

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,  
Principal Bench, New Delhi

Original Application No. 72/2020

In the Matter of: -

In Re: Scientific Disposal of Bio-Medical Waste arising out of COVID-19 treatment- Compliance of BMW  
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: 14.01.2021

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,**

**Principal Bench, New Delhi**

**Original Application No. 72/2020**

**Report on Scientific Disposal of Bio-Medical Waste arising out of Covid-19 treatment -**

**Compliance of Biomedical Waste Management Rules, 2016**

**1. Introduction:**

Hon'ble National Green Tribunal "In Re: Scientific Disposal of Bio-Medical Waste arising out of COVID-19 treatment- Compliance of BMW Rules, 2016" in the matter O.A. No. 72 of 2020, heard status of COVID-19 related biomedical waste management on 21.04.2020. In the said hearing Hon'ble Tribunal acknowledged the guideline issued by CPCB for management of COVID-19 waste, heard details of actions initiated by CPCB, and passed the Order dated 24.04.2020, with action points given below;

- (i) Need for further revision of the guidelines to cover all aspects including individual households and for dealing with situations where scientific disposal facilities like incinerators are not available or not adequate.
- (ii) Need to develop electronic /digital manifest system to track and log COVID-19 waste from all sources.
- (iii) Creating awareness about precautions to be taken by all COVID19 waste handlers, including healthcare workers, workers involved in disposal of waste as well as the citizen.
- (iv) Create model plan for COVID-19 waste management at Village Level/Panchayat Level.
- (v) Chief Secretary of States/UTs by coordinating the activities of State's concerned departments like of Urban Development, Health, Irrigation & Public Health to closely monitor the scientific storage, transport, handling, management and disposal of COVID-19 waste.
- (vi) At the national level, a high level task team of Ministry of MoEF&CC, Health UD, Jal Shakti, Defense and CPCB to supervise the handling and scientific disposal of COVID-19 waste in accordance with the guidelines.
- (vii) Ensure compliance to Biomedical Waste Management Rules, 2016 by State Environment Department and State Pollution Control Boards/Pollution Control Committees.

Further, the matter was again heard by Hon'ble NGT 20.07.2020 to review status of compliance on above directions by every State and Union Territory. Copy of orders dated 21.04.2020 and 24.04.2020 are given at **Annexure I and Annexure II**.

**2. Hon'ble National Green Tribunal Order dated 20.07.2020**

Based on the compliance status report received from SPCBs/PCCs, CPCB submitted a consolidated status report on management, handling, treatment & disposal of COVID-19 biomedical waste. Hon'ble NGT reviewed the said report on 20.07.2020 and passed further orders dated 20.07.2020. wherein following directions were given;

- (i) The gaps in compliance with regard to treatment & disposal of COVID-19 biomedical waste need to be bridged urgently.
- (ii) Segregation of COVID-19 from general waste is a must, not only to avoid additional load on CBWTF incinerators but also in the interest of avoid further contamination adversely affecting public health.

- (iii) There has to be constant and regular monitoring by the Chief Secretaries, State PCBs/PCCs and Health Departments in the States/ UTs and by the High Level Task Team at Central level with further coordination by CPCB.
- (iv) Where waste is not going to CBWTF incinerators, deep burial systems may be properly maintained as per protocols taking all due precautions to prevent harm to the environment.
- (v) CPCB may take further initiatives which should include conducting of appropriate awareness programme on Doordarshan, All India Radio and other media.

To ensure compliance to the above-mentioned order from Hon'ble Tribunal, CPCB vide letter 21.08.2020 forwarded said order to every State Pollution Control Boards/Pollution Control Committees and requested SPCBs/PCCs to submit compliance status report as per the format prepared by CPCB. A copy of afore-said CPCB letter dated 21.08.2020 is given at **Annexure III**.

### 3. COVID-19 Biomedical Waste Management Scenario:

As per the as per the information received from State Pollution Control Boards/Pollution Control Committees, the inventory of COVID19 waste generating sources, quantity of waste generated and number of facilities engaged in disposal is given below;

No of HCFs having Isolation wards	: 3,095
No of Quarantine Camps/Home Care Facilities	: 2,768
No. of sample collection center	: 704
No. of laboratories	: 576
Quantity of COVID19 BMW generated (Tons/day)	: 146*
Quantity of regular BMW generated (Tons/day)	: 615
Number of CBWTFs engaged	: 198
Treatment capacity of Common incinerators (Tons/day)	: 822
No of States used deep burial pits	: 12

*\* Average quantity of COVID-19 BMW in December, 2020.*

### 4. Status of compliance by State Pollution Control Boards/Pollution Control Committees

CPCB vide letter dated 17.09.2020 (given at **Annexure IV**) directed every SPCB/PCC to comply with Hon'ble NGT order dated 20.07.2020 and to ensure scientific disposal of COVID-19 biomedical waste along with following action points;

- (i) Proper segregation of COVID-19 biomedical waste from general waste.
- (ii) Constant and regular monitoring by SPCBs/PCCs.
- (iii) In case there in no CBWTF existing in the State/UT, ensure that deep burial system constructed / operated as per standards given in CPCB guidelines.

Action taken report on COVID-19 biomedical waste management has been received from 32 SPCBs/PCCs, while State Boards of Arunachal Pradesh, Assam and Nagaland have not yet submitted compliance report. State-wise details on action taken on above action points is given at **Annexure V**.

### 5. Action taken by CPCB

#### 5.1 Revision of Guidelines

The guidelines prepared by Central Pollution Control Board for "Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19

Patients” has been revised 4 times since Match 2020, looking at the requirements of COVID-19 Pandemic situation and learnings from national and international knowledge resources. Revision-4 of said guidelines was issued on 17.07.2020, with additional guidance on following aspects;

- (i) Guidance for temporary Healthcare Facilities like railway coaches, COVID care centers etc.
- (ii) Segregation of general waste and medical waste in COVID19 isolation wards.
- (iii) Requirement of separate space for storage of COVID-19 biomedical waste temporarily in Healthcare Facility.
- (iv) Safe disposal of used mask or gloves by general public other than COVID-19 positive patient at households.
- (v) Disposal of PPEs at Commercial Places, Material Recovery Facilities for general waste and Crematorium/graveyards.

A copy of CPCB Guidelines “Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients” : Revision 4 is given at **Annexure VI.**

### **5.2 Meeting of High Level Task Team:**

Central Pollution Control Board has constituted a High Level Task Team (hereafter will be referred as HLTT) under Chairman, CPCB to review the COVID-19 waste management across the Country. 1<sup>st</sup> review meeting was held 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. Task team has reviewed the status and emphasised the need for complying with guidelines issued by CPCB. Action points decided by Task Team were circulated to State Government for ensuring scientific disposal of COVID-19 biomedical waste.

2<sup>nd</sup> meeting of High Level Task Team was held on 24.09.2020 wherein status of COVID-19 biomedical waste management was discussed with Chairman and Member Secretaries of SPCB and PCCs. Chairman, HLTT has reviewed state-wise implementation status, including following action points:

- Use of CPCB tracking App. for COVID19 waste.
- Facilitate use of alternative incinerators for disposal of biomedical waste, where waste quantities beyond capacity of CBWTFs is generated.
- Compliance to CPCB guidelines.
- Preparation of District level model.
- Monitoring of Illegal Disposal of Biomedical waste

Recommendations of HLTT along with State-wise action areas for improvement were forwarded to SPCBs/PCCs vide email dated 20.10.2020. Copy of the same given at **Annexure VII.**

### **5.3 Implementation of COVID19BWM Tracking Application:**

Within a period of 2 weeks CPCB has developed an online “Tracking App” for collection and disposal of COVID-19 biomedical waste, the App is called ‘COVID19BWM’. The 1<sup>st</sup> version of the Mobile App has been introduced and a demonstration was given to SPCBs/PCCs on 06/05/2020. Thereafter, a separate web-portal has also been created to monitor data pertaining to Mobile Tracking App, being used by healthcare facilities, waste collectors and CBWTFs. Access to Web-portal is given to SPCBs/PCCs and CBWTFs.

Details on usage of Tracking App, in the Country is given below;

COVID-19 BMW generation (January, 2021) : 95 – 120 MT/Day  
(Quantity of generation varied between 95 - 220TPD between June’19 – January’21)

No. of CBWTFs used for disposal of COVID-19 BMW : 198

No. of CBWTFs using COVID19BWM App : 184

No. of generators using COVID19BWM App : 8,159

#### 5.4 Action taken by CPCB against defaulting Facilities:

CPCB vide letter dated 30.05.2020 informed every CBWTF operator in States and Union Territories to use the COVID19BWM Tracking App. Show-cause notices under Section 5 of E(P) Act, were issued to 206 CBWTFs for not using the Tracking App, vide letter dated 21.07.2020, asking to explain the reason why Environmental Compensation should not be imposed for failing to comply with CPB guidelines.

Further, based on the reply received from CBWTF operators, CPCB vide letter dated 29.09.2020 Issued directions under section 5 of Environment (Protection) Act, 1986 to 33 non-complying CBWTFs imposing Environmental Compensation of Rs. 3,000/- per day w.e.f. 30.06.2020. At present, 184 out of 198 facilities are using the Tracking App.

As per request of CBWTF Association of India, Chairman, CPCB held a meeting with Association to discuss compliance to afore-said CPCB directions, wherein Chairman has confirmed that action as per law will be taken for violation of provisions under BMWM Rules, 2016 and CPCB guidelines.

#### 5.5 COVID19 BMW Generation and Adequacy of Treatment Facilities

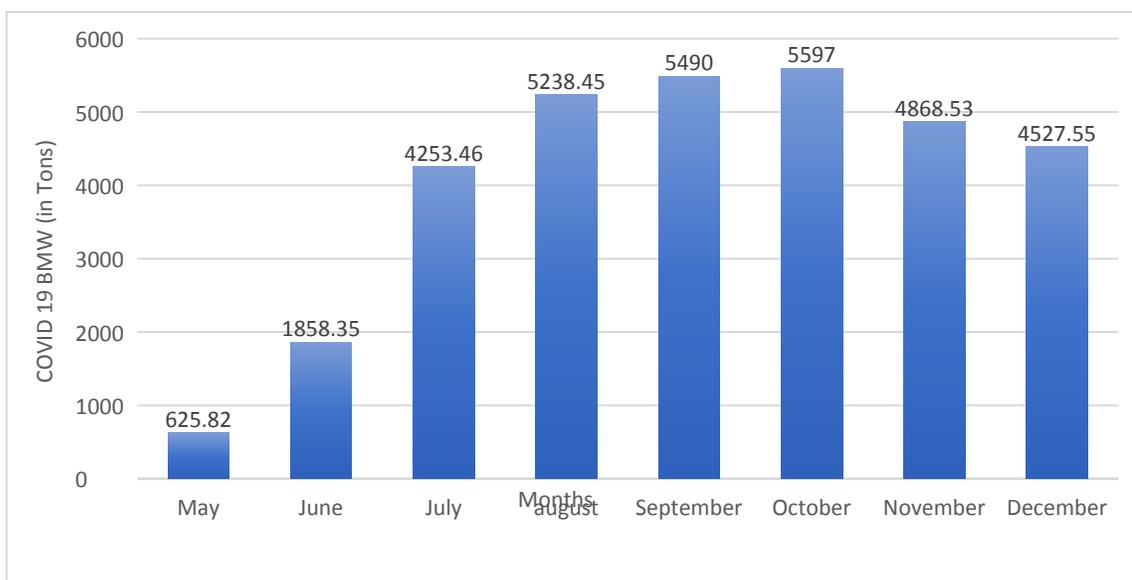
- (i) As per the information submitted by SPCBs/PCCs, 198 Common Biomedical Waste Treatment Facilities are providing service for collection, transportation, treatment and disposal of biomedical waste including COVID-19 waste.
- (ii) As per the status reports submitted by SPCBs/PCC [as on December, 2020], the quantity of COVID waste in December month is about 146MT/day, apart from it, about 615 tons/day of regular biomedical waste is also generated. This would require incineration of about 456 MT/day out of 761 MT/day of total generation.
- (iii) CBWTFs in the country have a cumulative incineration capacity of 840 tons/day, which is adequate to dispose incinerable fraction of COVID19 waste in present situation. However, in localised situations of high incidences of COVID19 disease, the nearby capacity of CBWTFs may not be adequate. Such situation prevailed at cities namely Pune, Chennai and Salem, where Maharashtra and Tamil Nadu SPCBs had allowed the nearby common hazardous waste incinerators at TSDFs for disposal of BMW. At present situation some quantity of excess COVID19 BMW is still being sent to common hazardous waste incinerators at Taloja, Mumbai and Gummidipundi, Chennai.

State wise details on COVID waste generation with treatment capacity utilization is given in table below:

S.No	Name of State	Non-COVID BMW generation (Tons/day)	COVID BMW generated (Tons/day)	Total Quantity of BMW	Number of CBWTFs engaged
1	Andaman and Nicobar Islands	0.67	0.014	0.2	no CBWTF
2	Andhra Pradesh	15.05	10.597	25.7	11
3	Arunachal Pradesh	0.40	0.112	1.0	no CBWTF
4	Assam	8.82	0.755	8.6	1
5	Bihar	34.81	0.752	35.6	4
6	Chandigarh	3.87	2.361	5.6	1

7	Chhattisgarh	3.74	0.31	16.4	2
8	Dadar Nagar Haveli	0.30	0.037	0.3	1
9	Delhi	28.79	10.365	37.2	2
10	Goa	1.49	0.174	2.0	no CBWTF
11	Gujarat	36.42	15.470	50.5	20
12	Haryana	14.81	6.772	21.0	11
13	Himachal Pradesh	3.41	1.556	4.2	2
14	Jammu and Kashmir	5.90	1.133	13.9	2
15	Jharkhand	7.26	0.375	4.9	2
16	Karnataka	77.55	7.033	72.6	25
17	Kerala	42.93	17.499	89.5	1
18	Lakshadweep	0.10	0.01	72.0	no CBWTF
19	Madhya Pradesh	17.85	8.048	23.8	14
20	Maharashtra	62.25	20.3	82.7	29
21	Manipur	0.95	0.299	1.4	1
22	Meghalaya	1.22	0.276	1.7	2
23	Mizoram	0.94	0.104	0.9	no CBWTF
24	Nagaland	0.63	0.074	0.2	no CBWTF
25	Odisha	17.99	4.051	18.7	4
26	Puducherry	5.90	0.552	4.9	3
27	Punjab	16.05	2.806	18.8	5
28	Rajasthan	20.69	3.417	25.7	8
29	Sikkim	0.48	0.079	0.5	no CBWTF
30	Tamil Nadu	58.27	8.104	55.3	9
31	Telangana	20.47	2.220	18.4	11
32	Tripura	1.40	0.015	1.4	1
33	Uttarakhand	3.81	2.460	6.6	2
34	Uttar Pradesh	52.50	8.918	61.4	18
35	West Bengal	41.57	9.002	43.1	6

- (iv) The present generation of 615 MT/day of regular biomedical waste may look adequate at national perspective, however, at individual State's level availability of CBWTFs may vary. It is evident from the fact that despite having CBWTFs, States namely Assam, Himachal Pradesh, Jharkhand, Kerala, Madhya Pradesh, Manipur, Meghalaya, Odisha, Puducherry, Rajasthan, Tamil Nadu and Uttarakhand still use deep burial pits for disposal of BMW as the existing CBWTFs fail to cover entire State.
- (v) With inclusion of COVID19 waste, States namely Assam, Bihar, Jammu & Kashmir, Kerala, Meghalaya, Odisha, and Uttarakhand do not have adequate incineration capacity with Common Biomedical Waste Treatment Facilities, hence respective State Boards should initiate for setting up of new CBWTFs.
- (vi) Real-time generation of COVID19 waste is being tracked through Tracking App. The data from App indicates that, the quantity of waste is peaked during July – October, 2020 and thereafter, there is gradual reduction by December, 2020. Variations in quantity generated is attributed to decrease in number of COVID cases. A graph showing generation trend is given below:



Note: There may also be less number of users during May and June

### 5.6 Check-list for Monitoring compliance by CBWTFs:

Few incidents of illegal dumping of biomedical waste was reported during COVID Pandemic. In one of the case, Hon'ble NGT took suo-moto cognizance of illegal disposal of biomedical waste by a CBWTF, in Original Application No. 110 of 2020. In its Order dated 20.07.2020, Hon'ble NGT directed CPCB to prepare separate guidelines to improve monitoring system for Common Biomedical Waste Treatment Facilities.

Accordingly, CPCB has prepared guidelines for monitoring operations as well as compliance of CBWTFs along with checklist for evaluating performance of CBWTFs by SPCBs/PCCs. These guidelines have been circulated to all SPCBs/PCCs with request to ensure close monitoring as per checklist. Copy of said guidelines is given at **Annexure VIII**.

### 5.7 Awareness Programs

CPCB has prepared awareness material in the form of infographics and shared the same at CPCB website. The content was also shared on CPCB's Social Media accounts. CPCB has also uploaded an awareness video prepared by UNIDO in collaboration with MoEF&CC, as per CPCB's guidelines.

In the month of September Senior Scientist from CPCB has given an interactive talk on Biomedical Waste Management during COVID-19 Pandemic on Vigyan Prasar, Department of Science & Technology. Said Programme was e-telecasted on their website. Another interactive session on "COVID-19 Medical Waste Management" was also given on Doordarshan on 08<sup>th</sup> January, 2021 which shall be telecasted during month of January, 2021.

## 6. Conclusion & Remarks

- States like Andaman & Nicobar, Arunachal Pradesh, Daman & Diu, Goa, Lakshadweep, Mizoram, Nagaland, Sikkim and Tripura do not have Common Biomedical Waste Treatment Facility to treat and dispose the biomedical waste. Respective State Boards should initiate steps to set up Common Treatment Facilities so as to avoid usage of deep burial pits in long term.
- State namely Assam, Bihar, Jammu & Kashmir, Kerala, Meghalaya, Odisha and Uttarakhand should examine the existing treatment capacity with Common Treatment Facilities and may facilitate setting up of more treatment facilities to cater biomedical waste generation including COVID19 waste.
- As per the status reports received from SPCBs, guidelines issued by CPCB have been followed in every State/UT and the COVID19 biomedical waste is being treated & disposed of through Common Biomedical Waste Treatment Facilities and other authorized facilities.

- Capacity of incinerators operated by Common Facilities across the Country has been adequate during the pandemic situation except in few cities namely Thane, Pune and Chennai. The existing capacity of CBWTFs in such cities needs to be upgraded.
- The initial situation in cities like Delhi was improved after effective segregation of solid waste.
- Real-time generation of COVID19 waste is being tracked effectively through CPVID19BMW tracking App developed by CPCB. Usage of this App may continue till prevalence of the pandemic situation.
- 18 out of 198 CBWTFs located in Bihar, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha and Uttar Pradesh States/UTs have not yet started using COVID19BWM Application for tracking of COVID-19 biomedical waste. SPCBs/PCCs may ensure compliance by those facilities also.
- Localized high incidences of COVID19 disease, may lead to a situation where the capacity of CBWTFs in coverage area may become inadequate, an in such cases SPCBs and PCCs are required to act proactively and facilitate sending excess biomedical waste to nearby common hazardous waste incinerators at TSDFs or industrial incinerators.
- State Boards namely Andhra Pradesh, Bihar, Chandigarh, Delhi, Gujarat, Karnataka, Kerala, Madhya Pradesh, Punjab, Tamil Nadu, Telangana and Uttar Pradesh confirmed that deep burials are not being used for disposal of COVID-19 biomedical waste.
- All SPCBs/PCCs may continue to monitor COVID19 waste closely till the end of pandemic situation.

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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

**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

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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.
- 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).

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- 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.
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.

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

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 08.04.2020. 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 faces 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 to 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 BMWM 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;*

- *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.*
- *Ensure that only designated staff collects biomedical waste from quarantine homes or home care.*
- *Training should be provided for sanitization, about collection of biomedical waste, precautionary measures to handle biomedical waste.*
- *Impart training to waste collector in handling of biomedical waste including methods of sanitization. Training to waste collectors should be arranged through CBWTF operators;*
- *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.*
- *Use dedicated carts / trolleys / vehicles for transport of biomedical waste. Ensure sanitization of vehicles with 1% hypochlorite after each trip.*
- *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] <sup>f1</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.”

[<sup>++</sup> 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.

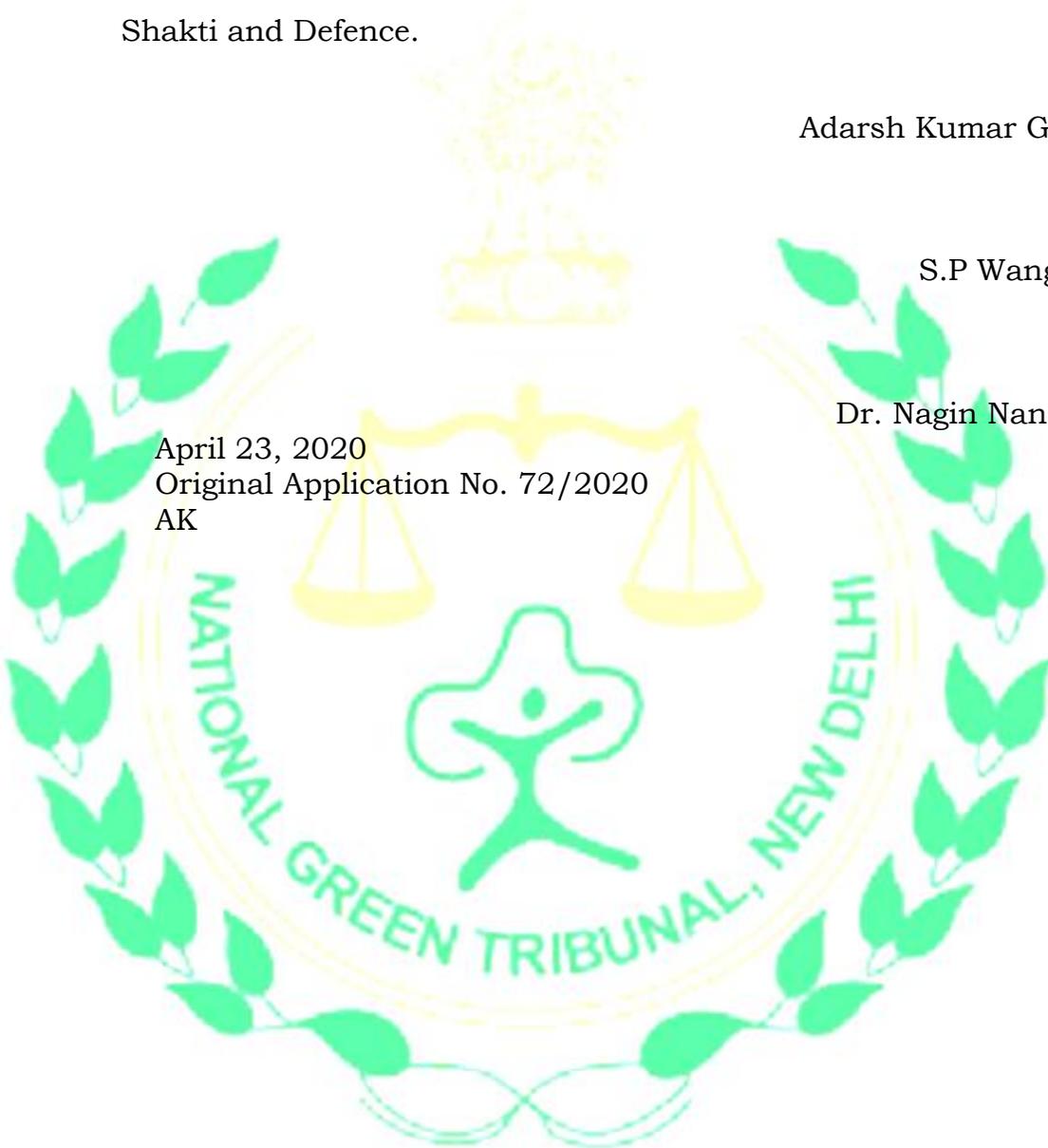
Copies of this order be sent to Chief Secretaries, PCBs/PCCs of all States/UTs, CPCB and Ministries of EF&CC, Health UD, Jal Shakti and Defence.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

Dr. Nagin Nanda, EM

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



By Speed Post

F.No. B-31011/BMW(42.52)/2020/WMD-I/

774-808

August 21, 2020

To,

Member Secretary  
(All SPCBs/PCCs)**Sub: Follow-up action on Hon'ble National Green Tribunal order dated 20.07.2020 in the matter of O.A. No. 72 of 2020 -reg.**

Sir,

This has reference to the order dated 20.07.2020 passed by Hon'ble National Green Tribunal in the matter of O.A. No. 72 of 2020 regarding "Scientific Disposal of Bio-Medical Waste arising out of COVID-19 treatment- Compliance of BMW Rules 2016". Hon'ble Tribunal has directed that SPCB/PCC should ensure:

- (i) Proper segregation of COVID-19 biomedical waste and general solid waste;
- (ii) Constant and regular monitoring by the Chief Secretaries, State PCBs/PCCs and Health Departments for compliance to CPCB guidelines.
- (iii) In case there is no CBWTF existing in the State/UT, deep burial system should be verified as per standards given in CPCB guidelines so as to ensure proper disposal of biomedical waste.

Further, CPCB was directed to submit a consolidated report on COVID-19 waste management by 31.12.2020 based on information collected from State PCBs/PCCs as on 30.10.2020. Copy of the Hon'ble NGT order dated 20.07.2020 is enclosed for ready reference.

In view of above, it is requested to ensure compliance to the afore-said order from Hon'ble NGT and also to ensure effective management of COVID-19 biomedical waste as per the provisions under BMWM Rules, 2016 as well as CPCB guidelines. Status report on management of COVID-19 waste may be send by 31.10.2020 through email at [bmw.cpcb@nic.in](mailto:bmw.cpcb@nic.in).

Yours faithfully

  
 (B. Vinod Babu)  
 AD & DH WMD-I

Copy to:

- (i) PS to 'MS' : For kind information of 'MS' please

  
 (B. Vinod Babu)

केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
 दिनांक.....  
 दिनांक 21/8/20 o/c

By Speed Post

F.No. B-31011/BMW (42.52)/2020/WMD-I/

1355-1389

September 17, 2020

To,

Principal Secretary,  
State health Department  
(All State/UT)**Sub: Follow-up action on Hon'ble National Green Tribunal order dated 20.07.2020 in the matter of O.A. No. 72 of 2020 -reg.**

Sir,

This has reference to the order dated 20.07.2020 passed by Hon'ble National Green Tribunal in the matter of O.A. No. 72 of 2020 regarding "Scientific Disposal of Bio-Medical Waste arising out of COVID-19 treatment- Compliance of BMW Rules 2016". Hon'ble Tribunal has directed to ensure:

- (i) Proper segregation of COVID-19 biomedical waste from general waste.
- (ii) Constant and regular monitoring by the Chief Secretaries, State PCBs/PCCs and Health Department in the States/UTs.
- (iii) In case there is no CBWTF existing in the State/UT, deep burial system should be verified as per standards given in CPCB guidelines so as to ensure proper disposal of biomedical waste.

Copy of the said NGT order dated 20.07.2020 is enclosed for ready reference.

In view of above, it is requested to ensure compliance to aforesaid order of Hon'ble NGT for effective management of COVID-19 related biomedical waste in the State/UT as per guidelines issued by CPCB.

Yours faithfully

  
**(B. Vinod Babu)**  
 AD & DH, WMD-I

Copy to:

- (i) PS to Chief Secretary (All States/UTs) : For kind information of 'CS', please.

  
**(B. Vinod Babu)**

o/c

केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
 निर्गत  
 दिनांक 18/09

**Annexure-V**

S.No.	State	Segregation status of COVID-19 Bio - Medical Waste and general solid waste	Regular monitoring by the Chief Secretaries/SPCBs/PCCs & Health Dept.	If no CBWTF, deep burial system verified as per std. of CPCB guidelines
1	Andaman & Nicobar	Segregated and disposed off through incinerator	INP	BMW disposed off through incinerator, no information provided w.r.t deep burial
2	Andhra Pradesh	APPCB directed all Regional Officers to ensure the Proper segregation of COVID 19 BMW as well as CBWTFs for proper treatment disposal.	APPCB regularly monitors compliance to CPCB Guidelines.	Deep burial not used for disposal of BMW
3	Bihar	To ensure proper segregation of COVID-19 Bio-Medical Waste from general solid waste BSPCB published advertisements in newspapers for awareness of general public & other stakeholders. Radio jingles for the same has been broadcasted through local FM Channels.	Regular monitoring for compliance is being done by the concerned State Departments. A meeting was conducted with State Urban Development and Housing Department. Also, a meeting through Video conferencing has been held under the Chairmanship of the Secretary, Urban Development & Housing Department, Govt. of Bihar, Patna with all the Local Bodies of the State to ensure effective management of COVID-19 BMW as per the provisions under BMWM Rules, 2016 as well as CPCB guidelines	Deep burial not used for disposal of BMW
4	Chandigarh	Segregated at point of generation and disposal of general solid waste has been ensured as per MSW Rules, 2016	Regular monitoring has been done	Deep burial not used for disposal of BMW
5	Chhattisgarh	Segregation has been done as per CPCB guideline	INP	Deep burial pits used in 2 CBWTFs and pits are as per CPCB guideline
6	DD &DNH	PCC has directed all municipal councils and Health Departments to ensure proper segregation of BMW and general solid waste.	Regular monitoring is being done and data has been updated in CPCB COVID19BWM App every day.	No CBWTF in UT. However, BMW is disposed through facility in Surat, Gujarat

S.No.	State	Segregation status of COVID-19 Bio - Medical Waste and general solid waste	Regular monitoring by the Chief Secretaries/SPCBs/PCCs & Health Dept.	If no CBWTF, deep burial system verified as per std. of CPCB guidelines
7	Delhi	DPCC issued directions u/s 5 of E(P)Act, 1986 issued on 26.08.2020 to all ULBs for collection of BMW in yellow bags and segregated COVID 19 biomedical waste is handed over to the concerned CBWTF.	Regular monitoring is being done by the all concerned CDMOs and data has been updated in CPCB COVID19BWM App every day.	Deep burial not used for disposal of BMW
8	Goa	Segregation has been done as per CPCB guideline	Regular monitoring has been done	Deep burial is in practice and as per standard.
9	Haryana	Segregation has been done as per CPCB guideline.	Regular monitoring has been done.	No deep burial pits installed by HCF & CBWTFs of Haryana
10	Gujarat	GPCB ensures segregation has been done as per CPCB guideline. Training and awareness program has been conducted by GPCB regarding implementation of CPCB guideline.	Teams of officers and regional officers of GPCB regularly monitors effective handling and management of COVID-19 BMW.	No deep burial pits installed by HCF & CBWTFs of Gujarat
11	Himachal Pradesh	Segregated at point of generation and disposal of general solid waste has been ensured as per MSW Rules, 2016.  Trainings and awareness for all stakeholders have been provided through online mode and personal interaction  Public notices have also been published regarding COVID -19 BMW management. Radio jingle developed for awareness of common masses regarding COVID-19 waste management.	Chief secretary, Govt. of HP reviewed the compliance of CPCB guidelines in coordination with different departments	Deep burial is in practice in far flung areas and SPCB verified deep burial system verified as per CPCB guidelines
12	J & K	Segregated at point of generation and disposal of general solid waste has been ensured as per MSW Rules, 2016.  JK Health & Medical Education Department was informed to ensure scientific disposal of COVID-19 waste.	Regular monitoring has been done	Only 3 deep burial pits are being utilized for disposal of COVID-19 BMW and JK PCB monitors deep burial pits and process of levying of Environmental compensation in one such HCF has been initiated.

S.No.	State	Segregation status of COVID-19 Bio - Medical Waste and general solid waste	Regular monitoring by the Chief Secretaries/SPCBs/PCCs & Health Dept.	If no CBWTF, deep burial system verified as per std. of CPCB guidelines
13	Jharkhand	Segregation has been done as per CPCB guideline	Regular monitoring has been done	INP
14	Karnataka	Segregation has been done as per CPCB guideline	The BMW team regularly reviewing the disposal of Covid biomedical waste as per the rules and guidelines	INP
15	Kerala	Segregated at point of generation and disposal of general solid waste has been ensured as per MSW Rules, 2016. Notice has issued to HCFs as per complaint filed by CBWTFs regarding improper segregation	Regular monitoring is being done and data has been updated in CPCB COVID19BWM App every day.	Deep burial not used for disposal of BMW
16	Lakshadweep	Lakshadweep is categorized as green zone with respect to COVID-19. However follows guidelines and Rules for disposal of BMW.	NA	NA
17	Madhya Pradesh	Segregation has been done as per CPCB guideline and instructions have been given to Health Department in this regard.	Regular monitoring has been done	Deep burial not used for disposal of BMW. However, instruction have been given to all District CMHO's to install deep burial facility as per standard if such situation arise at any place (rural area where CBWTF vehicle unable reach).
18	Maharashtra	Segregation has been done as per CPCB guideline	Regular monitoring has been done.	In Maharashtra State One Deep Burial Facility is Operating. The site regularly monitored by MPCB Regional Office.
19	Manipur	Segregation has been done as per CPCB guideline	Regular monitoring has been done	Manipur SPCB verified deep burial system as per standards of CPCB guidelines
20	Meghalaya	Segregated at point of generation and disposal of general solid waste has been ensured as per MSW Rules, 2016	Regular monitoring has been done	Meghalaya SPCB verified deep burial system as per standards of CPCB guidelines

S.No.	State	Segregation status of COVID-19 Bio - Medical Waste and general solid waste	Regular monitoring by the Chief Secretaries/SPCBs/PCCs & Health Dept.	If no CBWTF, deep burial system verified as per std. of CPCB guidelines
21	Mizoram	<p>Segregation has been done as per CPCB guideline.</p> <p>Training and awareness program has been conducted by MPCB regarding implementation of CPCB guideline.</p> <p>Advisory on Guidelines for Handling, Treatment and Disposal of waste generated during treatment/Diagnostic/Quarantine of Covid-19 patients-Revision 4 Dt. 21.07.2020 have been issued to all Urban Towns</p>	Regular monitoring has been done	Mizoram SPCB verified deep burial system as per standards of CPCB guidelines
22	Odisha	<p>Segregation has been done as per CPCB guideline.</p> <p>Awareness and training program has been conducted</p>	Regular monitoring has been done	Deep burial is in practice and as per standard.
23	Puducherry	<p>Segregation has been done as per CPCB guideline.</p> <p>Awareness and training program has been conducted</p>	Regular monitoring has been done	In Yanam, ULBs are collecting and disposing the home quarantine COVID-19 BMW through deep burial method. The commissioner of this Municipality was directed to follow the Guidelines and standards for deep burial
24	Punjab	Segregation has been done as per CPCB guideline	Regular monitoring has been done	Deep burial not used for disposal of COVID19 BMW
25	Rajasthan	COVID-19 BMW guidelines has been circulated to all concern departments for proper segregation of BMW and directed munciple corporations to ensure segregation of BMW.	Regular monitoring has been done	Depp burial is in practice in far flung areas and SPCB verified deep burial system verified as per CPCB guidelines
26	Sikkim	Segregation has been done as per CPCB guideline	Regular monitoring has been done	Deep burial is in practice and as per standard. However, Show cause notice has been issued to in charge of isolation center for not having

S.No.	State	Segregation status of COVID-19 Bio - Medical Waste and general solid waste	Regular monitoring by the Chief Secretaries/SPCBs/PCCs & Health Dept.	If no CBWTF, deep burial system verified as per std. of CPCB guidelines
				deep burial as per standard.
27	Tamilnadu	TNPCB issued directions u/s 5 of E (P) Act to the directorate of medical Rural Health Services to ensure proper segregation of COVID-19 waste from general solid waste.	Regular monitoring has been done	Deep burial not used for disposal of COVID19 BMW
28	Telangana	<p>Letters has been issued to all the District Health &amp; Medical Officers (DM&amp;HOs) communicating the Guidelines &amp; the Hon'ble NGT Orders and asked for ensuring compliance of the Guidelines by the HCFs &amp; CBMWTFs regularly. Also, Telangana board officials are monitoring HCFs for ensuring segregation of waste at source and also addressing complaints, if any.</p> <p>The CPCB Awareness cum Training video was dubbed into Telugu language and circulated among all the Stake Holder Departments, District Collectors, DH&amp;HOs, DPOs, ULBs, ZOs &amp; ROs of TSPCB, CBMWTFs to use the same as training material to the medical staff &amp; sanitation workers and also for public awareness purpose.</p> <p>Separate Web Page is hosted in the TSPCB Website for COVID waste management in Telugu and English language.</p> <p>Posters were printed in Telugu Language and pasted at prominent places</p>	Regular monitoring has been done	Deep burial not used for disposal of COVID19 BMW
29	Tripura	<p>Segregation has been done as per CPCB guideline and instructed to HCFs and ULBs to follow Rules and Guidelines of BMWM.</p> <p>Awareness advertisements has published in local newspapers w.r.to COVID 19 BMWM and also advertising through FM radio..</p>	Regular monitoring has been done by nodal officers of Tripura SPCB.	Captive Incinerators are used for disposal of COVID 19 BMW

S.No.	State	Segregation status of COVID-19 Bio - Medical Waste and general solid waste	Regular monitoring by the Chief Secretaries/SPCBs/PCCs & Health Dept.	If no CBWTF, deep burial system verified as per std. of CPCB guidelines
30	UP	Segregation has been done as per CPCB guideline	Regular monitoring has been done	Deep burial not used for disposal of COVID19 BMW
31	Uttarakhand	Segregation has been done as per CPCB guideline Direction has been issued to Director Urban development, Uttarakhand to educate house holds about segregation and ensure treatment for bio medical waste. Also, to comply with the CPCB guidelines on COVID-Waste Management.	Regular monitoring of the said matter is being done Chief Secretary. Also, regular monitoring is being done by UKPCB and data has been updated in CPCB COVID19BWM App every day.	Deep burial is in practice in far flung areas and to ensure deep burial system as per CPCB guidelines letter has been issued to regional officers of the Board.
32	West Bengal	Segregation has been done as per CPCB guideline	INP	INP

**Revision 4**

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

17<sup>th</sup> July, 2020

**[In suppression of earlier guidelines uploaded at CPCB website on 10.06.2020. 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. 4**

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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-4 of guidelines issued to provide revised guidance on segregation of general solid waste and biomedical waste from quarantine centers/home-care/healthcare facilities treating COVID-19 patients and to recommend on disposal of PPEs.

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 including temporary Healthcare Facilities like rail coach wards, COVID Care Centers etc.<sup>1</sup> 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>2</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> Para amended in Rev. 4 dated 17.07.2020

<sup>2</sup> Inserted in Rev. 3 of guidelines dated 10.06.2020

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- General solid waste comprising of wrappers of medicines/syringes, fruit peel offs, empty juice bottles or tetra packs, used water bottles, discarded papers, carton boxes of medicines, empty bottles of disinfectants, left-over food, disposable food plates etc., 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 for serving food, which are to be handle with appropriate precautions and cleaned and disinfected as per hospital guidelines. If use of disposable items is inevitable, use bio-degradable cutlery. The wet and dry solid waste bags to be tied securely in leak-proof bags, sprayed with sodium hypo-chlorite solution and hand over to authorized waste collector of ULB's on daily basis. Yellow colored bags should not be used for collecting general solid waste. Compostable bags should be used for collecting wet-waste.<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>
- Used masks, tissues and toiletries, of COVID-19 patient shall become biomedical waste and shall be segregated in yellow bag.<sup>5</sup>
- Segregation of biomedical waste and general solid waste should be done at the point of generation in wards / isolation rooms. There should be no segregation of biomedical waste and

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<sup>1</sup> Para revised in Rev. 3 dated 10.06.2020 & Rev 4 dated 17.07.2020

<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 and revised in Rev 4 dated 17.07.2020

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solid waste at temporary waste collection / storage area of Healthcare Facility to ensure occupational safety.<sup>1</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 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>2</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>3</sup>

**(c) Responsibilities of persons operating Quarantine Centers/Camps/Home Quarantine or Home-Care facilities<sup>4</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 collected in bags, securely tied and handed-over to municipal solid waste collector identified by Urban Local Bodies for final disposal.<sup>5</sup>
- General solid waste should comprise of waste generated from kitchen, packaging material, waste food material, waste papers, waste plastics, floor cleaning dust, etc. including left-over food, disposable utensils, water bottles, tetra packs, used by suspected quarantined persons and COVID-19 patient at homecare or home quarantine.<sup>6</sup>
- Only the used masks, gloves and tissues or swabs contaminated with blood / body fluids of COVID-19 patients, including used syringes, medicines, etc., if any generated should be treated as biomedical waste<sup>7</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>8</sup>

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<sup>1</sup> Inserted in Rev. 4 dated 17.07.2020

<sup>2</sup> Inserted in Rev. 3 dated 10.06.2020

<sup>3</sup> Para amended in Rev. 2 dated 18.04.2020

<sup>4</sup> Section inserted in Rev. 1 dated 25.03.2020

<sup>5</sup> Para amended in Rev. 4 dated 17.07.2020

<sup>6</sup> Para inserted in Rev. 3 dated 10.06.2020 and Rev. 4 dated 17.07.2020

<sup>7</sup> Para inserted in Rev. 3 dated 10.06.2020 and Rev. 4 dated 17.07.2020

<sup>8</sup> Para amended in Rev. 3 dated 10.06.2020

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- 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>1</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>2</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.
- Persons taking care of quarantine home / Home-care should deposit biomedical waste if any generated from suspected or confirmed COVID-19 patients in homecare, by following any of the following methods as may be arranged by ULBs;<sup>3</sup>
  - 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>4</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.

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<sup>1</sup> Para inserted in Rev. 3 dated 10.06.2020

<sup>2</sup> Para inserted in Rev. 3 dated 10.06.2020

<sup>3</sup> Para amended in Rev. 4 dated 17.07.2020

<sup>4</sup> Para inserted in Rev. 2 dated 18.04.2020

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- General solid waste from Quarantine Camps / Quarantine-Home / Home-care shall be segregated separately and disposed as solid waste as per provisions under SWM Rules, 2016.
- Left-over food, empty juice bottles or tetra packs, empty water bottles, packaging material, and any other items, generated or handled by COVID-19 patient should be collected along with other general solid waste in bags securely tied for handing over to waste collectors engaged by ULBs. Yellow colored bag should not be used for general solid waste.<sup>1</sup>
- Only the used masks, gloves and tissues or swabs contaminated with blood / body fluids of COVID-19 patients, including used syringes, medicines, etc., if any generated should be treated as biomedical waste and collect the same in yellow bag.<sup>2</sup>
- Masks and gloves used by persons other than COVID-19 patients should be kept in paper bag for a minimum of 72 hours prior to disposal of the same as general waste after cutting the same to prevent reuse.<sup>3</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>4</sup>

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<sup>1</sup> Para inserted in Rev. 2 dated 18.04.2020, amended in Rev. 3 dated 10.06.2020 and Rev. 4 dated 17.07.2020

<sup>2</sup> Para inserted in Rev. 3 of guidelines dated 10.06.2020 and Rev. 4 dated 17.07.2020

<sup>3</sup> Amended in Rev. 2 of guidelines dated 18.04.2020 and Rev. 4 dated 17.07.2020; Criteria for 72 hours is as per CDC guidelines for Decontamination and Reuse of Filtering Facepiece Respirators

<sup>4</sup> Para inserted in Rev. 3 dated 10.06.2020

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- 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>1</sup>

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

- Shall maintain records of COVID-19 treatment wards / quarantine centers / quarantine homes in respective States.
- Ensure proper segregation, 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;
- 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>2</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>3</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>4</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>5</sup>

**(f) Duties of Urban Local Bodies<sup>6</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.

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<sup>1</sup> Para inserted in Rev. 3 dated 10.06.2020

<sup>2</sup> Para inserted in Rev. 2 dated 18.04.2020

<sup>3</sup> Para amended 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> Section inserted in Rev. 1 dated 25.03.2020

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- 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. Inform the persons responsible for operating isolation wards, quarantine centers and residents of homecare units to collect solid waste and biomedical waste in separate bags securely tied prior to hand over to authorized waste collectors of ULBs. ULBs should ensure that left-over food and general solid waste is not collected in yellow bags;<sup>1</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;
- 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 may envisage the 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;
  - 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.
  - Ensure that only designated staff collects biomedical waste from quarantine homes or home care.
  - Training should be provided for sanitization, about collection of biomedical waste, precautionary measures to handle biomedical waste.
  - Impart training to waste collector in handling of biomedical waste including methods of sanitization. Training to waste collectors should be arranged through CBWTF operators;
  - The staff involved in handling and collection of general solid waste and biomedical waste from isolation wards, 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

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<sup>1</sup> Para inserted in Rev. 3 dated 10.06.2020 and amended in Rev. 4 dated 17.07.2020

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required to be worn all the time while collecting of waste from quarantine center/quarantine homes/home care/waste deposition centers.

- 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>
  - Use dedicated carts / trolleys / vehicles for transport of biomedical waste and general solid waste separately. Ensure sanitization of vehicles with 1% sodium hypochlorite after each trip;
  - As a matter of caution, the bags containing general solid waste may be sprayed with disinfectant solution (1% sodium hypochlorite solution) prior to disposal;<sup>2</sup>
  - Waste collectors arriving at quarantine center or at home care may spray the disinfectant (1% sodium hypochlorite solution) on the solid waste bags and the bin used for yellow bags.<sup>3</sup>
- 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>4</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>5</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>6</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>7</sup>

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<sup>1</sup> Para inserted in Rev. 3 dated 10.06.2020

<sup>2</sup> Para inserted in Rev. 3 dated 10.06.2020

<sup>3</sup> Amended in Rev 4 dated 17.07.2020

<sup>4</sup> Para inserted in Rev. 3 dated 10.06.2020

<sup>5</sup> Para Inserted in Revision 2 dated 18.04.2020

<sup>6</sup> Para Inserted in Rev. 3 dated 10.06.2020

<sup>7</sup> Para Inserted in Rev. 3 dated 10.06.2020

## **Guidelines for Handling, Treatment, and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients – Rev. 4**

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- 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>1</sup>
- ULBs required to ensure daily collection of segregated general solid waste from quarantine centers, home-care and hospitals in securely tied bags (without opening 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. In case of landfilling, identify dedicated area on landfill and the bags should be spread and covered daily with layer of soil or stabilized waste after sprinkled with lime / bleaching powder. Access to landfills sites should be strictly restricted;<sup>2</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>3</sup>

### **(g) Management of wastewater from HCFs / Isolation Wards<sup>4</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.

### **(h) Disposal of used PPEs<sup>5</sup>**

- Waste masks and gloves in general households should be kept in paper bag for a minimum of 72 hours prior to disposal of the same as dry general solid waste after cutting the same to prevent reuse.<sup>6</sup>

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<sup>1</sup> Para Inserted in Rev. 3 dated 10.06.2020

<sup>2</sup> Para Inserted in Rev. 3 dated 10.06.2020 and amended in Rev 4 dated 17.07.2020

<sup>3</sup> Para Inserted in Rev. 3 dated 10.06.2020

<sup>4</sup> Section inserted in Rev 2 dated 18.04.2020

<sup>5</sup> Section inserted in Rev 4 dated 17.07.2020

<sup>6</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

**Guidelines for Handling, Treatment, and Disposal of Waste Generated during  
Treatment/Diagnosis/ Quarantine of COVID-19 Patients – Rev. 4**

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- Discarded PPEs from general public at commercial establishments, shopping malls, institutions, offices, etc. should be stored in separate bin for 3 days, thereafter disposed of as dry general solid waste after cutting/shredding.
- At Material Recovery Facilities (MRFs), discarded PPEs containing plastic should be shredded and sent to SPCB authorised plastic waste recyclers, or may be converted into refuse derived fuel (RDF) for co-processing or energy recovery (in Waste to Energy Plants) or for road making. Shredded PPEs may be disposed at landfill only in case the requisite infrastructure as required under SWM Rules is not available in the State.
- PPEs doffed by healthcare workers accompanying diseased body of COVID-19 patient to crematorium / graveyards should be treated as biomedical waste and disposed as per provisions under SWM Rules, 2016 and BMW Management Rules, 2016. Crematoriums/graveyards may opt for disposal of such PPEs is given below;
  - Should be collected in separate bin with yellow-bag and handed over to authorized waste picker engaged by of ULBs for disposal through CBWTFs.  
Or
  - Dispose as domestic hazardous waste (biomedical waste) and may be deposited at designated deposition centers identified by ULBs for pick-up by CBWTFs.  
Or
  - May ask healthcare staff to take-back the PPEs after collecting it in red and yellow bags/bins provided in the hospital ambulance itself.  
Or
  - May ask the healthcare workers to doff the PPEs at the hospital or healthcare unit from where they collected the corpse.

Used masks from visitors to crematorium/ graveyards including crematorium staff should be collected in separate bins and stored for 72 hours prior to disposal as dry general solid waste through local bodies.

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Email

Youthika Puri

## Minutes of 2nd review meeting of High Level Task Team held with SPCBs/PCCs to review COVID-19 Waste Management

**From :** Youthika Puri <youthika.cpcb@nic.in> Tue, Oct 20, 2020 05:38 PM

**Subject :** Minutes of 2nd review meeting of High Level Task Team held with SPCBs/PCCs to review COVID-19 Waste Management 📎 1 attachment

**To :** Member Secretary APPCB <membersecy@appcb.gov.in>, membersecretary@pcbassam.org, mscellbspcb@gmail.com, Member Secretary GSPCB <msgpcb.goa@nic.in>, goapcb@rediffmail.com, mshspcb@gmail.com, mspcb-hp <mspcb-hp@nic.in>, membersecretaryjkspcb@gmail.com, ranchijspcb@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>, It mppcb <It\_mppcb@rediffmail.com>, ms@mpcb.gov.in, Pollution Control Board <pcb-man@nic.in>, megspcb@rediffmail.com, duhawma15@yahoo.com, rusoviljohn@yahoo.co.in, ms@uppcb.com, arunachalspcb@gmail.com, hocecb@gmail.com, membersecretarygpcb@gmail.com, ms-gpcb@gujarat.gov.in, membersecretary@ospcb.org, Member Secretary <msppcb@punjab.gov.in>, Member Secretary <member-secretary@rpcb.nic.in>, csraoifs@gmail.com, ttnpcbmembersecretary@yahoo.com, ts ms <ts\_ms@pcb.ap.gov.in>, mukherjee manas <mukherjee\_manas@rediffmail.com>, ms@wbpcb.gov.in, sundarbantiger@gmail.com, dstandamans@gmail.com, Vivek Pandey <cpcc-chd@nic.in>, mspcc dmn <mspcc\_dmn@pccdaman.info>, Member Secretary <msdpcc@nic.in>, ik-dst@nic.in, Pondicherry Pollution Control Committee Pondicherry <ppcc.pon@nic.in>, EE Online BMWM <ee1-uh5-tspcb@telangana.gov.in>, jceewmntpcb@gmail.com, bspcb <bspcb@yahoo.com>, ajeeta1 <ajeeta1@yahoo.com>, pso <pso@mpcb.gov.in>

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14/01/2021

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Sir / Madam,

I am directed to forward the minutes of 2nd review meeting of High Level Task Team with SPCBs/PCCs to review COVID-19 Waste Management held on 24.09.2020 through Video Conferencing. In this regard, please find attached the said minutes of Meeting for ready reference.

with regards

Youthika  
Senior Environmental Engineer  
Waste Management Division  
Central Pollution Control Board

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 **MoM of 2nd review meeting of HLTT.pdf**  
4 MB

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## Central Pollution Control Board, Delhi

### Minutes of 2<sup>nd</sup> Review Meeting of High Level Task Team with SPCBs/PCCs to review Status of COVID19 Waste Management

#### **Background:**

A High Level Task Team (HLTT) has been constituted by Central Pollution Control Board to review the COVID19 waste management across the Country, which is chaired by Chairman, CPCB comprising representative from following Ministries:

- Ministry of Environment Forest & Climate Change,
- Ministry of Health & Family Welfare,
- Ministry of Housing & Urban Affairs,
- Ministry of Defense, and
- Ministry of Jal Shakti

1<sup>st</sup> Review meeting of HLTT was held on 26.05.2020, and the action points were circulated to SPCBs/PCCs, State Environment Departments and State Departments of Health.

HLTT held 2<sup>nd</sup> review meeting on 24.09.2020, through Video Conferencing with State Pollution Control Boards and Pollution Control Committees. List of Participants is given at **Annexure I.**

#### **Proceedings of Review:**

Chairman, welcomed the participants from SPCBs/PCCs, the members of HLTT and other officials. Before starting review of state-wise scenario, he requested the concerned Divisional Head in CPCB to give a brief presentation on national scenario.

In the presentation, it was highlighted that usage of Tracking App is not yet 100%, as 38 out of 198 CBWTFs are yet to use the App. Non-usage of App is observed mainly in Karnataka and Maharashtra States. It is also stated that there is deviation in quantity of waste reported by SPCBs and the quantity reported by generators in Tracking App, which indicates that there is lack of periodic cross-checking by SPCBs/PCCs. It is also pointed out regular data submission/verification through Tracking App is not maintained by few SPCBs/PCCs.

The presentation also highlighted State-wise deficiencies in BMW waste disposal infrastructure, need for installation of OCEMS and to minimize usage of deep burial pits.

Dr. Nandini Duggal, MoH&FW and emphasized on need of proper segregation of COVID19 biomedical waste and solid waste generated at Healthcare Facilities as per guidelines, appropriate usage of PPEs, etc.

Sh. Dinesh Runiwal, MoEF&CC emphasized the need for effective usage of Tracking App and He suggested that SPCBs/PCCs should proactively engage with State government and project proponents for setting up of CBWTFs in States where no CBWTF is available. He also stated that States may avail financial assistance from MoEF&CC for the same.

Colonel Kapil Pandya, DGAFMS appreciated the efforts taken so far by CPCB and SPCBs and emphasized the need to further improving the monitoring system.

Chairman has reviewed status of biomedical waste management with MS/Chairman or the concerned senior officers of SPCBs and PCCs. State-wise details of the same are given at **Annexure II.**

## **Discussion & Recommendations:**

After the deliberations, Chairman has directed that SPCBs/PCCs should ensure compliance to following action points:

### **(i) Use of CPCB tracking App.**

- Daily submission of COVID-19 related data through web application of COVID19BWM Tracking app.
- Ensure that every generator (HCFs, quarantine centers, ULBs etc.), waste collector and CBWTF operator feed daily data related to COVID19 BMW application.
- Verify the data gap between quantity of waste reported by generators and the quantity of disposal reported by CBWTF, periodically to minimize such gaps.
- May consider closing down persistently non-complying CBWTFs with respect to usage of COVID19BWM App., installation of OCEMS, installation of inadequate air pollution control devices, etc. by making alternate arrangement with other CBWTFs, TSDFs or by allowing new CBWTFs.

### **(ii) Illegal dumping of Biomedical Waste:**

- Illegal disposal / dumping of biomedical waste has been reported in few States/UTs, Chairman, CPCB directed for strict monitoring of such incidences by SPCBs/PCCs by initiating special drive to monitor such incidences. Checklist given in CPCB guidelines for Monitoring Compliance of Common Biomedical Waste Treatment Facilities by State Pollution Control Boards / Pollution Control Committees may be referred for the same.
- Delhi Pollution Control Committee should ensure proper disposal of used PPEs and COVID19 related biomedical waste at crematoriums, in line with CPCB guidelines.
- Goa SPCB shall expedite the process of repairing damaged incinerator at Goa Medical College and complete the same within one week. CPCB shall take up the matter of non-availability of CBWTF in Goa, with State Government separately. Setting-up of CBWTF in Goa should be expedited.

### **(iii) Setting up of CBWTF**

- States like Assam, Himachal Pradesh, J & K, Kerala, Meghalaya, Mizoram, Sikkim, Tripura, and Uttarakhand shall start/expedite the process of setting up of new CBWTFs as the existing infrastructure is not adequate enough.
- Deep burials used for disposal of COVID19 biomedical waste should be monitored regularly.
- Data related to deep burials pits and quantity waste using such burial pits shall be submitted through COVID19BWM application (web portal) regularly.
- SPCBs/PCCs along with concerned State Department may submit proposals for setting up of CBWTFs to avail financial assistance scheme of Ministry of Environment Forest & Climate Change.

### **(iv) Alternative for disposal of biomedical waste:** SPCBs/PCCs should explore the options for having alternative way of treatment & disposal of COVID19 waste in case existing

treatment of CBWTF is already exhausted or going to be. As per the guidelines, hazardous incinerator or other industrial incinerators may be permitted to use for treatment & disposal of biomedical waste.

- (v) **Compliance to CPCB guidelines:** SPCBs/PCCs should regularly follow-up with stakeholders like hospitals, CBWTF operators, Urban Local Bodies to perform their duties in line with CPCB guidelines for proper disposal of COVID19 waste.
- (vi) **Model Plan for Panchayats / Sub-Divisions:** CPCB has prepared a template of Model Plan on management of COVID19 waste at Panchayats, sub-Divisions level to facilitate States/UTs to prepare similar plans. SPCBs/PCCs shall facilitate the same and also ensure preparation of such plan in respective States or UTs to manage COVID19 biomedical waste.
- (vii) **Waiver of EC requirement:** With regard to waiver of EC or public hearing for EC, for expansion of existing CBWTFs, Chairman has clarified that EC matters should be expedited at State level since the matter comes under SEIAA. In case the relaxation is required, such proposals may be forwarded to MoEF&CC for consideration.

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## List of participants

High Level Task Team / State/UT	Name of Participants
High level task team members	Col. Kapil Pandya, DGAFMS
	Dr. Nandini Duggal, Sr. Microbiologist, RML Hospital (Representative from MoHFW)
	Sh. Dinesh Runiwal, Sc. 'E', MoEF&CC
Andaman and Nicobar	Member Secretary
Andhra Pradesh	APPCB official
Arunachal Pradesh	Not attended
Assam	Member Secretary
Bihar	Chairman
Chandigarh	Chandigarh PCC official
Chhattisgarh	CGECB official
Daman & Diu and Dadra & Nagar Haveli	Member Secretary
Delhi	Member Secretary
Goa	Member Secretary
Gujarat	GSPCB official
Haryana	Member Secretary
Himachal Pradesh	HPPCB official
J & K	Member Secretary
Jharkhand	Not attended the meeting
Karnataka	KSPCB official
Kerala	Chairman
Lakshadweep	Not attended the meeting
Madhya Pradesh	MPPCB official
Maharashtra	Member Secretary
Manipur	Not attended the meeting
Meghalaya	Meghalaya SPCB official
Mizoram	Mizoram SPCB official
Nagaland	Not attended the meeting
Odisha	OSPCB official
Punjab	Chairman
Puducherry	Due to network issue, unable to connect
Rajasthan	RSPCB official
Sikkim	Sikkim PCB official
Tamil Nadu	Member Secretary
Telangana	Member Secretary
Tripura	Member Secretary
Uttar Pradesh	Member Secretary
Uttarakhand	UKPCB official
West Bengal	WBSPCB official

## State wise details of discussion held with SPCBs/PCCs

State/UT	Status provided by States/UTs	Remarks of Chairman, CPCB
Andaman Nicobar	<ul style="list-style-type: none"> <li>Incinerators at GB pant hospital are used for biomedical waste disposal which is adequate.</li> <li>App has been downloaded by the hospital. However, unable to use due to some issue.</li> </ul>	<ul style="list-style-type: none"> <li>CPCB officials may be contacted for resolving the issue.</li> <li>Should ensure daily reporting through Tracking App.</li> </ul>
Andhra Pradesh	<ul style="list-style-type: none"> <li>All CBWTFs are using App</li> <li>SPCB is also approving the data.</li> <li>Capacity is adequate in State to cater the need.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure daily approval of COVID data.</li> </ul>
Arunachal Pradesh	<ul style="list-style-type: none"> <li>Not attended the meeting</li> </ul>	<ul style="list-style-type: none"> <li>CPCB may ask the reasons for not attending the meeting</li> </ul>
Assam	<ul style="list-style-type: none"> <li>Other than CBWTF biomedical waste is being disposed off through deep burial pits and 2 captive treatment plants.</li> <li>TOR has been applied for setting up of new CBWTF.</li> </ul>	<ul style="list-style-type: none"> <li>CBWTF cannot cater the need of entire State for biomedical waste disposal.</li> <li>State may expedite the process of setting up of new CBWTF as per the need.</li> </ul>
Bihar	<ul style="list-style-type: none"> <li>SPCB and CBWTFs are reporting in App.</li> <li>Tender has been finalized for two more CBWTFs.</li> </ul>	<ul style="list-style-type: none"> <li>SPCB should not only look after the capacity but also ensure that CBWTFs should cover the entire State geographically.</li> </ul>
Chandigarh	<ul style="list-style-type: none"> <li>Facility is adequate</li> </ul>	<ul style="list-style-type: none"> <li>No specific issues. Continue to monitor closely as per CPCB guidelines.</li> </ul>
Chhattisgarh	<ul style="list-style-type: none"> <li>All CBWTFs are using the App.</li> <li>Tender has been floated for 3 new CBWTFs.</li> </ul>	<ul style="list-style-type: none"> <li>2 out of 4 CBWTFs are using deep burial for disposal which should be restricted.</li> <li>SPCB may expedite the process of setting up of new CBWTFs.</li> </ul>
Daman & Diu and Dadra & Nagar Haveli	<ul style="list-style-type: none"> <li>SPCB is reporting daily in App.</li> </ul>	<ul style="list-style-type: none"> <li>No specific issues. Continue to monitor closely as per CPCB guidelines.</li> </ul>
Delhi	<ul style="list-style-type: none"> <li>With reference to complaint received regarding biomedical waste dumping in Shahadra, inspection has been done where no such waste has been found and report has been submitted to MoEF &amp; CC.</li> </ul>	<ul style="list-style-type: none"> <li>Quantity of biomedical waste has been reduced as a result of proper segregation which is appreciable.</li> <li>DPC should ensure compliance to CPCB guideline by crematorium for disposal of PPEs.</li> <li>Identify TSDF and captive incinerators for disposal of biomedical waste if required.</li> </ul>
Goa	<ul style="list-style-type: none"> <li>Due to some accident in captive treatment plant, it is non- operational. Therefore, storage of biomedical waste has been done from last 2 weeks.</li> <li>The facility may be operational within next week.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that facility must be operational within next week.</li> <li>CPCB may write to Goa State to expedite the process of setting up of CBWTF.</li> <li>captive treatment facility should be operational within next week.</li> </ul>

	<ul style="list-style-type: none"> <li>• Proposal for CBWTF has been submitted.</li> </ul>	
Gujarat	<ul style="list-style-type: none"> <li>• CBWTFs in State has adequate capacity.</li> </ul>	<ul style="list-style-type: none"> <li>• Strict action should be taken against 2 CBWTFs which are not reporting in App. Closer direction may be issued to CBWTFs in case on continuous non-compliance, when alternate CBWTFs exists to receive the waste.</li> </ul>
Haryana	<ul style="list-style-type: none"> <li>• CBWTFs have adequate capacity in reporting in App.</li> </ul>	<ul style="list-style-type: none"> <li>• SPCB should approve daily data in the App.</li> </ul>
Himachal Pradesh	<ul style="list-style-type: none"> <li>• Capacity of CBWTF is enough. However, disposal through deep burial is in practice.</li> <li>• Inspection of 26 deep burial pits has been done by SPCB.</li> </ul>	<ul style="list-style-type: none"> <li>• SPCB should restrict usage of deep burial pits and setting up of new CBWTFs can be taken into consideration if required.</li> </ul>
J & K	<ul style="list-style-type: none"> <li>• Both CBWTFs and generators are reporting in App. But there are some issued of connectivity in the State.</li> <li>• CBWTFs are monitored by SPCB.</li> <li>• Capacity of CBWTFs are adequate.</li> </ul>	<ul style="list-style-type: none"> <li>• As far as possible, SPCB and should report daily in App.</li> <li>• Ensure daily reporting by CBWTFs and all generators of COVID19 BMW.</li> </ul>
Jharkhand	<ul style="list-style-type: none"> <li>• Not attended the meeting</li> </ul>	<ul style="list-style-type: none"> <li>• CPCB may ask the reasons for not attending the meeting</li> </ul>
Karnataka	<ul style="list-style-type: none"> <li>• CBWTFs capacity is adequate to cater the need and guideline is being followed by all stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• 16 out of 26 CBWTFs are not reporting in App. SPCB should take strict action and ensure usage of App by all BWTFs.</li> </ul>
Kerala	<ul style="list-style-type: none"> <li>• One CBWTF in Kerala has enough capacity for disposal of biomedical waste and one captive treatment facility is used for disposal of biomedical waste.</li> </ul>	<ul style="list-style-type: none"> <li>• SPCB should look after requirement of setting up of new CBWTFs, as it is not feasible by one CBWTF to cover entire State effectively.</li> </ul>
Lakshadweep	<ul style="list-style-type: none"> <li>• Not attended the meeting</li> </ul>	<ul style="list-style-type: none"> <li>• CPCB may ask the reasons for not attending the meeting</li> </ul>
Madhya Pradesh	<ul style="list-style-type: none"> <li>• SPCB is approving the data and CBWTFs are directed to use the App.</li> </ul>	<ul style="list-style-type: none"> <li>• SPCB should ensure daily reporting in the App and ensure reporting by remaining 2 CBWTFs which are still not reporting in Tracking App.</li> </ul>
Maharashtra	<ul style="list-style-type: none"> <li>• CBWTF capacity is adequate. However, near Mumbai the capacity was found inadequate therefore TSDF at Mumbai waste management has been permitted for disposal of biomedical waste from Mumbai and Pune.</li> <li>• With reference to complaint received against CBWTF namely Kolhapur municipal Corporation, SPCB directed the CBWTF to send extra biomedical waste to TSDF.</li> </ul>	<ul style="list-style-type: none"> <li>• With reference to complaint received against Kolhapur Municipal Corporation, SPCB should direct the facility to ensure use of adequate PPEs by workers handling the waste.</li> </ul>
Manipur	<ul style="list-style-type: none"> <li>• Not attended the meeting</li> </ul>	<ul style="list-style-type: none"> <li>• CPCB may ask the reasons for not attending the meeting</li> </ul>
Meghalaya	<ul style="list-style-type: none"> <li>• One CBWTF is in State which in not operational. Biomedical waste are being disposed off through deep burial and crematorium.</li> <li>• Setting up of 2 CBWTFs are under process.</li> </ul>	<ul style="list-style-type: none"> <li>• Deep burial should be restricted and crematorium should not be used for disposal of biomedical waste.</li> <li>• Letter may be issued to State expedite the process of setting up of CBWTF and</li> </ul>

		to restrict use of deep burial and crematorium for disposal of biomedical waste.
Mizoram	<ul style="list-style-type: none"> <li>• One captive incinerator is used for disposal of biomedical waste.</li> <li>• Deep burial used for disposal of biomedical waste in as per the CPCB guideline.</li> </ul>	<ul style="list-style-type: none"> <li>• SPCB should expedite the process of setting up of CBWTF in State.</li> <li>• State may submit proposal to MoEF &amp;CC for financial assistance for the same.</li> </ul>
Nagaland	<ul style="list-style-type: none"> <li>• Not attended the meeting</li> </ul>	<ul style="list-style-type: none"> <li>• CPCB may ask reasons for not attending</li> </ul>
Odisha	<ul style="list-style-type: none"> <li>• CBWTFs and deep burial are used for disposal of biomedical waste.</li> <li>• Proposal for one CBWTF has been submitted.</li> </ul>	<ul style="list-style-type: none"> <li>• SPCB should not only look after capacity but also ensure geographical coverage of entire State by CBWTFs.</li> <li>• Deep burial should be restricted.</li> </ul>
Punjab	<ul style="list-style-type: none"> <li>• CBWTFs have adequate capacity.</li> <li>• SPCB and CBWTFs are reporting in App.</li> </ul>	<ul style="list-style-type: none"> <li>• No specific issues. Continue to monitor closely as per CPCB guidelines.</li> </ul>
Puducherry	<ul style="list-style-type: none"> <li>• Due to network issue, unable to connect and join the meeting</li> </ul>	
Rajasthan	<ul style="list-style-type: none"> <li>• 8 CBWTFs are operational and 7 are under process.</li> <li>• Deep burial pits are used for disposal of biomedical waste.</li> </ul>	<ul style="list-style-type: none"> <li>• SPCB should restrict use of deep burial pits and expedite the process of setting up of new CBWTFs.</li> <li>• TSDF and captive incinerators may be used for disposal of biomedical waste.</li> </ul>
Sikkim	<ul style="list-style-type: none"> <li>• 2 captive incinerators are used for disposal of biomedical waste</li> </ul>	<ul style="list-style-type: none"> <li>• SPCB as well as captive incinerators are not reporting in App.</li> <li>• SPCB should ensure daily reporting in App.</li> </ul>
Tamil Nadu	<ul style="list-style-type: none"> <li>• TSDF is allowed for disposal of biomedical waste.</li> <li>• -</li> </ul>	<ul style="list-style-type: none"> <li>• Should ensure close monitoring of CBWTFs as per check-list provided in CPCB guidelines. Continue to ensure close monitoring.</li> </ul>
Telangana	<ul style="list-style-type: none"> <li>• CBWTFs are adequate and SPCB is reporting in App</li> </ul>	<ul style="list-style-type: none"> <li>• 2 CBWTF are still not using the App. SPCB should ensure that they should be on board as soon as possible.</li> </ul>
Tripura	<ul style="list-style-type: none"> <li>• 2 captive incinerators are used for disposal of biomedical waste.</li> <li>• By next week SPCB and Captive facilities will start reporting in the App daily.</li> </ul>	<ul style="list-style-type: none"> <li>• Close monitoring of compliance to guidelines.</li> <li>• SPCB should ensure reporting in the App daily.</li> </ul>
Uttar Pradesh	<ul style="list-style-type: none"> <li>• As of now, capacity of CBWTFs are adequate. However, two TSDFs were inspected so that it can be used for disposal of biomedical waste if required.</li> <li>• With reference to complaints received against Synergy Waste, Meerut, inspection will be done within two three days.</li> </ul>	<ul style="list-style-type: none"> <li>• Repetitive complaints has been received against M/s Synergy Waste, Meerut, SPCB should inspect the facility as soon as possible and ensure compliance of BMW Rules by the CBWTF.</li> </ul>
Uttarakhand	<ul style="list-style-type: none"> <li>• 2 CBWTFs and deep burials are used for disposal of biomedical waste.</li> <li>• Proposal has been sent for setting up of new CBWTF.</li> </ul>	<ul style="list-style-type: none"> <li>• SPCB should expedite the process of setting up of CBWTF and restrict usage of deep burial in non-hilly areas only.</li> </ul>
West Bengal	<ul style="list-style-type: none"> <li>• 6 CBWTFs has adequate capacity and all are reporting in App.</li> <li>• No specific issues reported</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to monitor closely as per CPCB guidelines.</li> </ul>

**Guidelines for Monitoring Compliance of Common Biomedical Waste Treatment Facilities by State Pollution Control Boards / Pollution Control Committees**

**1. Background:**

Common Biomedical Waste Treatment Facilities (CBWTFs) are required to function in compliance with standards notified under Biomedical Waste Management Rules, 2016 (BMWM Rules, 2016) and the guidelines issued by Central Pollution Control Board (CPCB). State Pollution Control Boards/Pollution Control Committees are the prescribed authority to ensure implementation of Rules as well as the compliance.

There have been several public complaints regarding open dumping of untreated biomedical waste, burning of waste etc. In one such case, Hon'ble NGT took suo-moto cognizance of illegal disposal of biomedical waste by CBWTFs, in Original Application No. 110 of 2020. In its Order dated 20.07.2020, Hon'ble NGT directed CPCB to prepare separate guidelines to improve monitoring system for Common Biomedical Waste Treatment Facilities. It was also directed that SPCBs shall initiate a special drive to monitor incidents of illegal BMW disposal by CBWTFs.

This guidance document will provide check-lists for monitoring CBWTFs specially to monitor illegal handling of biomedical waste.

**2. Monitoring Compliance by CBWTFs**

Apart from obtaining Consent to Operate and authorization under BMWM Rules, 2016, the CBWTFs are responsible for environmentally safe handling of biomedical waste in its coverage area. Monitoring of compliance by CBWTFs envisaged in following areas;

- (a) Operational Compliance
- (b) Adequacy of Infrastructure
- (c) Reporting of data
- (d) Inspections and Monitoring

**2.1 Operational Compliance**

Operational compliance by CBWTFs is related to safe collection, handling, transportation, reception, treatment, and disposal, that include compliance to following activities/aspects;

- (a) Collection
- (b) Use of Personal Protective Equipment (PPEs)
- (c) Transportation of BMW
- (d) Tracking of BMW
- (e) Handling at CBWTFs
- (f) Compliance to norms

Part-A of check-list for auditing performance monitoring operational compliance by SPCBs/PCCs is given at **Annexure-I**.

SPCBs shall maintain a separate operational check-list for each of the CBWTFs, which should be linked to authorization file. Operational check-list may be updated at the level of Regional Officers of SPCBs once every month.

## 2.2 Adequacy of Infrastructure

Adequate infrastructure at CBWTFs is essential for achieving compliance to standards and guidelines. Subsequent to notification of BMWM Rules, 2016, most of the CBWTFs in the country are required to upgrade their facilities so as to comply with revised standards. Target time given under the Rules to CPBWTFs has expired.

The following infrastructure is essential for auditing performance of CBWTFs.

- (a) Vehicles
- (b) Area of operations
- (c) Upgradation of Combustion Chamber
- (d) Upgraded APCDs
- (e) Waste reception
- (f) Treated waste handling

Part - B of check-list for auditing adequacy of CBWTFs based on available infrastructure is given at **Annexure-II**. SPCBs shall issue appropriate directions to CBWTFs for augmenting infrastructure in time bound manner and maintain records of progress made.

## 2.3 Data Submission

Data reporting is an essential requirement on part of CBWTFs to report compliance to Rules and service provided. Such data is essential for SPCBs and other departments such as Health Department to monitor compliance by CBWTFs. The data is also essential to assess the gaps in waste generation and disposal, trends in generation, compliance monitoring, need for additional facilities or capacity enhancement, etc.

SPCBs shall ensure that records are maintained by CBWTFs as per Part - C check-list given at **Annexure III**.

## 2.4 Inspections and Monitoring by SPCBs/PCCs

Periodic inspection of CBWTFs by SPCBs/PCCs is necessary to monitor compliance. SPCBs/PCCs may evolve their own schedule of monitoring and compliance verification, by ensuring the following minimal requirement for inspection and monitoring:

S. No.	Type of inspection and Monitoring	Scope of inspection	Frequency of inspection
1.	Physical Inspection (field visit)	Verification of site conditions, fill-in formats Table-A to C given at Annexures I to Annexure III, log-book verification, OCEMS installation, etc. as per inspection format given at <b>Annexure IV</b>	Monthly
2.	Inspection cum Monitoring (field visit)	Physical verification as well as monitoring of incinerator stack, autoclave, shredder, ETP etc. Report outcome as per inspection format given at <b>Annexure IV</b>	Quarterly

3	Inspection of dumpsites, illegal dumps, outside CBWTF premises, etc (field visit)		At least 4 random visits per Annum as well as when complaints are received.
4	Inspection of BMW collection and transport (field work in transit)		Random spot checks of vehicles and operations for 3 or 4 occasions in a year.
5	Monitoring of GPS Tracking	Desktop monitoring	Daily
6	Monitoring of COVID19BWM Tracking App	Desktop monitoring	Daily monitoring and reporting to CPCB on App
	Monitoring of Barcode Tracking	Desktop monitoring	Daily
7	OCEMS Data	Desktop monitoring	Daily
8	Inspection of specific complaints (field work)	Field investigation	As and when necessary

### 3. Mechanism to Monitor illegal activities pf CBWTFs

There have been several complaints against CBWTFs for improper handling of BMW. The type of complaints range from illegal transfer to informal recyclers, dumping, high emissions from incinerators, discharge of untreated wastewater, improper transport etc. It is important redress such complaints on priority since improper treatment or disposal may result into spread of diseases.

In view of the numerous incidents of violations, especially in COVID19 pandemic situation, SPCBs/PCCs may initiate special drive for monitoring activities of CBWTFs. SPCBs may also implement various measures, essentially including the following activities;

- (i) Develop complaint redressal mechanism through web portal as well as suitable mobile App like Sameer Platform
- (ii) Use social media platform to report incidents
- (iii) Collect local intelligence from field staff
- (iv) Conduct periodic random checks
- (v) Imposition of Environmental Compensation Charges

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## Part A: Format for Operational Compliance Verification

Name of Facility: \_\_\_\_\_ Status for \_\_\_\_\_ (Month)

S.No	Operational Activity	Requirement	Status - Tick $\checkmark$ or X	Remarks/ Action Taken
1	BMW Collection			
	a.	Waste generated is collected and disposed within 48 hours.		
	b.	Separate compartments for color coded wastes		
2	Use of PPEs	Waste collectors are required to wear adequate PPEs –including three layer masks, splash proof aprons/gowns, gloves, gum boots and safety goggles. Does workers wearing adequate PPEs ?		
3	Transportation			
	a.	Weather dedicated Vehicle used for collection of COVID19 waste?		
	b.	Registration of vehicles with SPCBs		
	c.	Use of separate dedicated vehicle for COVID19 waste		
4.	Tracking of BMW			
	a.	Installation of GPS based devices in vehicles		
	b.	GPS based tracking access to SPCBs/PCCs to monitor location or route of vehicles		
	c.	Use of COVID19 Tracking App at collection point		
5.	Handling at CBWTFs			
	a.	Separate spaces provided for reception of color coded wastes		
	b.	Space adequate for reception of waste		
	c.	Space adequate for storage of treated waste		
6.	Compliance to Standards			

S.No	Operational Activity	Requirement	Status - Tick $\checkmark$ or X	Remarks/ Action Taken
	a.	Compliance to emission Standards - sample collected by SPCB or its agency	Yes/ No/ Partial	
	b.	Compliance to emission Standards - as per NABL/ EPA accredited laboratory		
	c.	Compliance to emission Standards - sample collected by SPCB or its agency		
	d.	Compliance to emission Standards - as per NABL/ EPA accredited laboratory		
	e.	Compliance to Temperature standards		
	f.	Compliance to disinfection standards (Autoclave / Microwave)		

## Part B: Format to Assess Adequacy of Infrastructure

Name of Facility: \_\_\_\_\_ Status for \_\_\_\_\_ (Month)

S.No.	Infrastructure	Requirement	Status - Tick ✓ or X	Remarks/ Action Taken
1	Vehicles			
	a.	Whether the unit has adequate fleet to lift BMW daily from bedded HCFs		
	b.	Dedicated Vehicle provided for COVID19 waste		
2	Area available for CBWTF operations			
	a.	Area of operations is more than 0.5 acres?		
3	Upgradation of Combustion Chamber			
	a.	Secondary Combustion Chamber upgraded to 2 sec Retention Time..?		
4.	APCDs upgradation			
	a.	Whether APCDs upgraded to meet revised standards for PM?		
	b.	Control systems for Dioxins and Furans Installed?		
6.	Waste Reception			
	a.	Separate spaces provided for receipt of on untreated colour coded BMW		
	b.	Containers used to receive BMW prior to chagrining into incinerator		
7.	Facilities for treated Waste Handling			
	a.	Covered sheds provided for (i) all treatment/disposal equipment, (ii) handling treated/un-treated wastes, (iii) Ash storage, etc.		

## Part C: Format to verify data submission by CBWTFs

Name of Facility: \_\_\_\_\_ Status for \_\_\_\_\_ (Month)

S.No	Records	Requirement	Status - Tick V or X	Remarks/ Action Taken
1	Daily COVID19 data upload			
		Usage of COVID19BWM Tracking App to report COVID19 waste collection and disposal		
2	Barcode based Tracking data			
		Implemented Barcode Labelling and tracking System as per BWM Rules, 2016 – Provided Login and data access to SPOCBs/PCCs		
3	Logbook on maintenance			
		Logbook maintained and shown to SPCBs/PCCs, as when asked for.		
4	Web-site information			
		Displays details of authorization, treatment, annual report etc. on web-site		
5	Annual Report Submission			
		Whether submitted for previous year?		
6	Reporting of incidents			
		Incidental reporting of fires, accidents during handling, spillages,		

**Part A – General Information**

S.No.	Details		Particulars
1.	Name of CBWTF with contact details	:	
2.	Month / year of establishment and the Consents status	:	Establishment Month/Year :
3.	CBWTF operated by	:	
4.	Contact Details		Contact Person: E-Mail: Telephone: Mobile phone:
5.	Consent under Water (Prevention and Control of Pollution) Act, 1974	:	Consent is valid upto ..... and issued by .....SPCB/PCC vide letter dated .....
6.	Consent under Air (Prevention and Control of Pollution) Act, 1981	:	Consent is valid upto ..... and issued by .....SPCB/PCC vide letter dated .....
7.	Environmental Clearance (EC)		EC issued by MoEF vide letter dated .....
8.	Authorization Status	:	Authorisation is valid upto ..... and issued by .....SPCB/PCC vide letter dated .....
9.	Area or plot size of CBWTF (in Sq. ft.)	:	
10.	Name of Districts/Cities / places being covered	:	
11.	Cost charged to the healthcare facilities	:	
12.	Separate space for treatment equipment room	:	<input type="checkbox"/> Yes <input type="checkbox"/> No
13.	Separate space for treated and untreated waste	:	<input type="checkbox"/> Yes <input type="checkbox"/> No

**Part-B: Operational Information**

S.No.	Details		Particulars
1.	Total number of healthcare facilities and beds covered (as on date of visit)	:	Total no. of HCFs : Bedded HCFs : Non-bedded HCFs : No. of Beds : No. of beds upto 75 KM radius : No. of beds more than 75 KM radius, if any:

2.	Total Bio-medical Waste Treatment Capacity of CBWTF (in kg / day)	:	Incineration : (in kg/day) Autoclave : (in kg/day) Any other treatment and disposal: Total: ETP Capacity..... KLD	
3.	Daily operation schedule (timings)	:	Collection : .... Am/pm to .... Am/pm. Treatment through incinerator (in hrs): Treatment through autoclave (in hrs):	
4.	<b>Average quantity of bio-medical waste Collected As per records (if required, one moth data may be checked)</b>		Non-COVID waste	COVID waste
	Yellow	:	..... Kg /day	..... Kg /day
	Red	:	..... Kg/day	..... Kg/day
	white	:	..... Kg/day	..... Kg/day
	Blue	:	..... Kg/day	..... Kg/day
5.	<b>Average quantity of bio-medical waste treated As per records (if required, one moth data may be checked)</b>		Non-COVID waste	COVID waste
	Yellow	:	..... Kg /day	..... Kg /day
	Red	:	..... Kg/day	..... Kg/day
	white	:	..... Kg/day	..... Kg/day
	Blue	:	..... Kg/day	..... Kg/day
6.	<b>Information related to Incinerator</b>		<p>Upgraded to 2 second residence time <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Temperature in Primary Chamber :</p> <p>Temperature in Secondary Chamber :</p> <p>OCEMS installed : <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>OCEMS connected with CPCB/SPCB server : <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Also, daily record of operational parameters may be checked through OCEMS server for:</p> <p>Temperature in combustion chambers:</p> <p>Combustion Efficiency of incinerator:</p>	
7.	<b>Type of APCDs attached with incinerator</b>		<p>Unit operations [pl. tick all applicable boxes]</p> <p><input type="checkbox"/> High rate Ventury scrubber; <input type="checkbox"/> spray scrubber; <input type="checkbox"/> packed bed tower; <input type="checkbox"/> flue gas cooling system; <input type="checkbox"/> dry chemical injection (for activated carbon / lime / other chemicals) prior to bag filers; <input type="checkbox"/> carbon slurry scrubber; <input type="checkbox"/> bag filers; <input type="checkbox"/> waste heat recovery system; <input type="checkbox"/> ceramic scrubbers; <input type="checkbox"/> cooling tower; <input type="checkbox"/> dry-adsorption reactor prior to bag filter;</p> <p>If any other units please specify: .....</p> <p>.....</p>	
8.	<b>Information related to red category waste</b>		Operational parameters for Autoclave or Microwave:	

			Temperature: Pressure: Time:														
9.	Information related white category Waste	:	Sharp Pit provided : <input type="checkbox"/> Yes <input type="checkbox"/> No Is it as per CPCB guideline : <input type="checkbox"/> Yes <input type="checkbox"/> No Records maintained : <input type="checkbox"/> Yes <input type="checkbox"/> No Total quantity of waste sharps stored (in Kg): Total quantity of waste sharps treated and disposed (in Kg):														
10.	Information related blue category Waste		Mode of treatment : <input type="checkbox"/> Autoclaving <input type="checkbox"/> Microwaving <input type="checkbox"/> Hydroclaving <input type="checkbox"/> By Chemical Disinfection (sodium hypochlorite) After Sterilization, facility for rinsing and washing of glass containers <input type="checkbox"/> Yes <input type="checkbox"/> No Detergent waste: <input type="checkbox"/> Yes <input type="checkbox"/> No Residual chemicals collected : <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA														
11.	Wastewater management		ETP capacity : .... KLD Quantum of wastewater treated : .... KLD Final mode of disposal of treated water: .....														
12.	Frequency of incinerator / autoclave / microwave / hydroclave / ETP discharge effluent testing and name of the laboratory (specify approved or not).	:	Monthly/Quarterly/Yearly  Copies of the analysis reports of treated effluent, incinerated ash, stack monitoring .....														
13.	Monitoring Results :																
14.	Incinerator stacks emission (parameters stipulated in the Rules, temperature attainment in the chambers, residence time in the secondary chamber etc.)	:	<table border="1"> <thead> <tr> <th>Parameter</th> <th>PM</th> <th>Total Dioxin &amp; furans</th> <th>HCl</th> <th>NOx</th> <th>Hg and its compounds</th> <th>C.E.</th> </tr> </thead> <tbody> <tr> <td>Value</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> Date of monitoring: All values are in mg/Nm <sup>3</sup> , except CE	Parameter	PM	Total Dioxin & furans	HCl	NOx	Hg and its compounds	C.E.	Value						
Parameter	PM	Total Dioxin & furans	HCl	NOx	Hg and its compounds	C.E.											
Value																	
15.	Incineration ash characteristics	:	Is it hazardous waste as per HWM Rules: <input type="checkbox"/> Yes <input type="checkbox"/> No Transboundary														
16.	ETP inlet/outlet characteristics	:	<table border="1"> <thead> <tr> <th>Parameter</th> <th>pH</th> <th>TSS</th> <th>COD</th> <th>BOD</th> <th>O&amp;G</th> </tr> </thead> <tbody> <tr> <td>ETP Outlet Analysis Result</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> All values are in mg/l except pH	Parameter	pH	TSS	COD	BOD	O&G	ETP Outlet Analysis Result							
Parameter	pH	TSS	COD	BOD	O&G												
ETP Outlet Analysis Result																	

17.	No. of Vehicles used for collection of waste from member HCFs	:	Number of vehicles used for non-COVID waste collection: Number of vehicles used for COVID-19 waste collection:
18.	Whether Bar code system is adopted or not?		<input type="checkbox"/> Yes <input type="checkbox"/> No

**Part C – COVID-19 waste related Information**

16.1	Member HCFs for COVID-19 generation	:	..... Isolation Centers .....HCFs .....quarantine camps/homes .....sample collection center .....laboratories
16.2	Quantity of COVID waste collection per day and COVID waste treatment per day.		Collection: .....per day Disposal : .....per day (Record of COVID waste collected and treated since March, 2020)
16.3	Whether COVID waste collected is treated on same day?		<input type="checkbox"/> Yes <input type="checkbox"/> No
16.4	Whether COVID and non-COVID waste has been stored separately?		<input type="checkbox"/> Yes <input type="checkbox"/> No
16.5	Member HCFs registered in COVID19BWM App.	:	..... Isolation Centers .....HCFs .....quarantine camps/homes .....sample collection center .....laboratories
16.6	Whether CBWTF have registered on COVID19BWM App developed by CPCB and register all the vehicles dedicated for COVID waste generation?		<input type="checkbox"/> Yes <input type="checkbox"/> No  If yes.....number of vehicles dedicated for COVID waste generation (record of usage of App for last one week)
16.7	Whether sanitization of vehicles dedicated for COVID waste collection has been done daily?		<input type="checkbox"/> Yes <input type="checkbox"/> No  Chemical used .....
16.8	Is PPEs used by workers involved in handling and collection of biomedical waste is adequate?		<input type="checkbox"/> Yes <input type="checkbox"/> No

