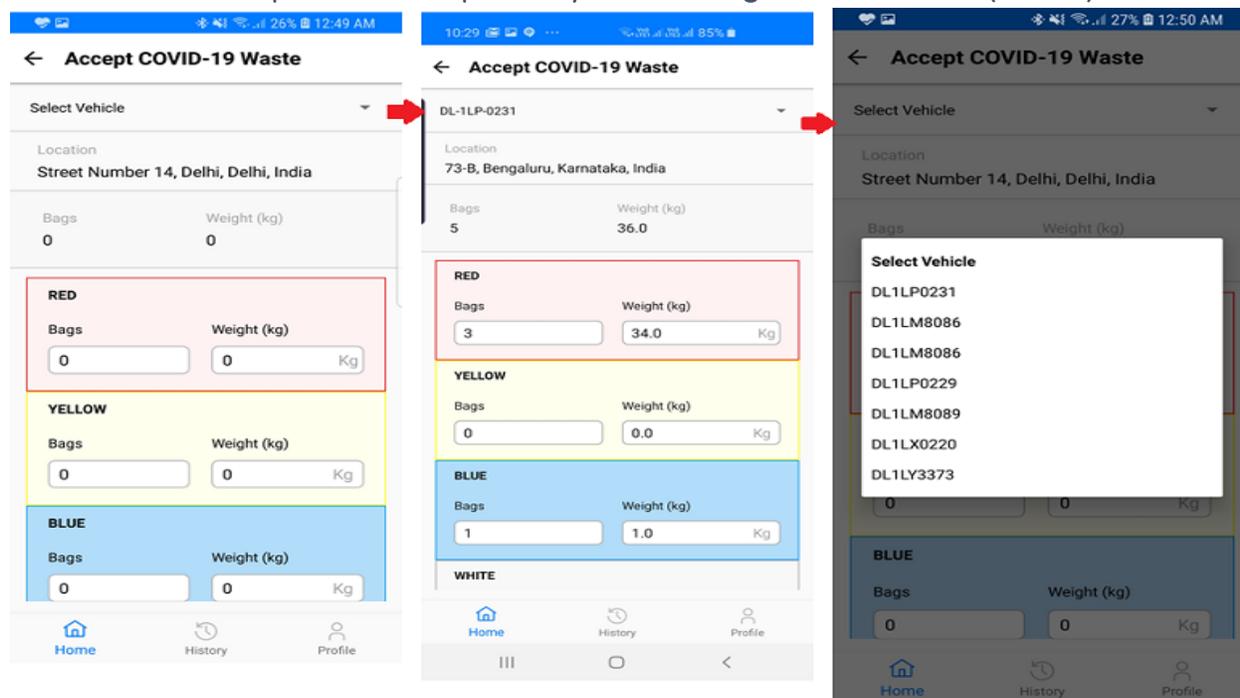
## 6.2.2 View History (Waste Handler/Vehicle Driver)

	<ul style="list-style-type: none"> <li>• Click on, History icon given at the bottom menu.</li> <li>• The following screen will be appeared.</li> <li>• It shows entire history of records of waste that has been Accepted from generator to till date to CPCB for Day1 to till.</li> <li>• You also view on record just by clicking on specific record.</li> </ul>
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### 6.3 CBWTF Login

<p><b>CBWTF Entry</b></p> <p>ACCEPT COVID-19 WASTE</p> <p>CBWTF Name M/s SMS Water Grace BMW Pvt. Ltd</p> <p>Today's waste received( 06 May, 2020 10:29 )</p> <table border="1"> <thead> <tr> <th colspan="2">RED</th> <th colspan="2">YELLOW</th> </tr> <tr> <th>Bags</th> <th>Weight (kg)</th> <th>Bags</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>19</td> <td>45.0</td> <td>22</td> <td>45.0</td> </tr> <tr> <th colspan="2">BLUE</th> <th colspan="2">WHITE</th> </tr> <tr> <th>Bags</th> <th>Weight (kg)</th> <th>Bags</th> <th>Weight (kg)</th> </tr> <tr> <td>17</td> <td>46.0</td> <td>22</td> <td>58.0</td> </tr> </tbody> </table> <p>Total 80 Bags,194.0kg Total trucks accepted 5</p> <p>Home History Profile</p>	RED		YELLOW		Bags	Weight (kg)	Bags	Weight (kg)	19	45.0	22	45.0	BLUE		WHITE		Bags	Weight (kg)	Bags	Weight (kg)	17	46.0	22	58.0	<p>Launch the application by clicking on the COVID19BWM icon on your mobile. Login with CBWTF credentials received over your mail. As soon as application is launched, Home Screen will be displayed, which shows the main features of the application as shown in the image.</p> <p>Main Dashboard will Consists of</p> <ul style="list-style-type: none"> <li>• Option to Accept COVID-19 Waste. Designed for Final Accepting /Adding Waste which are been Accepted from associated Vehicles.</li> <li>• Dashboard Statistics with Today's Data. It Show's current day statistics of waste that has been submitted.</li> <li>• History to view all the submitted records.</li> <li>• Profile screen with personal Information.</li> </ul>
RED		YELLOW																							
Bags	Weight (kg)	Bags	Weight (kg)																						
19	45.0	22	45.0																						
BLUE		WHITE																							
Bags	Weight (kg)	Bags	Weight (kg)																						
17	46.0	22	58.0																						

### 6.3.1 CBWTF to Accept Waste Transported by trucks through Waste Handlers (Drivers)

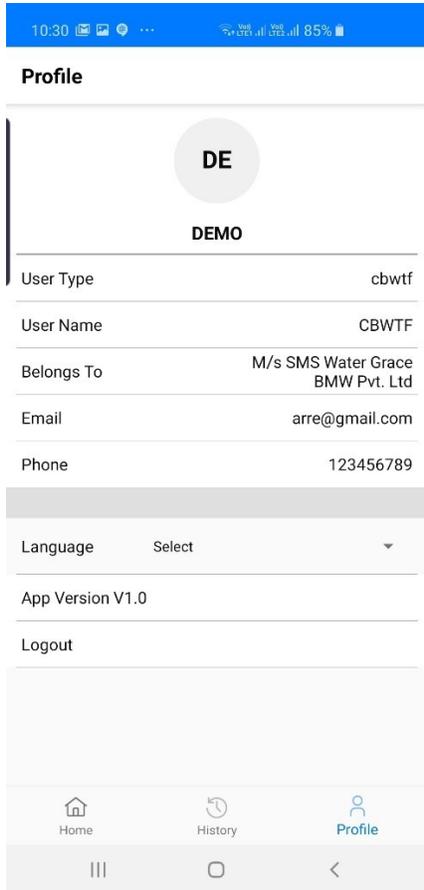


- Navigate to the “Accept Covid-19 Waste” Show at the top and click on it.
- On Clicking on the icon above screen will be opened, this screen is designed to Accept waste that has been carried by the individual truck for the current day. Select Appropriate vehicle from the dropdown given on the screen. Verify the waste and correct if necessary.
- Then Accept the Data. Click on “Submit” button given at the bottom.
- A Pop-up will appear on the screen, seeking final approval for submission. Select the appropriate action.
- Finally, successfully submission message will prompt on the screen.

Note: If any of the Truck Number or Vehicle number associated with CBWTF is not appearing, immediately contact CPCB Help lines.

### 6.4 Language Settings

Language settings can access from the profile tab given on the Home screen. On click of the Language, the list of available languages is displayed. User can choose the language of his / her choice. The application will then be available in the selected language.



## 7. Accessing COVID-19 BWM Application through Web

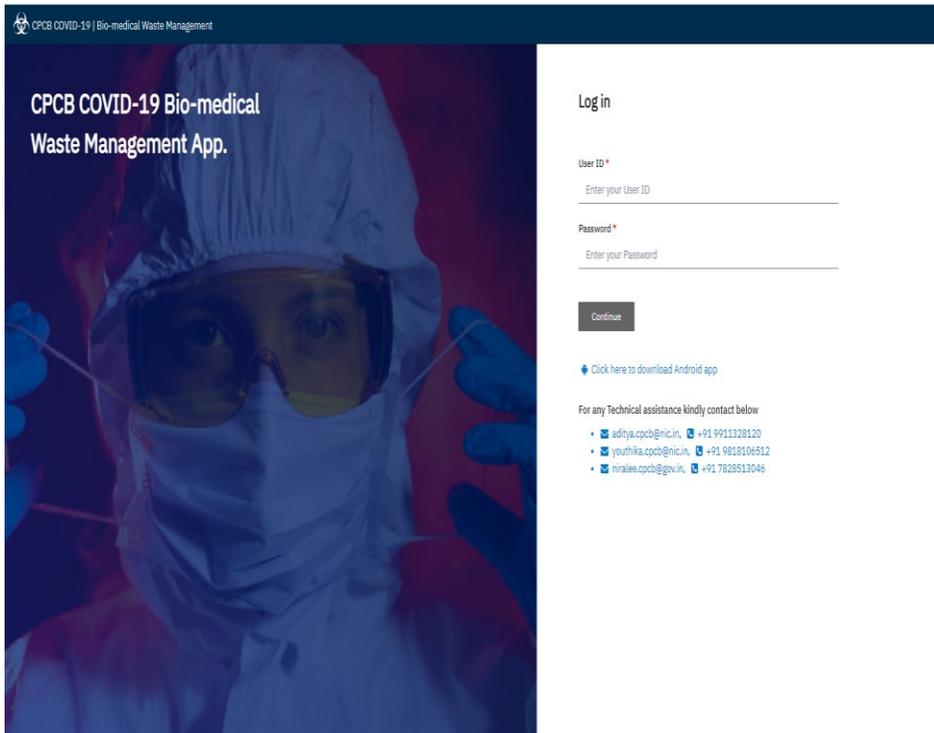
A web application has been developed to visualize the data submitted from different stakeholders.

At this stage web access is allowed only to (1) SPCB, and (2). CBWTF. Web portal will look similar for the both the users. The only change is in terms of access to data.

Let's start the accessing the application.

### 7.1 Desktop/Laptop based URL Login (SPCB/CBWTF)

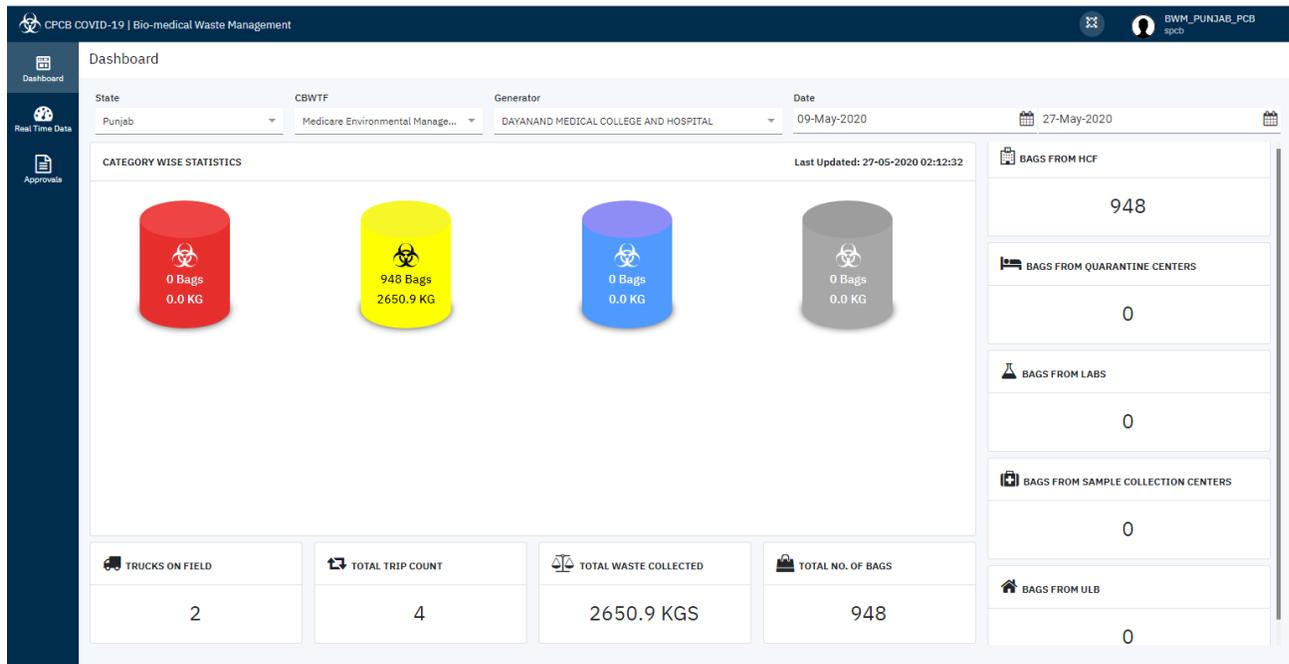
- Open any of the browser (google chrome, Mozilla Firefox etc. ) on your computer and enter the URL [bwm.cpcbcr.com](http://bwm.cpcbcr.com).
- Following Screen will Appear.



- Enter Username and Password and “Click on” continue.

## 7.2 Application Web pages

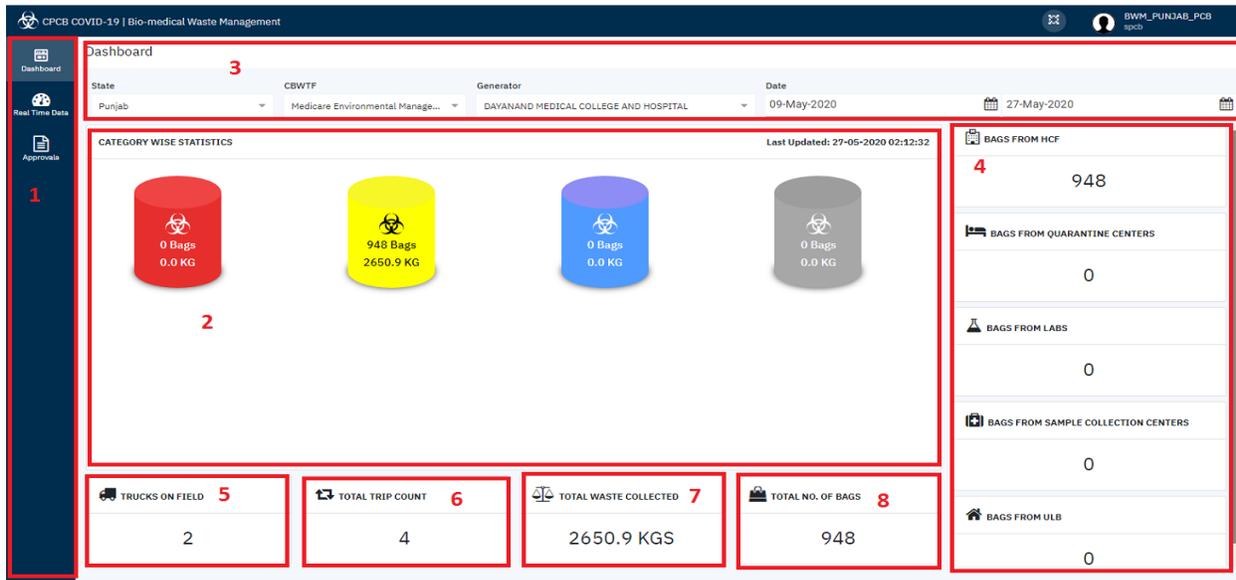
- On Successful login, you will be landing on to the main dashboards as shown below.



- Navigate to the side menu's given on the web page.
- You can able to see 3- menus available like,
  - Dashboard.
  - Real- Time Data.
  - Approvals.

Each section is discussed in detail in the following sections. .

### 7.3 Main Dashboard



Main Dashboard will Comprise of following information.

1. Side Menu for switching between different Sections available in the Application.
2. Categories of Statics- Gives the information of the waste that has been collected for different types BWM waste. However, in case of COVID there are mainly two categories waste are generated 1. Yellow 2. Red.
3. Selection bar- For Applying selection as required, like selecting different dates, select combination CBWTF-Generator. Statics will change and appear on the screen w.r.t to the selection applied.
4. Baggage information- This gives information about the total number of bags that has been collected from different types of waste generators.
5. Truck on fields- gives information about the total number of trucks involved in the process of waste collection.
6. Trip info- Provides on trips that are been carried out.
7. Total weight- Gives information total weight that been collected so far from all generators.

8. Total bags- Gives information total bags that are been received.

Note: On Load Application will show you the current day information, select the date to visualizing the data of a day or no of days.

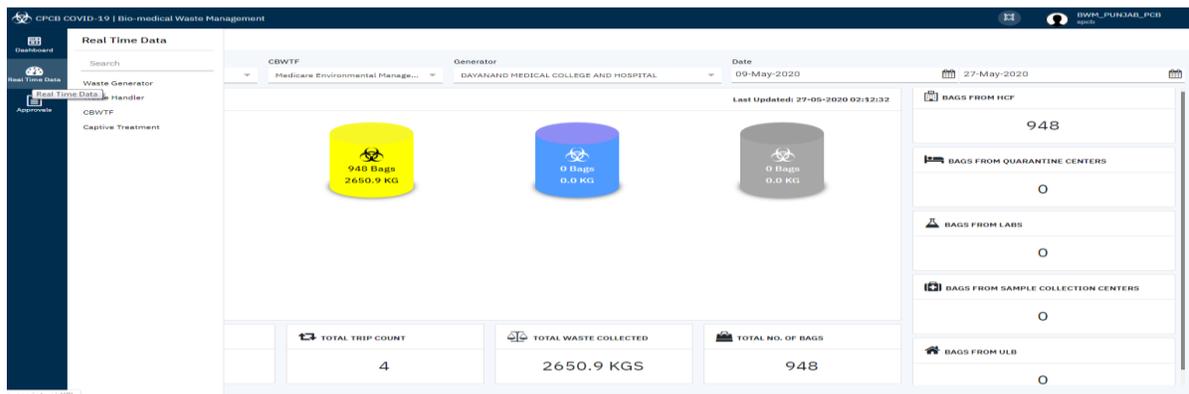
### 7.4 Real Time COVID-19 Biomedical Waste Statistics

This Section will comprise the real time data of each unit involved in the COVID19 BWM waste submission.

Again, this section is divided into different parts based on the role they own like,

- Generator Page- To Visualize the data real time data of generators. (HCF, Quarantine Centers, Labs, Testing Labs).
- Waste Handler- This page speaks about of Realtime data of trucks that has been accepted form different Health Care Facilities involved in the Process.
- CBWTF- This page is also giving information about Realtime data of CBWTF involved in the process of waste acceptance generated for different generators.
- ULB- It is same as Generators but gives information of local bodies.

Sample Screen Shots:



Waste Generator

State: Punjab City: Ludhiana CBWTF: Medicare Environmental Man... Generator: DAYANAND MEDICAL COLLEGE AN... Date: 09-May-2020 27-May-2020

Select Columns: Date, Facility Name, State, Red Bags, Red Bag Weights, Yellow Bags

SL NO.	DATE	FACILITY NAME	STATE	BAGS	WEIGHT (KG)	VIEW DETAILS						
Search Date	Search Facility N	Search State	Search Bags	Search Weight ( )								
1	2020-05-26	DAYANAND M...	Punjab	0	0	47	107.2	0	0	0	0	
2	2020-05-26	DAYANAND M...	Punjab	0	0	47	117.5	0	0	0	0	
3	2020-05-24	DAYANAND M...	Punjab	0	0	63	153.6	0	0	0	0	
4	2020-05-23	DAYANAND M...	Punjab	0	0	44	132.5	0	0	0	0	
5	2020-05-22	DAYANAND M...	Punjab	0	0	134	381.5	0	0	0	0	
6	2020-05-20	DAYANAND M...	Punjab	0	0	68	185.9	0	0	0	0	
7	2020-05-19	DAYANAND M...	Punjab	0	0	45	136.8	0	0	0	0	
8	2020-05-18	DAYANAND M...	Punjab	0	0	53	105.8	0	0	0	0	
9	2020-05-17	DAYANAND M...	Punjab	0	0	46	163.5	0	0	0	0	
10	2020-05-16	DAYANAND M...	Punjab	0	0	61	113.2	0	0	0	0	
11	2020-05-15	DAYANAND M...	Punjab	0	0	70	238.5	0	0	0	0	
12	2020-05-14	DAYANAND M...	Punjab	0	0	33	95.8	0	0	0	0	
13	2020-05-13	DAYANAND M...	Punjab	0	0	46	115.8	0	0	0	0	

- At the end of each screen an option called “view” has been given, on click you will explore details about the record selected.

Waste Generator / DAYANAND MEDICAL COLLEGE AND HOSPITAL

Select Trip

TRIP DATE	TOTAL WEIGHT(KG)	NO OF BAGS	PICKUP TRIP NUM...	VEHICLE NUMBER	LAST UPDATED ON	STATUS
26-05-2020 17:13	107.2	47	3	PB-10-ES-6839	26-05-2020 17:23	🟢🟢🟢

Trip Details for: 26-05-2020 17:13

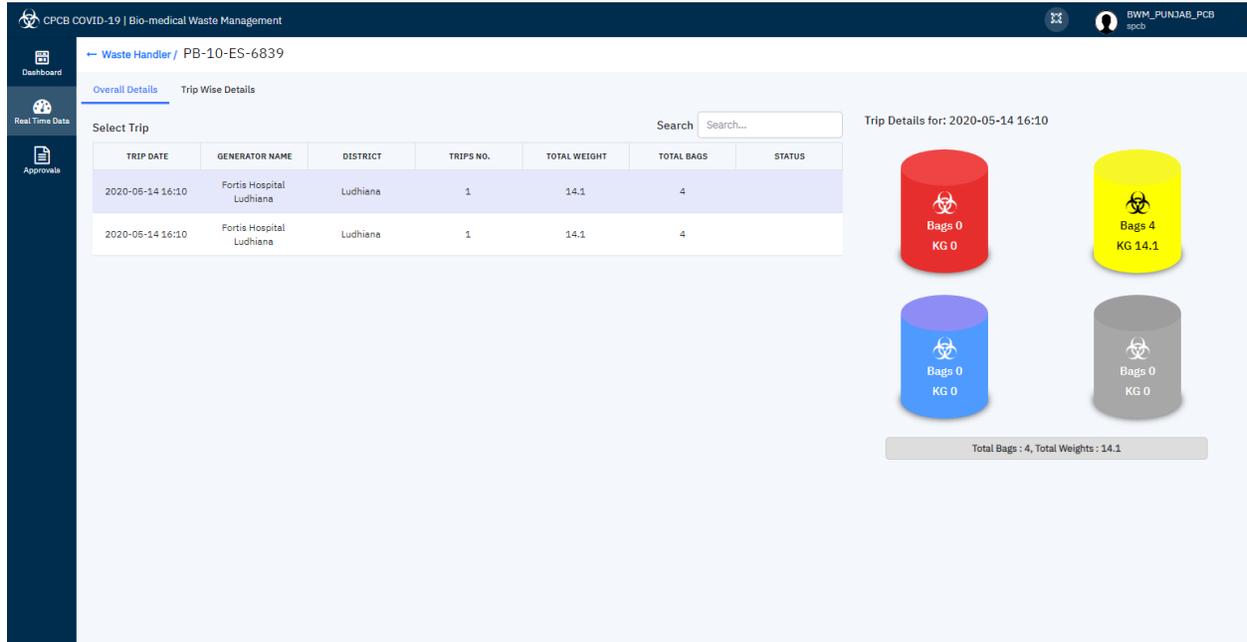
Bags 0  
KG 0

Bags 47  
KG 107.2

Bags 0  
KG 0

Bags 0  
KG 0

Total Bags : 47, Total Weights : 107.2

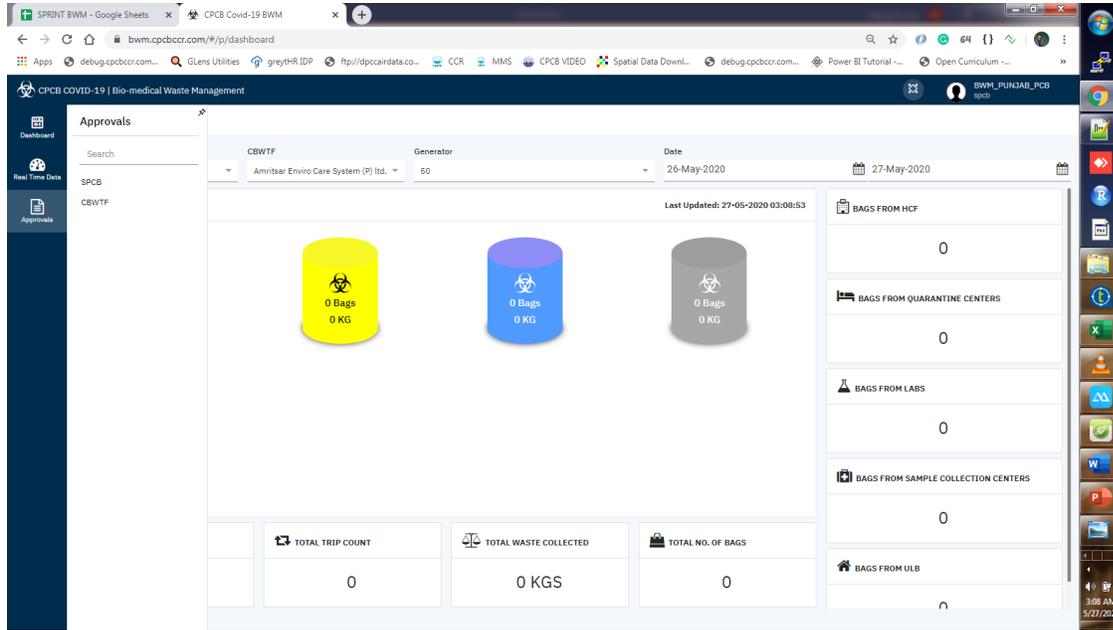


## 7.5 Manual Data Entry and data Verifications/Approvals by CBWTF & SPCBs

This Section is developed for SPCBs and CBWTF for submitting daily waste information by avoiding hard copy submission. Each SPCB and CBWTF has to select previous day date and submit manual data entries regarding waste managed on daily basis. It is expected that CBWTFs and SPCBs submit their manual data (of previous day) entered in the system everyday before 13:00 hrs.

Sample Screen,

# User Manual for Android Mobile & Web Applications - COVID-19 BMW Tracking App



SPCB Data Verification

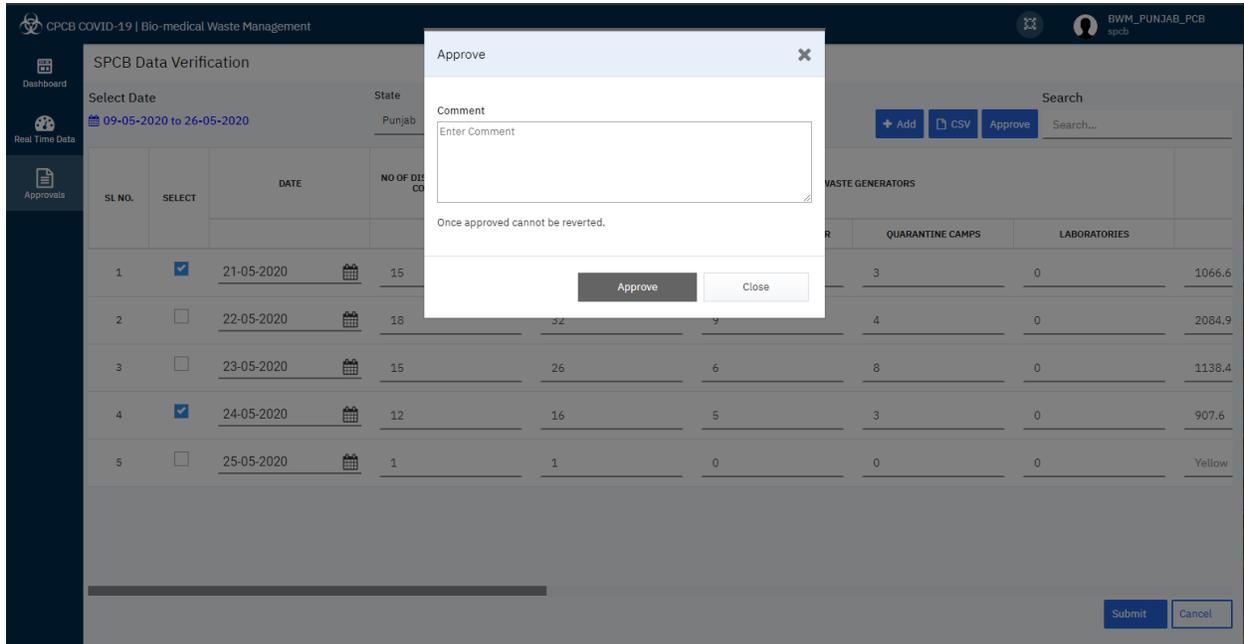
Select Date: 09-05-2020 to 26-05-2020 | State: Punjab

Buttons: + Add, CSV, Approve, Search...

SL NO.	SELECT	DATE	NO OF DISTRICTS GENERATING COVID-19 WASTE	NO OF WASTE GENERATORS				
				HCF'S	SAMPLE TESTING CENTER	QUARANTINE CAMPS	LABORATORIES	
1	<input checked="" type="checkbox"/>	21-05-2020	15	26	6	3	0	1066.6
2	<input type="checkbox"/>	22-05-2020	18	32	9	4	0	2084.9
3	<input type="checkbox"/>	23-05-2020	15	26	6	8	0	1138.4
4	<input checked="" type="checkbox"/>	24-05-2020	12	16	5	3	0	907.6
5	<input type="checkbox"/>	25-05-2020	1	1	0	0	0	Yellow

Buttons: Submit, Cancel

Verification/Approvals can be done after filling the information by selecting the checkbox and clicking on submit and Approve button. Following screen will prompt for comments, CBWTF and SPCBs have to submit comments as per ground reality and approve.



**Important Note:** Web portal will look similar for both SPCB and CBWTF, only key change here is SPCB can see the data of all CBWTF available, where as CBWTF will see their own data.

\*\*\*

Details about CBWTF					
Name of CBWTF	Address of CBWTF	Coordinates	Name of the Operator	Contact number (mobile no.)	email id

**Details of vehicles dedicated for collection of COVID-19 waste**

S.No	Vehicle number	Name of GPS device installed	API for GPS integration	Number of workers/drivers involved for collection of COVID-19 waste	Name of workers	Contact number	Remarks

(Add new row for additional vehicles)

**Details about member HCFs (Hospitals)/Quarantine Centre/Quarantine Home/Homecare/Isolation wards/Captive Incinerators etc.**

S.No	Name of COVID-19 biomedical Waste Generator	Type of Generator (Isolation Ward/ Hospital / Quarantine Centre / ULB / Quarantine Camp / Collection Centre / Laboratory)

(Add new row for additional vehicles)

**Format for SPCB Integration into COVID 19 Mobile APP**

Name of SPCB	
Name of Nodal Designated officer	
Designation of Designated officer	
Phone Number of Officer Designated	
email ID of Officer Designated	

**Regional Officer Details (If ROs to be allowed for daily status verification)**

	Regional Office 1	Regional Office 2	Regional Office 3	Regional Office 4	Regional Office 5	Regional Office 6	Regional Office 7	...	...
Name of Regional Offices									
Name of Designated Official (DO)									
Phone number of DO									
email id of DO									
Phone Number of Regional Offices									
email id of regional office									

**If SPCB wishes to include some of the facilities/quarantine centres/Lab for testing COVID 19, information as below may be provided**

S.No	Name of COVID-19 biomedical Waste Generator	Type of Generator (Isolation Ward/ Hospital / Quarantine Centre / ULB / Quarantine Camp / Collection Centre / Laboratory)

(Add new row for additional vehicles)

## Helpline

### COVID-19 Biomedical Waste Tracking App

Mr Aditya Sharma: 9911328120 : [Aditya.cpcb@nic.in](mailto:Aditya.cpcb@nic.in)

Ms Youthika : 9818106512 : [youthika.cpcb@nic.in](mailto:youthika.cpcb@nic.in)

Ms Niralee : 7828513046 : [Niralee.cpcb@gov.in](mailto:Niralee.cpcb@gov.in)

Timings : 10:00am to 6:00pm on working Days

\*\*\*

**Revision 3:**

**Guidelines for Handling, Treatment and Disposal of Waste Generated during  
Treatment/Diagnosis/ Quarantine of COVID-19 Patients**

**10<sup>th</sup> June, 2020**

**[In suppression of earlier guidelines uploaded at CPCB website on 18/04/2020. Text pertaining to  
additional information is underlined]**



**Central Pollution Control Board**

**(Ministry of Environment, Forest & Climate Change)**

**Parivesh Bhawan, East Arjun Nagar**

**Delhi – 110032**

## **Guidelines for Handling, Treatment, and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients – Rev. 3**

---

In order to deal with COVID-19 pandemic, State and Central Governments have initiated various steps, which include setting up of quarantine centers/camps, Isolation wards, sample collection centers and laboratories.

Following specific guidelines for management of waste generated during diagnostics and treatment of COVID-19 suspected / confirmed patients, are required to be followed by all the stakeholders including isolation wards, quarantine centers, sample collection centers, laboratories, ULBs and common biomedical waste treatment and disposal facilities, in addition to existing practices under BMW Management Rules, 2016.

These guidelines are based on current knowledge on COVID-19 and existing practices in management of infectious waste generated in hospitals while treating viral and other contagious diseases like HIV, H1N1, etc. These guidelines will be updated if need arises. This revision-3 of guidelines issued to incorporate guidance on segregation of general solid waste and biomedical waste. Further, this revision also addresses safety of waste handlers / sanitation workers associated with healthcare facilities, local bodies (ULBs) and CBWTFs in handling of biomedical waste and solid waste generated from quarantine centers/home-care/healthcare facilities treating COVID-19 patients.

Guidelines brought out by WHO, MoH&FW, ICMR, CDC and other concerned agencies from time to time may also be referred for understanding other aspects related to COVID-19.

Guidelines for handling, treatment and disposal of COVID-19 waste at Healthcare Facilities, Quarantine Camps/ Quarantine-homes/ Home-care, Sample Collection Centers, Laboratories, SPCBs/PCCs, ULBs and CBWTFs is give below;

### **(a) COVID-19 Isolation wards: (isolation wards are those where COVID-19 positive patients are being kept for treatment / diagnosis)**

Healthcare Facilities having isolation wards for COVID-19 patients need to follow these steps to ensure safe handling and disposal of biomedical waste generated during treatment;

- Keep separate color coded bins (with foot operated lids)<sup>1</sup>/bags/containers in wards and maintain proper segregation of waste as per BMW Rules, 2016 as amended and CPCB guidelines for implementation of BMW Management Rules.
- As precaution double layered bags (using 2 bags) should be used for collection of waste from COVID-19 isolation wards so as to ensure adequate strength and no-leaks;
- Collect and store biomedical waste separately prior to handing over the same CBWTF. Use a dedicated collection bin labelled as “COVID-19” to store COVID-19 waste and keep separately in temporary storage room prior to handing over to authorized staff of CBWTF. Biomedical waste collected in such isolation wards can also be lifted directly from ward into CBWTF collection van.
- In addition to mandatory labelling, bags/containers used for collecting biomedical waste from COVID-19 wards, should be labelled as “COVID-19 Waste”. This marking would enable CBWTFs to identify the waste easily for priority treatment and disposal immediately upon the receipt.

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<sup>1</sup> Inserted in Rev. 3 of guidelines dated 10/06/2020

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- General solid waste like wrappers of medicine/syringes etc., fruit peel offs, empty juice bottles or tetra packs, empty water bottles, discarded papers, carton boxes of medicines, empty bottles for of disinfectants and any other items which were not contaminated by the patients secretions, body fluids should be collected separately as per SWM Rules, 2016. In order to minimize waste generation, as far as possible, non-disposable items must be used, which are to be handle with appropriate precautions and cleaned and disinfected as per hospital guidelines. The wet and dry solid waste bags to be securely tied and handed over to authorized waste collector of ULB's on daily basis.<sup>1</sup>
- Maintain separate records of waste generated from COVID-19 isolation wards.
- Use dedicated trolleys and collection bins in COVID-19 isolation wards. A label “COVID-19 Waste” to be pasted on these items also.
- The (inner and outer) surface of containers/bins/trolleys used for storage of COVID-19 waste should be disinfected with 1% sodium hypochlorite solution daily.
- Report opening or operation of COVID-19 ward and COVID-19 ICU ward to SPCBs/PCCs and respective CBWTF located in the area.
- Register in CPCB mobile application namely ‘COVID19BWM’ to update the details of COVID-19 biomedical waste generation.
- Depute dedicated sanitation workers separately for biomedical waste and general solid waste so that waste can be collected and transferred timely to temporary waste storage area.
- Feces from COVID-19 confirmed patient, who is unable to use toilets and excreta is collected in diaper, must be treated as biomedical waste and should be placed in yellow bag/container. However, if a bedpan is used, then faeces to be washed into toilet and cleaned with a neutral detergent and water, disinfected with a 0.5% chlorine solution, then rinsed with clean water.<sup>2</sup>
- Collect used PPEs such as goggles, face-shield, splash proof apron, Plastic Coverall, Hazmet suit, nitrile gloves into Red bag;<sup>3</sup>
- Collect used mask (including Triple layer mask, N95 mask etc.), head cover/cap, shoe-cover, disposable linen Gown, non-plastic or semi-plastic coverall in Yellow bags.<sup>4</sup>
- Items like left over food, disposable plates, glass, used masks, used tissues, used toiletries, etc. used by COVID-19 patient shall become biomedical waste and shall be segregated in yellow bag. Used gloves and plastic bottle from patients will be disposed off in red bag.<sup>5</sup>
- Provide training to Waste handlers about infection prevention measures such as Hand hygiene, Respiratory etiquettes, social distancing, use of appropriate PPE, etc. via videos and demonstration in local language. Designated nodal officer for biomedical waste management

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<sup>1</sup> Para revised in Rev. 3 dated 10/06/2020

<sup>2</sup> Para Inserted in Rev. 2 dated 18/04/2020

<sup>3</sup> Para inserted in Rev. 2 dated 18/04/2020

<sup>4</sup> Para inserted in Rev. 2 dated 18/04/2020

<sup>5</sup> Inserted in Rev. 3 dated 10/06/2020

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in hospital shall provide training. Nodal officers, in turn, need to be trained by Health Departments / professional agencies in association with SPCB/ PCC of the States/ UTs.<sup>1</sup>

**(b) Sample Collection Centers and Laboratories for COVID-19 suspected patients**

Report opening or operation of COVID-19 sample collection centers and laboratories to concerned SPCB/PCC. Guidelines given at section (a) for isolation wards should be applied suitably in in case of test centers and laboratories. Pre-treat viral transport media, plastic vials, vacutainers, eppendorf tubes, plastic cryovials, pipette tips as per BMW Rules, 2016 and collect in Red bags.<sup>2</sup>

**(c) Responsibilities of persons operating Quarantine Camps/Homes or Home-Care facilities<sup>3</sup>**

Less quantity of biomedical waste is expected from quarantine Camps / Quarantine Home/ Home-care facilities. However, the persons responsible for operating quarantine camps/centers/home-care for suspected COVID-19 persons need to follow the below mentioned steps to ensure safe handling and disposal of waste;

- General solid waste (household waste) generated from quarantine centers or camps should be handed-over to municipal solid waste collector identified by Urban Local Bodies or as per the prevailing local method of disposing general solid waste.
- General waste may comprise of the waste generated from kitchen, packaging material for groceries, food material, waste papers, waste plastics, floor cleaning dust, etc. generated and handled by patient care-takers or the suspected quarantined persons.<sup>4</sup>
- Waste contaminated with blood / body fluids of COVID-19 patients to be collected in yellow bag.<sup>5</sup>
- Biomedical waste if any generated from quarantine centers/camps should be collected separately in yellow-bags (suitable for biomedical waste collection) provided by ULBs. These bags can be placed in separate and dedicated dust-bins of appropriate size. General waste should not be stored in yellow bags.<sup>6</sup>
- Agency responsible for operation of Quarantine Centre/camp shall designate a nodal person who will be responsible for waste management and for maintenance of its record.<sup>7</sup>
- Designated nodal person of the Quarantine Centre/Camp shall register the Centre/Camp on CPCB's biomedical waste Tracking App 'COVID19BWM' (available on Google play store) and update the details of waste generated on daily basis.<sup>8</sup>
- Persons operating Quarantine camps/centers should call the CBWTF operator to collect biomedical waste as and when it gets generated. Contact details of CBWTFs would be available with Local Authorities.

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<sup>1</sup> Inserted in Rev. 3, dated 10/06/2020

<sup>2</sup> Para amended in Rev. 2 dated 18/04/2020

<sup>3</sup> Section inserted in Rev. 1 dated 25/03/2020

<sup>4</sup> Para inserted in Rev. 3, dated 10/06/2020

<sup>5</sup> Para inserted in Rev. 3 dated 10/06/2020

<sup>6</sup> Para amended in Rev. 3 dated 10/06/2020

<sup>7</sup> Para inserted in Rev. 3 dated 10/06/2020

<sup>8</sup> Para inserted in Rev. 3 dated 10/06/2020

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- Persons taking care of quarantine home / Home-care should deposit biomedical waste if any generated from suspected or recovered COVID-19 patients, by following any of the following methods as may be arranged by ULBs;
  - Hand over the yellow bags containing biomedical waste to authorized waste collectors at door steps engaged by local bodies; or
  - Deposit biomedical waste in yellow bags at designated deposition Centers established by ULBs. The bag again be stored in yellow bag or container; or
  - Handover the biomedical waste to waste collector engaged by CBWTF operator at the doorstep.
- Persons operating Quarantine camps/centers or Quarantine-homes/Home-care should report to ULBs in case of any difficulty in getting the services for disposal of solid waste or biomedical waste.

### **Clarifications:**

- Quarantine Camps / Quarantine-Home are the places where suspected people or the contacts of suspected / confirmed cases who have been directed by authorized hospitals or local authorities to stay at home for at least 14 days or more for observation for any symptom of COVID-19, if any.
- Homecare – Home care facility is a home where care is to be provided to a COVID-19 positive patient at home.<sup>1</sup>
- Biomedical waste at Quarantine Camps / Home-care may also comprise of used syringes, date expired or discarded medicines, used masks/gloves and in case of patients with other chronic diseases may also include drain bags, urine bags, body fluid or blood soaked tissues/cotton, empty ampules etc.
- Biomedical waste generated from Quarantine Camps / Quarantine-Home / Home-care would be treated as ‘domestic hazardous waste’ as defined under Solid Waste Management Rules, 2016, and shall be disposed as per provisions under Biomedical Waste Management Rules, 2016 and these guidelines.
- General waste from Quarantine Camps / Quarantine-Home / Home-care shall be segregated separately and disposed as solid waste as per provisions under SWM Rules, 2016.
- General waste such as like fruit/vegetable peel offs, left-over food, empty juice bottles or tetra packs, empty water bottles, packaging material, discarded papers, carton boxes, and any other items which were not contaminated by secretions or body fluids of COVID-19 positive person should be disposed-off as general solid waste. This waste shall not be collected in yellow bag.<sup>2</sup>
- General waste contaminated with blood or body fluids from persons infected with COVID-19 shall be segregated in yellow bag along with masks and gloves used by them.<sup>3</sup>

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<sup>1</sup> Para inserted in Rev. 2 dated 18/04/2020

<sup>2</sup> Para inserted in Rev. 2 dated 18/04/2020 and amended in Rev. 3 dated 10/06/2020

<sup>3</sup> Para inserted in Rev. 3 of guidelines dated 10/06/2020

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- Masks and gloves used by persons not infected by COVID-19 at quarantine homes or other households should be kept in paper bag for a minimum of 72 hours prior to disposal of the same as general waste. It is advisable to cut the masks prior to disposal to prevent reuse.<sup>1</sup>

### **(d) Duties of Common Biomedical Waste Treatment Facility (CBWTF):**

- Report to SPCBs/PCCs about receiving of waste from COVID-19 isolation wards / Quarantine Camps / Quarantined homes / COVID-19 Testing Centers;
- Operator of CBWTF shall ensure regular sanitization of workers involved in handling and collection of biomedical waste;
- Workers shall be provided with adequate PPEs including three layer masks, splash proof aprons/gowns, nitrile gloves, gum boots and safety goggles;
- Use dedicated vehicle to collect COVID-19 ward waste. It is not necessary to place separate label on such vehicles;
- Vehicle should be sanitized with sodium hypochlorite or any appropriate chemical disinfectant after every trip.
- COVID-19 waste should be disposed-off immediately upon receipt at facility.

In case it is required to treat and dispose more quantity of biomedical waste generated from COVID-19 treatment, CBWTF may operate their facilities for extra hours, by giving information to SPCBs/PCCs.

- Operator of CBWTF shall maintain separate record for collection, treatment and disposal of COVID-19 waste.
- Do not allow any worker showing symptoms of illness to work at the facility. May provide adequate leave to such workers and by protecting their salary.
- CBWTF operator shall register on 'COVID19BWM' Tracking App developed by CPCB and also ensure registration of Waste Handler (with vehicle) for entering the data of COVID-19 biomedical waste received and disposed.<sup>2</sup>
- Provide training to Waste handlers on infection prevention measures, hand hygiene, respiratory etiquettes, social distancing, use of PPE, etc. via videos and demonstrations etc. translated in local language. Sanitation workers more than 50-yr of age should be posted for management of non-COVID waste.<sup>3</sup>

### **(e) Duties of SPCBs/PCCs**

- Shall maintain records of COVID-19 treatment wards / quarantine centers / quarantines homes in respective States.
- Ensure proper collection and disposal of biomedical waste as per BMW Rules, 2016 and this guidance document;
- Allow CBWTFs to operate for extra hours as per requirement;

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<sup>1</sup> Amended in Rev. 2 of guidelines dated 18/04/2020; Criteria for 72 hours is as per CDC guidelines for Decontamination and Reuse of Filtering Facepiece Respirators

<sup>2</sup> Para inserted in Rev. 3 dated 10/06/2020

<sup>3</sup> Para inserted in Rev. 3 dated 10/06/2020

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- May not insist on authorisation of quarantine camps as such facilities does not qualify as health facilities. However, may allow CBWTFs to collect biomedical waste as and when required;
- In case of States not having CBWTFs as well as rural or remote areas, not having access to CBWTFs, the existing captive facilities of any hospital may be identified for disposal of COVID-19 waste as per provisions under BMW Rules, 2016 and these guidelines. This may include permitting use of deep burial pits for disposal of yellow category waste as per standards prescribed in Schedule II of Bio-medical Waste Management Rules, 2016.<sup>1</sup>
- Coordinate with CBWTFs and ULBs in establishing adequate facilities for collection and disposal of COVID-19 waste.
- In case of generation of large volume of yellow color coded (incinerable) COVID-19 waste beyond the capacity of existing CBWTFs and the captive BMW incinerators; permit HW incinerators at existing TSDFs or captive industrial incinerators if any exist in the State/UT. In such case, ensure separate arrangement for handling and waste feeding.<sup>2</sup>
- During COVID 19 pandemic, SPCBs/PCCs may direct the ULBs to collect dry general solid waste in bags from quarantine Centers / Quarantine homes / Homecare units, and sprayed with disinfectant solution, for disposal in waste to energy plants/ industrial incinerators/ landfills, as per existing practice or availability in the state.<sup>3</sup>
- Every SPCB/PCC shall use 'COVID19BWM' web-portal developed by CPCB to track and verify COVID-19 biomedical waste and to submit daily data to CPCB through said portal.<sup>4</sup>

**(f) Duties of Urban Local Bodies<sup>5</sup>**

Urban Local Bodies are responsible for ensuring safe collection and disposal of biomedical waste, if any, generated from Quarantine Camps/ Quarantine Homes/ Home Care for COVID-19 suspected persons.

- Information on each Quarantine Camps/ Quarantine Homes/ Home-Care should be available with local administration and provide updated list to SPCBs/PCCs from time to time;
- Ensure that general solid waste and biomedical waste generated from quarantine camps/ quarantine homes / Homecare is not mixed. The biomedical waste and general solid waste should be collected separately;<sup>6</sup>
- In quarantine camps, ensure that biomedical waste is collected directly by CBWTFs identified by ULB. Biomedical waste from quarantine camps to be lifted by CBWTFs on call basis as and when the biomedical waste gets generated. Provide contact details of CBWTF operator at Quarantine Camps;
- Provide necessary support, security including authorisation to staff of CBWTFs;

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<sup>1</sup> Para inserted in Rev. 2 dated 18/04/2020

<sup>2</sup> Para amended in Rev. 3 dated 10/06/2020

<sup>3</sup> Para inserted in Rev. 3 dated 10/06/2020

<sup>4</sup> Para inserted in Rev. 3 dated 10/06/2020

<sup>5</sup> Section inserted in Rev. 1 dated 25/03/2020

<sup>6</sup> Para inserted in Rev. 3 dated 10/06/2020

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- ULB shall engage CBWTF operator for ultimate disposal of biomedical waste collected from quarantine home/home care or waste deposition centers or from door steps as may be required depending on local situation; ULB shall make agreement with CBWTF in this regard.
- ULBs envisage following practices to facilitate safe collection and disposal of biomedical waste from quarantined homes/Home care;
  - a) Engage authorized waste collectors for door steps collection of biomedical waste and transfer to collection points for further pick-up by CBWTF; and/or
  - b) In case number of quarantined homes/Home-care units are less, ULBs may engage services of CBWTFs to collect the waste directly from door-steps.
- Provide yellow colored bags (designated for BMW) to the persons responsible for operating Quarantine Camp or home-care. If required, such bags may be provided through CBWTF.
- ULBs shall ensure the following in engaging authorized waste collectors at door-steps or at waste deposition centers;
  - o Create a separate team of workers who shall be engaged in door step waste collection at waste deposition centres or at quarantine homes or home care.
  - o Ensure that only designated staff collects biomedical waste from quarantine homes or home care.
  - o Training should be provided for sanitization, about collection of biomedical waste, precautionary measures to handle biomedical waste.
  - o Impart training to waste collector in handling of biomedical waste including methods of sanitization. Training to waste collectors should be arranged through CBWTF operators;
  - o The staff involved in handling and collection of general solid waste and biomedical waste from quarantine homes or home care centers shall be provided with adequate Personnel Protective Equipment such as three layer masks, splash proof aprons/gowns, heavy-duty gloves, gum boots and safety goggles. These PPEs are required to be worn all the time while collecting of waste from quarantine center/quarantine homes/home care/waste deposition centres.
- ULBs may adopt following practices in handling of solid waste and biomedical waste from quarantine camps / Isolation Wards / Home Care / Home Quarantine;<sup>1</sup>
  - o Use dedicated carts / trolleys / vehicles for transport of biomedical waste. Ensure sanitization of vehicles with 1% sodium hypochlorite after each trip;
  - o As a matter of caution, the bags containing general waste may be sprayed with disinfectant solution (1% sodium hypochlorite solution) prior to disposal;<sup>2</sup>
  - o Waste collectors arriving at quarantine center or at home care may spray the disinfectant (1% sodium hypochlorite solution) on the bin used for yellow bags.

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<sup>1</sup> Para inserted in Rev. 3 dated dated 10/06/2020

<sup>2</sup> Para inserted in Rev. 3 dated dated 10/06/2020

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- Establish common waste deposition centers (as stipulated under SWM Rules, 2016) for receiving / collection of biomedical waste. For this purpose, existing Dhalaos if any may be converted suitably.
- The general solid waste collected from quarantine homes or home care shall be disposed off as per SWM Rules, 2016.
- Create awareness among citizens regarding segregation of municipal solid waste and biomedical waste (as part of Domestic Hazardous Waste) generated from homes/ quarantine homes/ home care facilities.<sup>1</sup>
- Services of Common Biomedical Waste Treatment & Disposal Facilities (CBWTFs) and staff associated with CBWTFs for collection, transportation, treatment and disposal of biomedical waste generated from hospitals including COVID-19 isolation wards, Quarantine Camps, etc. may be considered an essential service as part of health infrastructure.
- Facilitate smooth operations of CBWTFs.
- Local agencies / ULBs may take additional measures considering prevailing ground situations and feasibility, however while implementing such measures requirements outlined in these guidelines should be complied.<sup>2</sup>
- ULB shall designate a Nodal person who will be responsible for waste management for specific quarantine center or an area and for maintenance of its record.<sup>3</sup>
- Designated nodal person shall download and use biomedical waste Tracking App 'COVID19BWM' developed by CPCB to feed daily data on quantity of biomedical waste collected from home-cares or home quarantines.<sup>4</sup>
- Waste handlers must be given basic/elementary training by ULBs/SPCBs/PCCs with help from NGOs on SWM, Hand hygiene, Respiratory etiquettes, social distancing, Use of PPEs and its disposal, and screening clinics via videos and practical demonstrations in local language.<sup>5</sup>
- ULBs required to collect segregated general solid waste from quarantine centers, home-care and hospitals in bags (without opening them to ensure waste collector safety and to avoid pilferage). As a precautionary measure, liquid disinfectant (1% sodium hypochlorite solution) may be sprayed over bags containing general wastes prior to collection or disposal. General solid waste may be disposed as per SWM Rules, 2016, which may include disposal in landfills, waste to energy plants, depending on available infrastructure. Access to landfills sites should be strictly restricted.<sup>6</sup>
- In case ULBs are unable to manage solid waste with their existing staff, professional solid waste management agencies may be engaged/authorized during COVID-19 situation for timely collection of solid waste and biomedical wastes separately from quarantine centers, home-care, COVID-19 isolation wards and quarantine homes.<sup>7</sup>

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<sup>1</sup> Para inserted in Rev. 3 dated June, 2020

<sup>2</sup> Para Inserted in Revision 2 dated 18/04/2020

<sup>3</sup> Para Inserted in Rev. 3 dated 10/06/2020

<sup>4</sup> Para Inserted in Rev. 3 dated 10/06/2020

<sup>5</sup> Para Inserted in Rev. 3 dated 10/06/2020

<sup>6</sup> Para Inserted in Rev. 3 dated 10/06/2020

<sup>7</sup> Para Inserted in Rev. 3 dated 10/06/2020

**(g) Management of wastewater from HCFs / Isolation Wards<sup>1</sup>**

As per the information available at CDC, the risk of transmission of virus that causes COVID-19 through sewerage systems is thought to be low. Transmission to operators may be possible during treatment of sewage treatment plants, however there is no evidence to date that this has occurred. Therefore, following guidance recommended for HCFs and the operators of STPs;

- Responsible agencies are Healthcare Facilities / Isolation Wards / operators of terminal sewage treatment plants (PHED/Jal Board/etc.).
- HCFs and the agencies operating Sewage Treatment Plants should continue to ensure disinfection of treated wastewater as per prevailing practices to inactivate corona viruses.
- Operators of ETPs/STPs attached with discharge from Healthcare Facilities and isolation wards should adopt standard operational practices, practice basic hygiene precautions, and wear personal protective equipment (PPE) prescribed for operation of STPs. PPEs should include Goggles, face mask , liquid repellent coveralls, waterproof gloves and Rubber boots.
- During the period of COVID-19 pandemic, utilization of treated wastewater in utilities within HCFs may be avoided.

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<sup>1</sup> Section inserted in Revision 2 dated 18/04/2020