BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
Principal Bench, New Delhi
Miscellaneous Application No. 98/2022
In
Original Application No. 180/2021

In the matter of:

Mukul Kumar — Applicant

Versus

State of Uttar Pradesh & Ors. — Respondent(s)

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Filed by: Adv. Rajkumar

On behalf of Central Pollution Control Board

Place: Delhi

Date: 15.04.2025

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

Principal Bench, New Delhi

Miscellaneous Application No. 98/2022

In

Original Application No. 180/2021

In the matter of:

Mukul Kumar — Applicant

Versus

State of Uttar Pradesh & Ors. — Respondent(s)

Affidavit in compliance to orders passed in the matter of M.A. No. 98/2022 in Original Application No. 180/2021 filed by Mukul Kumar before Hon'ble National Green Tribunal

1. **Introduction**

Hon'ble National Green Tribunal (Hon'ble NGT) has been reviewing the implementation of Biomedical Waste Management Rules, 2016 (BMWM Rules, 2016) in the matter of M.A. No. 98/2022 filed in Original Application No. 180/2021. The matter was admitted by Hon'ble NGT on 16.12.2024 and during the hearing following order was passed:

"1. The issue under consideration relates to the compliance of Bio-Medical Waste Rules, 2016. The Tribunal, on the previous date on 02.09.2024, had considered the stand of the CPCB in the report dated 03.08.2024, disclosing that it had not received the report from some of the States. Therefore, the Tribunal had granted time to the CPCB to file a fresh report. Learned Counsel appearing for the CPCB submits that though the report has been filed, it was filed belated therefore, it has not come on record.

2. He has informed that the 12 States/UTs have sufficient capacity for the treatment of bio-medical waste and they have examined the healthcare facilities and common bio-medical treatment facilities. With respect to other 24 States, he has informed that in addition to the common bio-medical facility they are adopting the captive treatment facility and deep

burial. The CPCB is directed to disclose the full details and implications of deep burial.

3. Learned Counsel for the CPCB has also informed that the guidelines for common bio-medical treatment facility with regard to the siting criteria are under review and the report from 15 States in respect of the gap analysis is awaited and after receipt of the report the Guidelines will be reviewed.

4. He is directed to place on record in the next affidavit the progress made in this direction. Hence, we grant a further eight weeks' time to the CPCB to file a fresh affidavit....."

Copy of order dated 16.12.2024 is attached herewith as **Annexure-I.**

2. Submission of CPCB as per order dated 16.12.2024 in the matter of M.A. 98 of 2022

2.1. Report indicating status of implementation of BMWM Rules, 2016:

As per order dated 02.09.2024 of Hon'ble NGT, CPCB has prepared consolidated report based on information provided by State Pollution Control Boards/Pollution Control Committees (SPCBs/PCCs) indicating status of implementation of BMWM Rules, 2016 and it was submitted to Hon'ble NGT on 13.12.2024. Copy of report is attached herewith as **Annexure-II**.

2.2. Details regarding captive treatment facilities including deep burial

In this regard, it is to submit that the detailed information regarding biomedical waste generation and available treatment capacity has been covered in the report dated 13.12.2024 submitted to Hon'ble NGT which is annexed as annexure II. Details of captive treatment facilities and deep burials is summarized as below:

i.In twelve States/UTs CBWTFs are being used for treatment and disposal of Biomedical Waste. Captive treatment facilities and deep burial are not

being utilised in these States/UTs. Details are given in following table.Table 1: Details of biomedical waste generation and available treatment capacity in 12 States/UTs:

S.No.	Name of State/UT	BMW Generation (Tons/day)	Available treatment capacity of CBWTFs (Tons/day)
1.	Andhra Pradesh	16	62.4
2.	Chandigarh	6.35	7
3.	Dadar Nagar Haveli	0.36	Utilising CBWTF of Gujarat
4.	Delhi	31.2	62.8
5.	Goa	2.13	16
6.	Gujarat	51.82	86.8
7.	Haryana	25.27	67.3
8.	Punjab	22.55	26.9
9.	Puducherry	4.75	48.1
10.	Tamil Nadu	49.7	98.6
11.	Telangana	26.32	71.9
12.	West Bengal	43.12	108.2
	Total	**280**	**656**

ii. In remaining 24 states/ UTs Captive treatment facilities and deep burial are being utilised besides CBWTFs. Details are summarized in table below:

Table : Details of Captive treatment facilities and deep burials

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S.No.	Name of State/UT	BWM genera-tion (Tons/day)	Available treatment capacity of CBWTFs (Tons/day)	No. of HCFs which are having incinera-tors	No. of HCFs which are utilizing deep burial pits	Reason for using captive treatment facilities and deep burials
1.	Andaman and Nicobar Islands	0.73	No CBWTF	7	50	CBWTF is not available
2.	Arunachal Pradesh	0.46	No CBWTF	8	416	CBWTF is not available
3.	Assam	8.08	25.6	21	597	Deep burials used by HCFs not covered by CBWTF
4.	Bihar	26.1	42.4	1	0	Captive incinerator is established before 2016. It is submitted that HCF would be directed to join nearby CBWTF

5.	Chhattisgarh	7.50	28.9	1	1734	Though available treatment capacity of CBWTFs is greater than the generation of biomedical waste. State submitted that captive treatment facilities are being used in remote areas where CBWTFs are not available and development of new CBWTFs is under process
6.	Himachal Pradesh	3.77	12.8	1	4618	Though available treatment capacity of CBWTFs is greater than the generation of biomedical waste. State

						submitted that captive treatment facilities are being used in remote areas where CBWTFs are not available
7.	J &K	8.82	13.4	0	1128	Deep burials are used in remote areas.
8.	Jharkhand	6.59	16.3	2	2	Information not provided
9.	Karnataka	76	149.4	1	1581	Information not provided
10.	Kerala	68.12	85	12	29	SPCB is under process of stopping deep burial and captive treatment facilities. The process is being delayed due to HCFs approached court
11.	Ladakh	0.08	No CBWTF	3	400	CBWTF is not available

12.	Lakshdweep	0.06	No CBWTF	1	Information not provided	CBWTF is not available
13.	Madhya Pradesh	16.68	120.4	Information not provided	PHCs & Vetenary Inst. which are located in rural areas is using deep burial pits for disposal of biomedical waste	Though available treatment capacity of CBWTFs is greater than the generation of biomedical waste. State submitted that captive treatment facilities are being used in remote areas where CBWTF is not available
14.	Maharashtra	75.71	162.9	0	255	Information not provided
15.	Manipur	1.68	0.6	2	419	State submitted that captive treatment facilities are being used in hilly areas where CBWTF is not available

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16.	Meghalaya	2.26	2	0	781	State submitted that captive treatment facilities are being used in remote areas where CBWTFs are not available.
17.	Mizoram	0.62	No CBWTF	3	386	State submitted that captive treatment facilities are being used in remote areas where CBWTF is not available.
18.	Nagaland	1.04	No CBWTF	2	614	CBWTF is not available
19.	Odisha	12.24	7	3	821	Though available treatment capacity of CBWTFs is greater than the generation of biomedical waste. State submitted

						that captive treatment facilities are being used in remote areas where CBWTFs are not available. Development of new CBWTFs is under process
20.	Rajasthan	19.91	39.4	0	598	Though available treatment capacity of CBWTFs is greater than the generation of biomedical waste. State submitted that captive treatment facilities are being used in remote areas where CBWTF is not available.
21.	Sikkim	0.59	No CBWTF	7	188	CBWTF is not available

22.	Tripura	1.79	32.5	4	116	State submitted that captive treatment facilities are being used in remote areas where CBWTF is not available.
23.	Uttar Pradesh	91.0	170.8	2	319	Information not provided
24.	Uttarakhand	8.77	26.4	1	2748	Though available treatment capacity of CBWTFs is greater than the generation of biomedical waste. State submitted that captive treatment facilities are being used in remote

						areas.
Total		439	936	82	17800	

It is evident from above table that 82 no. of HCFs are having captive incinerators and 17800 no. of HCFs are utilizing deep burial for disposal of biomedical waste.

2.3. Information regarding deep burial

- In deep burial, biomedical waste is placed in a pit or trench and then covered with soil and lime. As per BMWM Rules, 2016 following categories of biomedical waste can be disposed of through deep burial where there is no access to CBWTF:

  Yellow (a): human anatomical waste

  Yellow (b): animal anatomical waste

  Yellow (c): soiled waste

- Deep burial is permitted only in rural or remote areas where there is no access to CBWTF and carried out with prior approval from the prescribed authority i.e. State Pollution Control Board/Pollution Control Committee (SPCB/PCC) as per the Standards specified in Schedule-II of the BMWM Rules, 2016.

- Following are the standards prescribed for deep burial under Schedule-II of BMWM Rules, 2016:

  1. A pit or trench should be dug about two meters deep.
  2. It should be half filled with waste, then covered with lime within 50 cm of the surface, before filling the rest of the pit with soil.

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3. It must be ensured that animals do not have any access to burial sites. Covers of galvanised iron or wire meshes may be used.
4. On each occasion, when wastes are added to the pit, a layer of 10 cm of soil shall be added to cover the wastes.
5. The deep burial site should be relatively impermeable and no shallow well should be close to the site.
6. The pits should be distant from habitation, and located so as to ensure that no contamination occurs to surface water or ground water. The area should not be prone to flooding or erosion.
7. The location of the deep burial site shall be authorized by the prescribed authority.
8. The institution shall maintain a record of all pits used for deep burial.
9. The ground water table level should be a minimum of six meters below the lower level of deep burial pit.

Further, as per information submitted by SPCBs/PCCs (given in Table 2), there are 17,800 no. of HCFs utilising deep burial for disposal of biomedical waste.

- Out of 17,800 no. of HCFs, 15,614 no. of HCFs are operational in remote areas and are as per standards prescribed under BMWM Rules, 2016.
- Kerala SPCB submitted that they are under process of stopping captive treatment facilities including deep burial in 29 no. of HCFs but the process is delayed due to HCFs approached court.
- Information have not been provided by SPCBs namely Jharkhand(2), Karnataka(1,581), Maharashtra (255) and Uttar Pradesh (319) regarding 2,157 no. of HCFs utilising deep burial.

In this regard, following is recommended:

i. Use of deep burial may be permitted only in rural or remote areas in accordance with standards prescribed under BMWM Rules, 2016.
ii. SPCBs/PCCs should monitor and ensure compliance to BMWM Rules, 2016 by all deep burial.
iii. SPCBs/PCCs shall expedite process of establishment of CBWTFs to cover the remote areas to the extent possible where deep burials are utilised for disposal of biomedical waste.

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So far, CPCB has not come across any compliant or impact due to deep burial of biomedical waste. However, if deep burial is not properly managed it may cause environment pollution. For the same, it is recommended that SPCBs/PCCs shall permit deep burial only in rural or remote area in accordance with standards prescribed under BMWM Rules, 2016.

2.4 Revision of guidelines

CPCB has prepared the guidelines for Common Biomedical Waste Treatment Facility (CBWTF) in December, 2016. These guidelines were prepared in line with re-notification of Biomedical Waste Management Rules, 2016 under Environment (Protection) Act, 1986 by Ministry of Environment Forest & Climate Change. These guidelines outlined the criteria for setting up of new CBWTF as well as operating parameters for CBWTF in compliance to standards prescribed under BMWM Rules, 2016. Further, while reviewing the status of biomedical waste in the Country, Hon'ble NGT directed CPCB to re-visit the guidelines to meet the current requirement of biomedical waste management so that there will be no gap in its generation and treatment.

In order to review the said guidelines, CPCB has constituted an Expert Committee comprising of members from Ministry of Health and Family Welfare, National Environment Engineering Research Institute, Nagpur, Indian Medical Association, Safdarjung Hospital and VMMC, CBWTF Association of India and 4 SPCBs namely Assam, Rajasthan, Karnataka & Punjab . Meetings of said Expert Committee were conducted on 30.04.2024, 22.10.2024, 29.11.2024 and 19.02.2025 in which the matter related to the review of CPCB guidelines for biomedical waste management was discussed.

Major revisions made in the revised guidelines are as below:

Clause	As per previous guidelines	As per revised guidelines

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Clause 2: Criteria for Development of a New Common Bio-Medical Waste Treatment and Disposal Facility (CBWTF) for a Locality or Region	Prior to allowing any new CBWTF, the prescribed authority i.e. SPCB/PCC was required to conduct a gap analysis with respect to the coverage area for bio-medical waste generation, its projection over the next ten years, and the adequacy of the existing treatment capacity of the CBWTF within a 75 km radius.	Prior to allowing any new CBWTF, the prescribed authority i.e.SPCB/PCC is required to conduct gap analysis w.r.to coverage area of the bio-medical waste generation, its projection over a period of next ten years, adequacy of existing treatment capacity of the CBWTF in each coverage area of radius 75 km as per methodology given by CPCB for conduct of gap analysis. Additionally, decision may be taken by concerned SPCB/PCC based on gap analysis report to allow new facility or expansion of an existing facility. Adequacy of the existing facility to handle quantum of biomedical waste and/or compliance with the norms prescribed under BMWM Rules, 2016 shall also be taken into account.

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Clause 8: Coverage Area of CBWTF	Coverage area of CBWTF was suggested as radial distance of 75 km if 10,000 beds are available. Further, CBWTF may be allowed to cater the healthcare units situated upto 150 KM if 10,000 beds are not available within radius of 75 Km provided the bio-medical waste generated is collected, treated and disposed of within 48 hours as stipulated under the BMWM Rules. Additionally, the guidelines suggested that in case, number of beds exceeds 10,000 beds in a locality (i.e. coverage area of the CBWTF under reference) and the existing treatment capacity is not adequate, in such a case, a new CBWTF may be allowed in such a locality in compliance to various provisions notified under the	Criteria for number of bed and extendable distance of 150 Km has been removed and the clause is revised as: A CBWTF located within the respective State/Union Territory may be allowed to cater to healthcare units situated within a radial distance of 75 kilometers, subject to the condition that the facility possesses adequate treatment capacity to handle the bio-medical waste generated within the said radius. For the purpose of determining adequacy, 90% of the total treatment capacity as authorized by the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be considered. It shall further be ensured that bio-medical waste generated is collected, treated and disposed of within 48 hours as stipulated under the BMWM Rules. The concerned SPCB/PCC shall undertake a gap analysis, to assess the quantum of

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	Environment (Protection) Act, 1986, to cater services only to such additional bed strength of the HCFs located.	bio-medical waste generated vis-à-vis the available treatment capacity of the CBWTF (considering 90% of the authorized treatment capacity). In case the analysis indicates a shortfall in treatment capacity or if the existing CBWTF is found to be non-compliant with the provisions of the Bio-Medical Waste Management Rules, 2016, the SPCB/PCC may consider proposals for establishing a new CBWTF or for expansion of an existing facility, ensuring that bio-medical waste generated is collected, treated and disposed of within 48 hours as stipulated under the BMWM Rules.

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Clause 12(b): Transportation of the Collected Bio-Medical Waste to the CBWTF	It is mentioned that the vehicle used for transportation of biomedical waste was required to be labelled with the bio-hazard symbol (as per Schedule IV of the BMWM Rules) and display the name, address, and contact number of the CBWTF.	This clause has been revised as follows: (ix) The vehicles used for the purpose of collection and transportation of bio-medical waste must be labelled with the bio-hazard symbol (as per Schedule IV of the BMWM Rules, 2016) in red/black colour and should display the name, address, and contact number of the CBWTF operator in green colour. CBWTF authorized by ("Name of SPCB/PCC") shall also be mentioned below name, address and contact number of the CBWTF operator in green colour. (x) All the existing vehicles used for the purpose of collection and transportation of biomedical waste shall be labelled with the bio-hazard symbol and shall display the name, address, and contact number of the CBWTF operator on white background. Further, vehicles registered with the respective SPCB/PCC for the purpose of collection and transportation of

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		biomedical waste after June, 2025 shall be white in colour. (xi) Bio-hazard symbol size and font size shall be in minimum proportion of 12:3 and 12:1, respectively, with respect to body height of the vehicle used for transportation of biomedical waste. For Example: If body height is 6 feet i.e. 72" then minimum font size will 6" and minimum size of bio-hazard symbol will be 18".

Copy of revised guidelines for CBWTFs is attached as **Annexure-III.**

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BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

Principal Bench, New Delhi

Miscellaneous Application No. 98/2022

In

Original Application No. 180/2021

In the matter of:

Mukul Kumar — Applicant

Versus

State of Uttar Pradesh & Ors. — Respondent(s)

AFFIDAVIT

I, **Vijay Prakash Yadav,** Scientist 'F', in Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi, do hereby solemnly affirm, declare on oath and state as under:

1. That I, the deponent herein is authorized representative to represent the Respondent CPCB in the present case, and as such, I am well conversant with the facts and circumstances of the present case on the basis of the information derived from the official records, and hence, I am competent and authorized to verify, sign and swear this affidavit on behalf of the Respondent CPCB.

2. That the accompanying reply may be read part and parcel of the present affidavit as I am competent to swear this affidavit.

3. That the accompanying reply has been drafted and filed under my instructions and authority the contents thereof are true and correct on the basis of the record maintained during ordinary course of business of CPCB

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and available records and documents and the contents of the same are read over and explained to me and are not repeated herein for the sake of brevity.

DEPONENT

विजय प्रकाश यादव / Vijay Prakash Yadav
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
(M/o Environment, Forest & Climate Change, Govt. of India)
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली–110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

VERIFICATION

Verified at Delhi on this day of 15 APR 2025 that the contents of the above reply are correct and true on the basis of the records of the case as mentioned in the day-to-day affairs of the CPCB. Nothing has been concealed there from or misstated.

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DEPONENT

विजय प्रकाश यादव / Vijay Prakash Yadav
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
(M/o Environment, Forest & Climate Change, Govt. of India)
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली–110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

ATTESTED
NOTARY PUBLIC DELHI (INDIA)
15 APR 2025

Annexure-I

Item No. 08 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

M.A. No. 98/2022
In
Original Application No. 180/2021

Mukul Kumar Applicant

Versus

State of UP & Ors. Respondent(s)

Date of hearing: 16.12.2024

CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Respondents: Mr. Raj Kumar, Adv. for CPCB
Mr. Rahul Khurana, Adv. for the State of Haryana & HSPCB (Through VC)
Mr. Pradeep Misra & Mr. Daleep Dhyani, Advs. for UPPCB (Through VC)
Mr. Ghansham Singh, Member Secretary, J&K PCC (Through VC)
Mr. Pukhrambam Ramesh Kumar & Ms. Rajkumari Divyasana, Advs. for the State of Manipur

ORDER

1. The issue under consideration relates to the compliance of Bio-Medical Waste Rules, 2016. The Tribunal, on the previous date on 02.09.2024, had considered the stand of the CPCB in the report dated 03.08.2024, disclosing that it had not received the report from some of the States. Therefore, the Tribunal had granted time to the CPCB to file a fresh report. Learned Counsel appearing for the CPCB submits that though the report has been filed, it was filed belated therefore, it has not come on record.

2. He has informed that the 12 States/UTs have sufficient capacity for the treatment of bio-medical waste and they have examined the healthcare facilities and common bio-medical treatment facilities. With

respect to other 24 States, he has informed that in addition to the common bio-medical facility they are adopting the captive treatment facility and deep burial. The CPCB is directed to disclose the full details and implications of deep burial.

3. Learned Counsel for the CPCB has also informed that the guidelines for common bio-medical treatment facility with regard to the siting criteria are under review and the report from 15 States in respect of the gap analysis is awaited and after receipt of the report the Guidelines will be reviewed.

4. He is directed to place on record in the next affidavit the progress made in this direction. Hence, we grant a further eight weeks' time to the CPCB to file a fresh affidavit.

5. List on 14.04.2025.

Prakash Shrivastava, CP

Dr. A. Senthil Vel, EM

December 16, 2024
M.A. No. 98/2022 in OA No. 180/2021
A..

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

Annexure-II

Miscellaneous Application No. 98/2022
In
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In the matter of:

Mukul Kumar — Applicant

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2.	**Annexure–I** A copy of Hon'ble NGT order dated 02.09.2024.	
3.	**Annexure-II** A copy of letter dated 01.10.2024 issued by CPCB.	
4.	**Annexure-III** A copy of reminder letter dated 13.11.2024 issued by CPCB to the SPCBs/PCCs.	
5.	**Annexure-IV** A copy of direction dated 11.12.2024 issued by CPCB under section 5 of Environment (Protection) Act, 1986 to all SPCBs/PCCs.	
6.	**Annexure-V**. A copy of Minutes of second meeting of expert committee to review guidelines related to biomedical waste management held on 22.10.2024.	

Filed by Adv. Rajkumar
On behalf of Central Pollution Control Board

Place: Delhi
Dated: 13.12.2024

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

Principal Bench, New Delhi

Miscellaneous Application No. 98/2022

In

Original Application No. 180/2021

In the Matter of:

Mukul Kumar Applicant

Versus

State of Uttar Pradesh & Ors. Respondent(s)

Report on Compliance to orders passed in the matter of M.A. No. 98/2022 in Original Application No. 180/2021 filed by Mukul Kumar before Hon'ble National Green Tribunal

1 Hon'ble National Green Tribunal (NGT) has been reviewing the implementation of Biomedical Waste Management Rules, 2016 (BMWM Rules, 2016) by States/UTs in the matter of M.A. No. 98/2022 filed in Original Application No. 180/2021. CPCB last submitted the consolidated report on 31.08.2024 to Hon'ble NGT indicating status of implementation of BMWM Rules, 2016, which was discussed and admitted by Hon'ble NGT on 02.09.2024. During the hearing, following order was passed:

"...In terms of the earlier directions, Central Pollution Control Board (CPCB) was required to obtain the report from the States/Union Territories (UTs) and file a fresh report showing compliance by the different States and UTs.

3. The report dated 31.08.2024 has been filed by the CPCB showing that the CPCB did not receive the reports from the States of Assam, Jharkhand, Jammu and Kashmir, Ladakh, Lakshadweep, Manipur, Mizoram and Sikkim. The report itself states that out of 36 States/UTs, the reports have been received from 28 States/UTs.

4. Learned Counsel for State of Manipur has informed that the report has already been filed on 10.05.2024 and it is available at the website. CPCB may download the reports of States/UTs which are available at the website. Counsel for the CPCB submits that a communication will be sent to the States/UTs from whom the reports are awaited, and thereafter, a fresh report will be filed before the Tribunal.

5. So far as the Table 2 in the latest report of the CPCB dated 31.08.2024 is concerned, the said table shows the State/UT-wise situation of authorization of Health Care Facilities (HCFs) and reveal that a number of unauthorised HCFs are operating in various States. Hence, the CPCB is required to ensure appropriate expeditious action against the unauthorised HCFs. The report of the CPCB further mentions that some action has been taken against 14,853 violating HCFs/Common Biomedical Waste Treatment Facilities (CBWTFs) but their details have not been provided by the SPCBs/PCCs of Gujarat, Jharkhand, J&K, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Odisha and Uttar Pradesh. These States are directed to provide the requisite details of violating HCFs/CBWTFs to the CPCB without any delay.

6. From the table 4 of the report of the CPCB, we also take note of the fact that there is gap of 19.03 TPD in biomedical waste generation (tons/day) and

biomedical waste treatment, especially in respect of the States of Assam, Bihar, J&K, Jharkhand and Nagaland.

7. We also find from Table 5 that no CBWTFs are available in Andaman and Nicobar, Arunachal Pradesh, Ladakh, Lakshadweep, Mizoram, Nagaland and Sikkim. Under the Bio-medical Waste Management Rules, 2016, especially in terms of Rule 6 read with Rule 9(3) and Entry 4 of Schedule III of the Rules, the responsibility lies with the CPCB to the extent indicated in these rules.

8. With regard to gap analysis adequacy should be properly assessed so that no pilferage of waste goes into hands of unauthorized processors.....”

Copy of order dated 02.09.2024 is attached herewith as **Annexure-I.**

2 Action taken by CPCB in compliance of order dated 02.09.2024 in the matter of M.A. 98 of 2022

Based on the orders passed by Hon’ble NGT on 02.09.2024, CPCB has taken following actions:

2.1 CPCB issued letter dated 01.10.2024 to SPCBs/PCCs including the gaps observed in implementation of Biomedical Waste Management Rules, 2016 as well as gaps mentioned in the order dated 02.09.2024 of Hon’ble NGT. The SPCBs/PCCs were also communicated to ensure compliance to orders passed by Hon’ble NGT and submit the report within a week to CPCB. Copy of the letters is attached as **Annexure II**.

2.2 CPCB again issued reminder letter to the SPCBs/PCCs on 13.11.2024 wherein the gaps observed in implementation of Biomedical Waste

Management Rules, 2016 as well as gaps mentioned in the order dated 02.09.2024 of Hon'ble NGT was communicated to ensure compliance to orders passed by Hon'ble NGT and submit the action taken report to CPCB for further compilation. Copy of the letter is attached as **Annexure III**.

2.3 CPCB issued direction dated 11.12.2024 under section 5 of Environment (Protection) Act, 1986 to all SPCBs/PCCs directing to:

a. Initiate appropriate action immediately against the HCFs which are operational without having authorisation;
b. Take appropriate action against HCFs and CBWTFs for violation of BMWM Rules, 2016;
c. Ensure that there is no gap in biomedical waste generation and treatment by ensuring adequate numbers/capacity of treatment facilities in the State/UT;
d. Ensure deep burial disposal system is adopted by HCFs located only in rural or remote areas where there is no access to CBWTF with prior approval from SPCB/PCC and in compliance with standards prescribed under Schedule-III of BMWM Rules, 2016;
e. Submit gap analysis report to CPCB with respect to biomedical waste generation and treatment of biomedical waste; Copy of the said direction dated 11.12.2024 is attached as **Annexure IV**.

2.4 CPCB also went through website of Hon'ble NGT to download reports submitted by the States/UTs, as directed by Hon'ble NGT.

2.5 Meeting held with SPCBs/PCCs on 04.12.2024 regarding use of captive treatment facilities including deep burials and requested

SPCBs/PCCs to restrict use of captive treatment facilities including deep burials and also requested to ensure their compliance to BMWM Rules, 2016.

3 Status of Compliance to Hon'ble NGT direction

The directions passed by Hon'ble NGT is regarding implementation of Biomedical Waste Management Rules, 2016 (BMWM Rules, 2016) in States and Union Territories (States/UTs).

CPCB was directed to prepare a consolidated report in the matter and accordingly, CPCB prepared and circulated a format to receive the information on BMWM Rules, 2016 from SPCBs/PCCs. Based on information received from SPCBs/PCCs, CPCB issued customised letters to SPCBs/PCCs communicating the gaps observed in implementation of BMWM Rules, 2016 to ensure compliance and submit the information with respect to gaps observed.

3.1 Status of Authorization of Healthcare Facilities and action taken by SPCBs/PCCs

As per BMWM Rules, 2016, every occupier handling biomedical waste is required to obtain authorization from the prescribed authority i.e. SPCB/PCC. State/UT wise details of number of Healthcare Facilities along with their authorization status is given in Table 1.

Table 1: State/UT wise status of authorisation of Healthcare Facilities

S. No.	Name of State/UT	Total no. HCFs	Authorization Status		Action taken against unauthorised HCFs
			Authorised HCFs	Unauthorized HCFs	
1	Andaman & Nicobar	272	149	123	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
2	Andhra Pradesh	14,768	14,404	364	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
3	Arunachal Pradesh	510	424	86	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
4	Assam	1,558	602	956	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
5	Bihar	26,472	25,878	594	Direction u/s 5 of E(P) Act, 1986/ Notices

					have been issued to all unauthorised HCFs
6	Chandigarh	950	950	0	All HCFs are authorised
7	Chhattisgarh	7,901	7,901	0	All HCFs are authorised
8	DD & DNH	219	207	12	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
9	Delhi	10,974	10,974	0	All HCFs are authorised
10	Goa	1,543	1,543	0	All HCFs are authorised
11	Gujarat	37,396	32,787	4,609	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
12	Haryana	7,549	7,282	267	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
13	Himachal Pradesh	9,727	9,491	236	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
15	Jharkhand	2,451	2,090	361	Direction u/s 5 of E(P) Act, 1986/ Notices

					have been issued to all unauthorised HCFs
14	Jammu & Kashmir	7,865	808	7,057	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to 3389 no. of unauthorised HCFs and list of 3668 no. of unauthorised HCFs have been communicated to State Health Department.
16	Karnataka	54,594	48,320	6,274	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
17	Kerala	24,196	22,062	2,134	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
18	Ladakh	402	161	241	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
19	Lakshadweep	34	34	0	All HCFs are authorised

20	Madhya Pradesh	11,985	10,228	1,757	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
21	Maharashtra	73,122	69,344	3,778	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
22	Manipur	931	931	0	All HCFs are authorised
23	Meghalaya	1,294	1,117	177	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
24	Mizoram	670	448	222	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
25	Nagaland	710	642	68	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
26	Odisha	5,979	5,773	206	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs

27	Puducherry	450	450	0	All HCFs are authorised
28	Punjab	15,137	14,377	760	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
29	Rajasthan	10,692	9,842	850	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
20	Sikkim	351	351	0	All HCFs are authorised
31	Tamil Nadu	31,158	30,895	263	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
32	Telangana	10,793	10,657	136	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs
33	Tripura	1,986	1,986	0	All HCFs are authorised
35	Uttarakha-nd	6,636	6,045	591	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to all unauthorised HCFs

34	Uttar Pradesh	43,757	37,561	6196	Direction u/s 5 of E(P) Act, 1986/ Notices have been issued to 5754 no. of unauthorised HCFs and action taken against 442 no. of HCFs is not submitted by SPCB
36	West Bengal	9,927	9,927	0	All HCFs are authorised
	Total	4,34,959	3,96,641	38,318	37,876

As per information provided by SPCBs/PCCs, there are 4,34,959 no. of HCFs, out of which 3,96,641 (92%) no. of HCFs are authorized and 38,318 (8%) no. of HCFs are unauthorized.

SPCBs/PCCs submitted that directions under section 5 of E(P) Act, 1986/notices were issued to 37,876 out of 38,318 no. of HCFs to obtain authorization under BMWM Rules, 2016. However, action taken against 442 out of 38,318 no. of HCFs is not submitted by Uttar Pradesh SPCB.

During last three months (September to November), no. of unauthorised HCFs has been decreased from 40,131 to 38,318 and the action taken by SPCBs/PCCs against unauthorised HCFs has increased from 35,449 to 37,876. Also, SPCBs/PCCs submitted that issuance of authorisation is a continuous process under which compliance is verified and action is taken under Water (Prevention and Control of Pollution) Act, 1974, Air

(Prevention and Control of Pollution) Act, 1981 and Environment (Protection) Act, 1986.

States/UTs namely Chandigarh, Chhattisgarh, Delhi, Lakshadweep, Manipur, Puducherry, Sikkim, Tripura and West Bengal, has 100 % authorised HCFs.

3.2 Status of Action taken by SPCB/PCC against violating CBWTFs and HCFs

As reported by SPCBs/PCCs, Directions / Notices u/s 5 of E(P)Act, 1986 have been issued to the CBWTFs and HCFs for violation of BMWM Rules, 2016. State-wise details on number of violations reported by HCFs & CBWTFs and action taken by SPCBs/PCCs during year 2023-24 is given in Table 2.

Table 2: State/UT wise status of action taken against HCFs/CBWTFs

S.No	Name of State/UT	Total no. of violation by HCFs & CBWTFs	Total No. of show cause notices/ Directions issued to defaulter HCFs/CBWTFs	Action taken by SPCBs/PCCs against defaulting HCFs/CBWTFs
1.	Andaman & Nicobar	128	128	Directions/notices issued to all HCFs/CBWTFs

				violating BMWM Rules, 2016
2.	Andhra Pradesh	1016	1016	Directions/notices issued to all HCFs/CBWTFs violating BMWM Rules, 2016
3.	Arunachal Pradesh	172	172	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016
4.	Assam	956	956	SPCB has conducted workshops for the govt. HCFs and waived off fees for non-bedded govt. HCFs to ease the process of authorisation. Many HCFs applied for authorisation.
5.	Bihar	1641	1641	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016

6.	Chandigarh	0	0	No violation observed by Chandigarh PCC
7.	Chhattisgarh	187	187	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016
8.	Daman &Diu and Dadra & Nagar Haveli	28	28	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016
9.	Delhi	2	2	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016
10.	Goa	529	529	SPCB is in the process of issuing Show Cause Notice to remaining 92 unauthorised HCFs
11.	Gujarat	5270	5270	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016

12.	Haryana	765	765	Direction issued to all HCFs/CBWTFs violating BMWM Rules, 2016
13.	Himachal Pradesh	249	249	Direction issued to all HCFs/CBWTFs violating BMWM Rules, 2016
14.	Jharkhand	361	361	Direction issued to all HCFs/CBWTFs violating BMWM Rules, 2016
15.	J & K	7058	7058	Direction/ Notice issued to 3390 defaulting HCFs/CBWTFs. However, list of 3668 no. of defaulting HCFs has been communicated to State Health Department to take action.
16.	Karnataka	7910	6697	Direction/ Notice issued to 6697 defaulting HCFs/CBWTFs.

				However, action taken against 1213 no. of defaulting HCFs/CBWTFs is under process.
17.	Kerala	2299	2299	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016
18.	Ladakh	399	399	Direction/notice issued to all HCFs violating BMWM Rules, 2016.
19.	Lakshadweep	0	0	No violation observed by Lakshdweep PCC
20.	Madhya Pradesh	1757	1757	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016.
21.	Maharashtra	4087	3801	Directions/Notices issued to 3801 no. of defaulting HCFs/CBWTFs. However, action taken

				against 286 no. of defaulting HCFs/CBWTFs is under process.
22.	Manipur	0	0	No violation observed by Manipur SPCB.
23.	Meghalaya	183	183	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016.
24.	Mizoram	222	222	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016.
25.	Nagaland	68	68	Direction/ Notice issued to all defaulting HCFs. List of HCFs has been communicated to the Health & Family Welfare Department for directing the HCFs to obtain authorisation

26.	Odisha	213	213	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016.
27.	Puducherry	6	6	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016.
28.	Punjab	859	859	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016.
29.	Rajasthan	1501	1501	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016.
30.	Sikkim	4	4	Direction/notice issued to all HCFs violating BMWM Rules, 2016.
31.	Tamil Nadu	277	277	List of unauthorised HCFs communicated to Health & Family Welfare department

				requested to direct the unauthorised HCFs to obtain authorization
32.	Telengana	276	276	Direction/notice issued to all HCFs/CBWTFs violating BMWM Rules, 2016.
33.	Tripura	2	2	Direction/notice issued to all HCFs violating BMWM Rules, 2016.
34.	Uttarakhand	1175	1175	Direction/ Notice issued to 1175 defaulting HCFs/CBWTFs.
35.	Uttar Pradesh	8608	7304	Direction/ Notice issued to 7304 defaulting HCFs/CBWTFs. However, action taken against 1304 no. of defaulting HCFs/CBWTFs is under process.
36.	West Bengal	201	201	Direction/notice issued to all HCFs/CBWTFs

				violating BMWM Rules, 2016.
	Total	48,409	45,606	

SPCBs/PCCs reported that 48,409 no. of HCFs & CBWTFs have violated the provisions of BMWM Rules, 2016 and accordingly, action has been taken against 45,606 no. of HCFs & CBWTFs. The violations reported by SPCBs/PCCs in respect of 48,409 no. of HCFs/CBWTFs also includes HCFs operating without authorisation.

In the previous report filed by CPCB, details on action taken against 14,853 no. of violating HCFs/CBWTFs were not provided by some SPCBs/PCCs. However, after communicating these gaps to respective SPCBs/PCCs, SPCBs/PCCs submitted updated information indicating that during last three months, SPCBs/PCCs initiated action against violating HCFs/CBWTFs and action taken against 2,803 no. of HCFs/CBWTFs is under process in States/UTs namely Maharashtra (286), Karnataka (1213) and Uttar Pradesh (1304). Additionally, SPCBs namely Assam, Mizoram, Nagaland and Tamil Nadu have communicated list of violating HCFs to Health and family Welfare Department of their respective States requesting them to direct these HCFs to obtain authorisation under BMWM Rules, 2016.

3.3 Biomedical waste generation and treatment

3.3.1 Status on generation & treatment of biomedical waste

As per BMWM Rules, 2016, every HCF is required to segregate the biomedical waste as per colour coded system prescribed under the said Rules and handover the segregated waste to CBWTF operator for its final treatment and disposal.

In the previous report of CPCB, gaps in generation and treatment of biomedical waste were observed in 05 States/UTs namely Assam, Bihar, J &K, Jharkhand and Nagaland. These gaps in the data were communicated to respective States/UTs vide email dated 22.08.2024, letter dated 01.10.2024 and 13.11.2024 and clarifications were sought from these 05 SPCBs/PCCs. SPCBs/PCCs provided clarification and accordingly State/UT wise updated details of biomedical waste generation & treatment is given in Table 3.

Table 3: Details of biomedical waste generation & treatment in State/UT

S.No	Name of State/UT	BMW Generation (Tons/day)	BMW Treatment (Tons/day)	Gap between BMW generation and treatment
1.	Andaman and Nicobar Islands	0.73	0.73	0
2.	Andhra Pradesh	16	16	0
3.	Arunachal Pradesh	0.46	0.46	0
4.	Assam	8.08	7.07	1.02

5.	Bihar	26.06	14.56	11.50
6.	Chandigarh	6.35	6.35	0
7.	Chhattisgarh	7.5	7.5	0
8.	Dadar Nagar Haveli	0.36	0.36	0
9.	Delhi	31.2	31.2	0
10.	Goa	2.13	2.13	0
11.	Gujarat	51.82	51.82	0
12.	Haryana	25.27	25.27	0
13.	Himachal Pradesh	3.77	3.77	0
14.	Jammu and Kashmir	8.82	8.82	0
15.	Jharkhand	6.59	6.59	0
16.	Karnataka	76	76	0
17.	Kerala	68.12	68.12	0
18.	Ladakh	0.08	0.08	0
19.	Lakshadweep	0.06	0.06	0
20.	Madhya Pradesh	16.68	16.68	0

21.	Maharashtra	75.71	75.71	0
22.	Manipur	1.68	1.68	0
23.	Meghalaya	2.26	2.26	0
24.	Mizoram	0.62	0.62	0
25.	Nagaland	1.04	1.04	0
26.	Odisha	12.24	12.24	0
27.	Puducherry	4.75	4.75	0
28.	Punjab	22.55	22.55	0
29.	Rajasthan	19.91	19.91	0
30.	Sikkim	0.59	0.59	0
31.	Tamil Nadu	49.70	49.70	0
32.	Telangana	26.32	26.32	0
33.	Tripura	1.79	1.79	0
34.	Uttarakhand	8.77	8.77	0
35.	Uttar Pradesh	91	91	0
36.	West Bengal	43.12	43.12	0
	TOTAL	718.13	705.61	12.52

In the previous report of CPCB, the gap of 19.03 Tons/day in biomedical waste generation and treatment was submitted for the States namely Bihar, Assam, Jharkhand, J &K and Nagaland. Further as per the updated report, Jharkhand, J & k and Nagaland have improvised on treatment of biomedical waste and the gap is now left only in States namely Bihar and Assam, which is 12.52 Tons/day. In this regard, clarifications were sought from Bihar and Assam and CPCB received the clarifications as given in Table 4.

Table 4: Submission of Bihar & Assam SPCBs/PCCs regarding gap in generation and treatment of biomedical waste

S.No.	**State/UT**	**Submission of States/UTs**	**Action Taken by CPCB for gap in generation & treatment of biomedical waste**
1.	Bihar	Bihar SPCB agreed that there is gap of 11.5 Tons/day in generation and treatment of biomedical waste in the reports submitted by HCFs and CBWTFs of Bihar State and informed that to minimise these gap Bihar SPCB has initiated establishment of 5 new	CPCB issued direction dated 11.12.2024 under section 5 of E (P) Act, 1986 to SPCBs/PCCs to ensure that there is no gap in biomedical waste generation and treatment by ensuring adequate numbers of treatment facilities in the State/UT.

		CBWTFs which is under process. However, the matter is pending before Hon'ble High Court of Patna.	
2.	Assam	The gap in generation and treatment was due to incomplete information provided by HCFs with respect to disposal by deep burials.	

3.3.2 Biomedical Waste generation and available treatment capacity

BMWM Rules, 2016 stipulates that HCFs shall handover segregated biomedical waste to CBWTF for final treatment and disposal.

As per reports submitted by SPCBs/PCCs, all biomedical waste generated by the HCFs is being treated & disposed off by CBWTFs in 12 States/UTs namely Andhra Pradesh, Chandigarh, DD & DNH, Delhi, Goa, Gujarat, Haryana, Puducherry, Punjab, Telangana, Tamil Nadu and West Bengal. Aforementioned States/UTs submitted that at present, available treatment capacity of CBWTFs is sufficient to treat all biomedical waste generated in

these States/UTs and captive treatment facilities are not used in these States/UTs.

Further, in 24 States/UTs captive treatment facilities are also being operated besides CBWTFs. The Figure 1 given below represents percentage of biomedical waste treated through CBWTF and captive treatment facilities including deep burials.

Figure 1: Percentage of biomedical waste treated through CBWTF and captive treatment facilities including deep burials

CPCB conducted a meeting on 04.12.2024 with SPCBs/PCCs to discuss on compliance to BMWM Rules, 2016 by captive treatment facilities. CPCB requested all SPCBs/PCCs to restrict use of captive treatment facilities including deep burials and also requested to ensure their compliance to BMWM Rules, 2016. State/UT wise status on biomedical waste generation and treatment is given in Table 5.

Table 5: Biomedical waste generation and treatment capacities of CBWTFs & captive treatment facilities

S.No.	Name of State	BMW Generation (Tons/day)	BMW Treatment (Tons/day)	Available treatment capacity of CBWTFs (Tons/day)	Treatment capacity of captive facility (Tons/day)	Total treatment capacity of CBWTFs and

						captive facility (Tons/day)
1	Andaman and Nicobar Islands	0.73	0.73	No CBWTF	6.4	6.4
2	Andhra Pradesh	16	16	62.4	0	62.4
3	Arunachal Pradesh	0.46	0.46	No CBWTF	0	0
4	Assam	8.08	7.07	25.6	14	39.6
5	Bihar	26.06	14.56	42.4	1.2	43.6
6	Chandigarh	6.35	6.35	7	0	7
7	Chhattisgarh	7.5	7.5	28.9	0.4	29.3
8	Dadar Nagar Haveli	0.36	0.36	Utilising CBWTF of Gujarat		
9	Delhi	31.2	31.2	62.8	0	62.8
10	Goa	2.13	2.13	16	0	16
11	Gujarat	51.82	51.82	86.8	0	86.8
12	Haryana	25.27	25.27	67.3	0	67.3
13	Himachal Pradesh	3.77	3.77	12.8	0.24	13.04

14	Jammu and Kashmir	8.82	8.82	13.4	0	13.4
15	Jharkhand	6.59	6.59	16.3	6.4	22.7
16	Karnataka	76	76	149.4	9.6	159.2
17	Kerala	68.12	68.12	85	21.3	106.3
18	Ladakh	0.08	0.08	No CBWTF	1.6	1.6
19	Lakshadweep	0.06	0.06	No CBWTF	0	0
20	Madhya Pradesh	16.68	16.68	120.4	Information not provided	120.4
21	Maharashtra	75.71	75.71	162.9	1.11	164.01
22	Manipur	1.68	1.68	0.6	Information not provided	0.6
23	Meghalaya	2.26	2.26	2	1.6	3.6
24	Mizoram	0.62	0.62	No CBWTF	3.6	3.6
25	Nagaland	1.04	1.04	No CBWTF	0.8	0.8
26	Odisha	12.24	12.24	7	0	7
27	Puducherry	4.75	4.75	48.1	0	48.1
28	Punjab	22.55	22.55	26.9	1.36	28.26

29	Rajasthan	19.91	19.91	39.4	0	39.4
30	Sikkim	0.59	0.59	No CBWTF	4	4
31	Tamil Nadu	49.7	49.7	98.6	0	98.6
32	Telangana	26.32	26.32	71.9	0	71.9
33	Tripura	1.79	1.79	32.5	0.1	32.6
34	Uttarakhand	8.77	8.77	170.8	3.2	174
35	Uttar Pradesh	91	91	26.4	1.6	28
36	West Bengal	43.12	43.12	108.2	0	108.2
Total (Tons/day)		718	705	1592	78	1670

Table 5 shows that for available treatment capacity of CBWTFs and captive facilities (1670 Tons/day) is sufficient to treat biomedical waste generation of 718 Tons/day.

Further, in States/UTs namely Andaman & Nicobar, Assam, Chhattisgarh, Himachal Pradesh, Jharkhand, J & K, Karnataka, Kerala, Ladakh, Lakshadweep, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Nagaland, Odisha, Rajasthan, Sikkim, Tripura, Uttarakhand and Uttar Pradesh where CBWTFs are not covering the entire State/UT, captive treatment facilities including deep burials are also being used for treatment/disposal of biomedical waste. In absence of captive incinerator and CBWTF in the state of Arunachal Pradesh and Laksdweep deep burial system is the only option for disposal of biomedical waste

.

Further, as reported by SPCBs/PCCs the deep burial pits are also being used in States/UTs namely Andaman & Nicobar, Assam, Chhattisgarh, Himachal Pradesh, Jharkhand, J & K, Karnataka, Kerala, Ladakh, Lakshadweep, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Nagaland, Odisha, Rajasthan, Sikkim, Tripura, Uttarakhand and Uttar Pradesh as CBWTFs are not covering the entire State/UT for treatment and disposal of biomedical waste, captive treatment facilities (including deep burials) are also being used. As reported by SPCBs/PCCs these captive facilities are being operated by HCFs located at remote areas.

3.3.3. Action taken with respect to establishment of CBWTF in 7 States/UTs where no CBWTF is available

CPCB in its previous report submitted that there is no CBWTF in States namely Andaman Nicobar, Arunachal Pradesh, Ladakh, Lakshadweep, Mizoram, Nagaland and Sikkim. Further, CPCB deliberated the matter with SPCBs/PCCs of these States/UTs during meeting held on 04.12.2024 and also issued letter dated 01.10.2024 and 13.11.2024 to expediete the process of setting up of CBWTF(s) to ensure treatment & disposal of biom,edical waste in line with provisions under BMWM Rules, 2016. It was also communicated to restrict the use of captive treatment facilities (inclusing deep burial) and to ensure that the same are utilised in remote and rural areas.

Accordingly, States/UTs submitted the action taken reports which is shown in Table 6.

Table 6: Initiative taken by States/UTs where no CBWTF is present

S.No.	State/UT	Action taken by SPCBs/PCCs
1	Andaman Nicobar	No reply submitted by UT regarding setting up of new CBWTF
2	Arunachal Pradesh	Arunachal Pradesh SPCB requested State Health & Family Welfare Department to initiate action for establishment of CBWTF
3	Ladakh	In Ladakh, department of health floated tender for establishment of CBWTF on 22/06/2022, for which no response has been received till date, and now the department is again seeking Expression of Interest (EOI) for establishment of CBWTF in Leh, Ladakh.
4	Lakshadweep	Feasibility of setting up of CBWTF is limited due to islands. Therefore, Department of Health has tied up with IMAGE, Kerala for transportation of disinfected Red, Blue and White category waste for final disposal. And only yellow category waste is being treated and disposed off in islands through captive incinerators including deep burials
5	Mizoram	Construction of one CBWTF is completed which will cover 5 districts. The CBWTF will be fully operational by December, 2024
6	Nagaland	Initiative has been taken by Nagaland SPCB has for setting of one CBWTF.
7	Sikkim	Land has been identified for establishment of CBWTF and diversion of the land is under process

3.4 Frequency of training related to biomedical waste management

BMWM Rules, 2016 stipulates that SPCBs/PCCs shall organise training programmes for staff of HCFs and CBWTFs on segregation, collection, storage, transportation, treatment and disposal of biomedical wastes. BMWM Rules, 2016 also stipulates that HCFs and CBWTFs shall organise training for all healthcare workers involved in biomedical waste management at least once in a year.

Training programs helps in sensitization of the healthcare workers and improvement in collection, segregation, processing, treatment and disposal of biomedical wastes in an environmentally sound management.

Information on frequency of training programme conducted by SPCBs/PCCs is given in following Table 7.

Table 7: State/UT wise status on training programme conducted by SPCBs/PCCs

S. No.	States/UT	Frequency of training programs
1.	Andaman & Nicobar	Training is being conducted. Frequency of training program not mentioned.
2.	Assam	Training is being conducted. Frequency of training program not mentioned.
3.	Andhra Pradesh	Frequency is not provided but total 1078 trainings were conducted

4.	Arunachal Pradesh	Two or Three times in a year
5.	Bihar	Training is being conducted. Frequency of training program not mentioned.
6.	Chandigarh	Monthly training programme is conducted
7.	Chhattisgarh	Training / workshops are conducted time to time for the effective implementation of BMW Rule, 2016. However, frequency is not mentioned.
8.	DD & DNH	Quarterly
9.	Delhi	Quarterly by DPCC/CBWTF
10.	Goa	15 training were conducted by GSPCB for the last 2 years
11.	Gujarat	Monthly training programme is conducted
12.	Haryana	Training is being conducted. Frequency of training program not mentioned.
13.	Himachal Pradesh	119 such trainings were conducted by the State Board in 2023-24 and 29 trainings have been conducted till June, 2024
14.	Jammu & Kashmir	Training is being conducted. Frequency of training program not mentioned.

15.	Jharkhand	86 training were conducted. However, frequency is not mentioned.
16.	Karnataka	Once in 3 months
17.	Kerala	Training is being conducted. Frequency of training program not mentioned.
18.	Ladakh	Half-Yearly
19.	Lakshadweep	Annually
20.	Madhya Pradesh	As per requirement
21.	Maharashtra	Annually
22.	Manipur	Training is being conducted. Frequency of training program not mentioned.
23.	Meghalaya	Annually
24.	Mizoram	Half-Yearly (Nil in latest report)
25.	Nagaland	Nagaland Health Project conducts workshop/trainings once or twice in a year. Nagaland Pollution Control Board also conducted 49 nos. of awareness programs on management of bio medical waste.

26.	Odisha	Training is being conducted. Frequency of training program not mentioned.
27.	Puducherry	Half-Yearly
28.	Punjab	Annually/ As per the requirements
29.	Rajasthan	2 Training programs conducted by RSPCB in 2023 & State Board has organised training/workshops in 31 districts for officials/other stakeholders
30.	Sikkim	4 Training Programs conducted during 2023-24. Frequency of training program not mentioned.
31.	Tamil Nadu	Every 6 months TNPCB is conducting training programme for district level stakeholders.
32.	Telangana	As per requirement. During Jan 2023 to June, 2024, 984 no. of training/workshops for district level stakeholders and healthcare workers.
33.	Tripura	Training is conducted but frequency is not mentioned.
34.	Uttarakhand	Training is being conducted. Frequency of training program not mentioned.
35.	Uttar Pradesh	Quarterly

36.	West Bengal	Training is provided to healthcare workers regularly

States/UTs namely Arunachala Pradesh, Chandigarh, Delhi, DD & DNH, Karnataka, Ladakh, Lakshadweep, Gujarat, Maharashtra, Meghalaya, Mizoram, Puducherry, Punjab, Tamilnadu and Uttar Pradesh, have fixed frequency of training program (monthly to yearly). Remaining States/UTs conducted trainings, however, frequency is not informed.

4 Revision of guidelines by CPCB

CPCB has prepared the guidelines for Common Biomedical Waste Treatment Facility (CBWTF) in December, 2016. These guidelines were prepared in line with re-notification of Biomedical Waste Management Rules, 2016 under Environment (Protection) Act, 1986 by Ministry of Environment Forest & Climate Change. These guidelines outlined the criteria for setting up of new CBWTF as well as operating parameters for CBWTF in compliance to standards prescribed under BMWM Rules, 2016. Further, while reviewing the status of biomedical waste in the Country, Hon'ble NGT directed CPCB to re-visit the guidelines to meet the current requirement of biomedical waste management so that there will be no gap in its generation and treatment. In order to review the current requirement of treatment capacity in States and UTs, CPCB requested SPCBs/PCCs to conduct the gap analysis as required under CPCB said guidelines.

CPCB has also constituted an Expert Committee comprising of members from Ministry of Health and Family Welfare, National Environment Engineering Research Institute, Nagpur, Indian Medical Association, Safdarjung Hospital and

VMMC, CBWTF Association of India and SPCBs. First meeting of said Expert Committee was conducted on 30.04.2024 and second meeting was conducted on 22.10.2024 in which the matter related to the review of CPCB guidelines for biomedical waste management was also discussed. Minutes of meeting held on 22.10.2024 is given at **Annexure-V**. Further, as per the directions of Hon'ble Tribunal, clauses related to revision of distance criteria and related to separate colour coding for vehicles transporting the biomedical waste is also being considered in the revision of guidelines. In this regard, it is humbly submitted that revision of guidelines is under the consultation of bio-medical waste stakeholders and expected to be finalised within three months.

Further, it is also to mention that CPCB prepared a methodology for carrying out the gap analysis which was also submitted in the last report filed before Hon'ble NGT. However, CPCB has observed non-uniformity and ambiguity in the gap analysis reports received from few SPCBs/PCCs (13 nos.). Hence, CPCB has issued revised version of methodology as Version 1 and also circulated to SPCBs/PCCs vide CPCB letter dated 11.12.2024 to complete the gap analysis.

4.1.1 Status of gap analysis conducted by SPCBs/PCCs is as follows:

As per available information 19 State/UT namely Andaman and Nicobar, Andhra Pradesh, Assam Bihar, Chandigarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, J&K, Lakshadweep, Madhya Pradesh, Puducherry, Punjab, Sikkim, Telangana, Tripura and West Bengal conducted gap analysis with respect to generation and treatment of biomedical waste.

According to gap analysis, 8 States/UTs namely Chandigarh, Goa, Haryana, Himachal Pradesh, Madhya Pradesh, Punjab, Telangana and Tripura submitted that no CBWTF is required as the available treatment capacity of CBWTF is adequate to treat bio-medical waste .

Additional CBWTFs are required in States/UTs namely Andhra Pradesh, Bihar, Delhi, Gujarat, Puducherry, Sikkim and West Bengal. These States/UTs are under process of setting up new CBWTF. States/UTs namely Chhattisgarh, Daman and Diu, Kerala, Maharashtra, Mizoram, Odisha, Tamil Nadu, Uttarakhand and Rajasthan, reported that gap analysis is under process.

Andaman & Nicobar and Lakshadweep are required to develop criteria for setting up of CBWTFs / captive treatment facilities depending upon the distance between the islands and their connectivity to transport the biomedical waste.

However, the gaps have been observed by CPCB in the gap analysis reports submitted by States/UTs. Accordingly, CPCB vide letter dated 12.12.2024 communicated remarks on the gap analysis reports to respective SPCBs/PCCs. Some of the common remarks of CPCB on the gap analysis reports is as follows:

- Coverage area of CBWTFs is not mentioned clearly.
- Clause of coverage area of CBWTF is not considered while concluding on requirement of new CBWTFs.
- Adequacy of CBWTFs in terms of compliance to BMWM Rules, 2016 is not considered, while concluding on requirement of new CBWTFs.
- Method for extrapolation varies in districts of State/UT.

Non-uniformity in gap analysis report has been observed. Therefore, to maintain uniformity, CPCB revised methodology for conduct of gap analysis with respect to biomedical waste generation and treatment and circulated to SPCBs/PCCs vide letter dated 12.12.2024.

Remaining SPCBs/PCCs are required to conduct the gap analysis to check adequacy of operational CBWTFs and facilitate for setting up of additional treatment capacity if required.

4.1.2 Coverage of districts and distance by CBWTFs in State/ UT:

CPCB has collected information from CBWTFs regarding distance covered, districts covered and treatment capacity to assess the current status of coverage of CBWTFs across the Country. The summary of information collected from CBWTFs is given in following Table 8 and Figure 2.

Table 8: State/UT wise details of districts covered/not covered by CBWTFs

S. No.	Name of the State/UT	No. of CBWTFs	Total No. of Districts in State / UT	No. of Districts covered by CBWTF	No. of Districts not yet covered by CBWTF	Name of districts not covered by CBWTFs
1	Andaman Nicobar	0	3	No CBWTF		NA
2	Andhra Pradesh	13	26	26	0	NA

3	Arunachal Pradesh	0	27	No CBWTF		NA
4	Assam	2	35	11	24	Biswanath, Cachar, Charaideo, Darrang, Dhemaji, Dhubri, Dibrugarh, Golaghat, Hailakandi, Hojai, Jorhat, Karbi Anglong,Karimganj, Lakhimpur, Majuli, Sivasagar, Sonitpur, South Salmara-Mankachar, Tinsukia, Udalguri, West Karbi Anglong, Bajali, Tamulpur, Biswanath
5	Bihar	4	38	38	0	NA
6	Chandigarh	1	1	1	0	NA

7	Chhattisgarh	5	33	20	13	Balod, Bastar, Bijapur, Bilaspur, Dakshin Bastar Dantewada, Kabeerdham, Kanker, Kondagaon, Koria, Narayanpur, Sukma, Khairagarh Chhuikhadan Gandai, Manendragarh Chirmiri Bharatpur Mcb, Mohla Manpur Ambagarh Chouki
8	DD & DNH	Utilising CBWTF of Gujarat	3	3	0	NA
9	Delhi	2	11	11	0	NA
10	Goa	1	2	2	0	NA
11	Gujarat	20	33	33	0	NA
12	Haryana	11	22	22	0	NA

13	Himachal Pradesh	3	12	11	1	Lahaul and Spiti
14	J &K	3	20	20	0	NA
15	Jharkhand	4	24	23	1	Sahebganj
16	Karnataka	30	31	28	3	Belagavi, haveri, Kodagu
17	Kerala	2	14	14	0	NA
18	Ladakh	0	2	No CBWTF		NA
19	Lakshadweep	0	1	No CBWTF		NA
20	Madhya Pradesh	19	55	48	7	Pandhurna, Mauganj, Mehar, Jhabua, Badwani,Harda, Alirajpur
21	Maharashtra	29	36	32	4	Bhandara, Gadchiroli, Hingoli, Wardha
22	Manipur	1	16	6	10	Chandel, Churachandpur, Jiribam, Kamjong, Kangpokpi, Noney, Pherzawl,

						Tamenglong, Ukhrul, Tengnoupal
23	Meghalaya	1	12	1	11	East Garo Hills, West Garo Hills, South Garo Hills, South West Garo Hills, North Garo Hills, West Khasi Hills, Ri-Bhoi, South-West Khasi Hills, East Jaintia Hills, west Jaintia Hills, Eastern West Khasi Hills
24	Mizoram	0	11	No CBWTF		NA
25	Nagaland	0	16	No CBWTF		NA
26	Odisha	7	30	26	4	Malkangiri, Kendujhar, Balasore, Subarnapur
27	Puducherry	1	4	4	0	NA

28	Punjab	6	23	23	0	NA
29	Rajasthan	12	50	50	0	Some HCFs of remote area are not covered by CBWTFs
30	Sikkim	0	6	No CBWTF		NA
31	Tamil Nadu	10	38	34	4	Viluppuram, Thiruvarur, Thoothukudi, Tiruchirappalli
32	Telengana	11	33	30	3	Hanumakonda, Komaram Bheem Asifabad, Rajanna Sircilla
33	Tripura	1	8	3	5	Dhalai, North Tripura, Sepahijala, South Tripura, Unakoti
34	Uttarakhand	2	13	8	5	Bageshwar, Chamoli, Champawat, Pithoragarh, Rudraprayag

35	Uttar Pradesh	23	75	57	18	Ambedkar Nagar, Amethi, Azamgarh, Bahraich, Ballia, Banda, Budau, Chitrakoot, Kasganj, ,Lakhimpur Kheri, Mahoba, Mau, Rae Bareli, Shravasti, Sonebhara, Laitpur, Sultanpur
36	West Bengal	7	23	23	0	
Total		232	787	608	179	

Figure 2: Chart showing no. of Districts covered/not covered by CBWTFs in the Country

As per the information submitted by SPCBs/PCCs and CBWTF operators, Out of 787 no. of districts, 608 no. of district are covered by CBWTFs and 179 no. of districts are not covered by CBWTFs. SPCBs/PCCs may consider this fact with regard to unavailability of service of CBWTF in above mentioned 179 nos. of Districts while preparing gap analysis report for their respective State / UT.

5 Recommendations:

The following are recommended with respect to gaps / observations made in above paras:

i. SPCBs/PCCs namely Maharashtra, Karnataka and Uttar Pradesh, shall immediately initiate action against 2,803 no. of violating HCFs / CBWTFs.

ii. SPCBs/PCCs namely Assam and Bihar, shall ensure treatment & disposal of biomedical waste in line with provisions of BMWM Rules, 2016 in a time bound manner.

iii. Each State/UT shall complete the gap analysis in line with CPCB guidelines and revised methodology to review the requirement of CBWTFs for the treatment and disposal of biomedical waste.

iv. SPCBs/PCCs namely Assam, Chhattisgarh, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Rajasthan, Tamilnadu, Telanagana, Tripura, Uttarakhand and Uttar Pradesh shall ensure that the districts mentioned in Table 8 where service of CBWTF is not available, are covered by CBWTFs for treatment & disposal of biomedical waste in a time bound manner.

v. SPCBs/PCCs shall compile the information on quantum of biomedical waste being disposed off through deep burial pits and also shall verify their compliance in line with standards prescribed under BMWM Rules, 2016. SPCBs/PCCs shall also restrict the use of deep burial pits only in rural or remote area in accordance with BMWM Rules, 2016.

vi. 24 SPCBs/PCCs namely Andaman and Nicobar Islands, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal Pradesh, J&K, Jharkhand, Karnataka, Kerala, Ladakh, Lakshadweep, Madhya Pradesh, Maharashtra,

Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Rajasthan, Sikkim, Tripura, Uttar Pradesh and Uttarakhand, where captive treatment facilities are still being used by HCFs should monitor the compliance to standards as prescribed under BMWM Rules, 2016 regularly and take action against defaulting facility.

13/12/24

(Vijay Prakash Yadav)
Scientist 'F'
Central Pollution Control Board

Item No. 13 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

M.A. No. 98/2022
In
Original Application No. 180/2021

Mukul Kumar Applicant

Versus

State of Uttar Pradesh & Ors. Respondent(s)

Date of hearing: 02.09.2024

CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Respondent: Mr. Raj Kumar, Adv. for CPCB
Mr. Rahul Khurana, Adv. for the State of Haryana & HSPCB
Mr. Pradeep Misra & Mr. Daleep Dhyani, Advs. for UPPCB (Through VC)
Ms. Anupama Ngangom, Adv. for the State of Manipur (Through VC)
Mr. Ghansham Singh, Member Secretary, J&K PCC (Through VC)

ORDER

1. The Tribunal in this original application is examining the issue of remedial action against non-compliance of the Bio-Medical Waste (BMW) Rules, 2016.

2. In terms of the earlier directions, Central Pollution Control Board (CPCB) was required to obtain the report from the States/Union Territories (UTs) and file a fresh report showing compliance by the different States and UTs.

3. The report dated 31.08.2024 has been filed by the CPCB showing that the CPCB did not receive the reports from the States of Assam, Jharkhand, Jammu and Kashmir, Ladakh, Lakshadweep, Manipur, Mizoram and Sikkim. The report itself states that out of 36 States/UTs, the reports have been received from 28 States/UTs.

4. Learned Counsel for State of Manipur has informed that the report has already been filed on 10.05.2024 and it is available at the website. CPCB may download the reports of States/UTs which are available at the website. Counsel for the CPCB submits that a communication will be sent to the States/UTs from whom the reports are awaited, and thereafter, a fresh report will be filed before the Tribunal.

5. So far as the Table 2 in the latest report of the CPCB dated 31.08.2024 is concerned, the said table shows the State/UT-wise situation of authorization of Health Care Facilities (HCFs) and reveal that a number of unauthorised HCFs are operating in various States. Hence, the CPCB is required to ensure appropriate expeditious action against the unauthorised HCFs. The report of the CPCB further mentions that some action has been taken against 14,853 violating HCFs/Common Bio-medical Waste Treatment Facilities (CBWTFs) but their details have not been provided by the SPCBs/PCCs of Gujarat, Jharkhand, J&K, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Odisha and Uttar Pradesh. These States are directed to provide the requisite details of violating HCFs/CBWTFs to the CPCB without any delay.

6. From the table 4 of the report of the CPCB, we also take note of the fact that there is gap of 19.03 TPD in biomedical waste generation (tons/day) and biomedical waste treatment, especially in respect of the States of Assam, Bihar, J&K, Jharkhand and Nagaland.

7. We also find from Table 5 that no CBWTFs are available in Andaman and Nicobar, Arunachal Pradesh, Ladakh, Lakshadweep, Mizoram, Nagaland and Sikkim. Under the Bio-medical Waste Management Rules, 2016, especially in terms of Rule 6 read with Rule 9

(3) and Entry 4 of Schedule III of the Rules, the responsibility lies with the CPCB to the extent indicated in these rules.

8. With regard to gap analysis adequacy should be properly assessed so that no pilferage of waste goes into hands of unauthorized processors.

9. In the aforesaid background, learned Counsel for CPCB seeks further four weeks' time to file a fresh report.

10. Counsel for CPCB has also informed that to review the Guidelines, a Committee has been formed which is in the process of undertaking the said exercise.

11. List on 16.12.2024.

Prakash Shrivastava, CP

Arun Kumar Tyagi, JM

Dr. A. Senthil Vel, EM

September 02, 2024
M.A. No. 98/2022
In Original Application No. 180/2021
dv

Annexure - II

By Speed Post

F. No. CM-13011/88/2021-WM-I-HO-CPCB-HO(2096) 5267-5273 **October 01, 2024**

To,

The Member Secretary,
(Andaman and Nicobar, Arunachal Pradesh, Ladakh, Lakshadweep, Mizoram, Nagaland and Sikkim)

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Sir/Madam,

This has reference to order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. In this regard, it is to mention that as per available information, there is currently no Common Biomedical Waste Treatment Facility (CBWTF) operational in your State/UT for treatment & disposal of biomedical waste. The issue was also highlighted by Hon'ble NGT in its order dated 02.09.2024 in the aforementioned matter.

In view of above, it is requested to kindly initiate action for establishment of new CBWTF in your State/UT. It is also requested to kindly submit a report on the actions taken in this regard to this office within a week.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

O/c

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत...... N रांगा......
दिनांक...... 4/10/2024

By Speed Post

F. No. B-31011/BMW (2096/42.77)/2024/WMD-I 5266 **October 01,2024**

To,

The Member Secretary,
Mizoram Pollution Control Board,
New Secretariat Complex,
Khatla Thlanmual Peng, Khatla,
Aizawl- 796 001, Mizoram

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Sir,

This has reference to order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. In the report dated 31.08.2024 filed by CPCB before Hon'ble NGT regarding implementation of the Biomedical Waste Management Rules, 2016, CPCB considered the report provided by your board in response to previous orders of Hon'ble NGT.

Accordingly, Hon'ble NGT in its order dated 02.09.2024 mentioned that the report was not filed to CPCB by your State and action has not been imitated against all the violating HCFs operational in your State.

Furthermore, it is to mention that the report received from your board was based on the old format, and an updated report, in accordance with the format circulated by the CPCB on 08.07.2024 and reiterated in reminder emails dated 22.08.2024, is still pending. A copy of the aforementioned orders is enclosed for your reference.

In view of above, it is requested to kindly initiate action against all violating HCFs operational in your State. It is also requested to ensure compliance with the Hon'ble Tribunal's order and submit the required information in the attached format (Annexure-I) within one week.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत 1/10/2024
दिनांक 1/10/2024

By Speed Post

F. No. B-31011/BMW (2096/42.77)/2024/WMD-I 5264 **October 01,2024**

To,

The Member Secretary,
Assam Pollution Control Board,
Bamunimaidan,
Guwahati- 781 021, Assam

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Sir,

This has reference to order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. In the report dated 31.08.2024 filed by CPCB before Hon'ble NGT regarding implementation of the Biomedical Waste Management Rules, 2016, CPCB considered the report provided by your board in response to previous orders of Hon'ble NGT.

Accordingly, Hon'ble NGT in its order dated 02.09.2024 mentioned that the report was not filed to CPCB by your State and gap has been observed in biomedical waste generation and treatment & disposal.

Furthermore, it is to mention that the report received from your board was based on the old format, and an updated report, in accordance with the format circulated by the CPCB on 08.07.2024 and reiterated in reminder emails dated 22.08.2024, is still pending. A copy of the aforementioned orders is enclosed for your reference.

In view of above, it is requested to kindly ensure that all biomedical waste generated in your State is treated and disposed of in line with BMWM Rules, 2016. It is also requested to ensure compliance with the Hon'ble Tribunal's order and submit the required information in the attached format (Annexure-I) within one week.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

4/10/2024

By Speed Post

F. No. B-31011/BMW (2096/42.77)/2024/WMD-I 5263 **October 01,2024**

To,

The Member Secretary,
Jammu & Kashmir Pollution Control Committee,
Parivesh Bhawan, Forest Complex,
Gladni, Narwal, transport Nagar,
Jammu - 180 004, Jammu and Kashmir

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Sir,

This has reference to order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. In the report dated 31.08.2024 filed by CPCB before Hon'ble NGT regarding implementation of the Biomedical Waste Management Rules, 2016, CPCB considered the report provided by your board in response to previous orders of Hon'ble NGT.

Accordingly, Hon'ble NGT in its order dated 02.09.2024 mentioned that the report was not filed to CPCB by your State, gap has been observed in biomedical waste generation and treatment & disposal and action has not been imitated against all the violating CBWTFs and HCFs.

Furthermore, it is to mention that the report received from your board was based on the old format, and an updated report, in accordance with the format circulated by the CPCB on 08.07.2024 and reiterated in reminder emails dated 22.08.2024, is still pending. A copy of the aforementioned orders is enclosed for your reference.

In view of above, it is requested to kindly ensure that all biomedical waste generated in your State is treated and disposed of in line with BMWM Rules, 2016 and initiate action against all violating CBWTFs & HCFs. It is also requested to ensure compliance with the Hon'ble Tribunal's order and submit the required information in the attached format (Annexure-I) within one week.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत N8129
दिनांक 4/10/2024
O/C

By Speed Post

F. No. B-31011/BMW (2096/42.77)/2024/WMD-I 5265 **October 01,2024**

To,

The Member Secretary,
Manipur Pollution Control Board,
Lamphelpat, Near Imphal West D.C. Office,
Imphal – 795 004, Manipur

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Sir,

This has reference to order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. Further, Hon'ble NGT in the aforementioned order dated 02.09.2024 mentioned that the report was not filed to CPCB by your State/UT and action has not been initiated against violating CBWTF/HCFs operational in your State. During hearing in the aforementioned matter on 02.09.2024, it was reported by your board that report has been filed on 10.05.2024.

In this regard, it is to mention that the report submitted was as per old format and updated report is not yet submitted by your board as per the format circulated by CPCB vide letter dated 08.07.2024 & reminder emails dated 22.08.2024. Copy of aforesaid orders is enclosed for ready reference.

In view of above, it is requested to kindly ensure compliance to the order passed by Hon'ble Tribunal and submit the information in the format attached at Annexure-I within in a week to this office.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

O/C

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
दिनांक 1/10/2024

By Speed Post

F. No. B-31011/BMW (2096/42.77)/2024/WMD-I 5262 **October 01,2024**

To,

The Member Secretary,
Lakshadweep Pollution Control Committee,
Department of Science, Technology & Environment,
Kavarati-682 555, Lakshadweep

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Sir,

This has reference to order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. Hon'ble NGT in the aforementioned order dated 02.09.2024 mentioned that the report was not filed to CPCB by your State/UT. Copy of aforesaid orders is enclosed for ready reference.

In this regard, it is to mention that the report is not yet received as per the format circulated by CPCB vide letter dated 08.07.2024 & reminder emails dated 16.07.2024 & 22.08.2024.

In view of above, it is requested to kindly ensure compliance to the order passed by Hon'ble Tribunal and submit the information in the format attached at Annexure-I within in a week to this office.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

O/C

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
दिनांक 1/10/2024

By Speed Post

F. No. B-31011/BMW (2096/42.77)/2024/WMD-I 5261 **October 01,2024**

To,

The Member Secretary,
Sikkim State Pollution Control Board,
Department of Forest, Environment & Wildlife Management,
Deorali, Gangtok, - 737 102, Sikkim

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Sir,

This has reference to order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. Hon'ble NGT in the aforementioned order dated 02.09.2024 mentioned that the report was not filed to CPCB by your State/UT. Copy of aforesaid orders is enclosed for ready reference.

In this regard, it is to mention that the report is not yet received as per the format circulated by CPCB vide letter dated 08.07.2024 & reminder emails dated 16.07.2024 & 22.08.2024.

In view of above, it is requested to kindly ensure compliance to the order passed by Hon'ble Tribunal and submit the information in the format attached at Annexure-I within in a week to this office.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

O/C

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत N. Singh
दिनांक 1/10/2024

By Speed Post

F. No. B-31011/BMW (2096/42.77)/2024/WMD-I 5274-5276 **October 01,2024**

To,

The Member Secretary,
(Nagaland, Bihar, Jharkhand)

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Sir,

This has reference to order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. In the said order, Hon'ble NGT mentioned that there is gap in Biomedical waste generation and Biomedical waste treatment. Copy of aforesaid orders is enclosed for ready reference.

In view of above, it is requested to kindly ensure compliance to the order passed by Hon'ble Tribunal. It is also requested to ensure that all biomedical waste generated in your State is treated and disposed off in line with BMWM Rules, 2016. Action taken in this regard may be submitted to this office within in a week.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

Encl. As above

o/c

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत....NS/09/1
दिनांक....4/10/2024

By Speed Post

F. No. B-31011/BMW (2096/42.77)/2024/WMD-I 5277-5282 **October 01,2024**

To,

The Member Secretary,
(Gujarat, Karnataka, Maharashtra, Madhya Pradesh, Odisha, Uttar Pradesh)

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Sir,

This has reference to order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. Copy of aforesaid order is enclosed for ready reference.

In the said order, Hon'ble NGT mentioned that the details of action taken against .....no. violating of HCFs/CBWTFs, out of .....violating HCFs/CBWTFs is not provided to CPCB by your State. (Violating HCFs/CBWTFs includes HCFs operational without authorisation)

In view of above, it is requested to kindly submit the details of action taken against all violating HCFs/CBWTFs in your State within in a week to this office.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
दिनांक Nsing
दिनांक 4/10/2024

Annexure - III

Reminder -I

By Speed Post

F. No. CM-13011/88/2021-WM-I-HO-CPCB-HO(2096)-6228-6232 November 13, 2024

To,

The Member Secretary,
(Andaman and Nicobar, Ladakh, Lakshadweep, Nagaland and Sikkim)

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Ref: *CPCB letter no.: F. No. CM-13011/88/2021-WM-I-HO-CPCB-HO(2096)- 5267-5273 dated 01.10.2024*

Sir/Madam,

This has reference to above referred CPCB letter dated 01.10.2024 regarding initiation of action and submission of action taken report for establishment of new CBWTF in line with order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. However, action taken report is not yet received by CPCB from your State/UT.

In view of above, it is requested to kindly initiate action for establishment of new CBWTF in your State/UT. It is also requested to kindly submit a report on the actions taken in this regard to this office within a week.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

9/c

Reminder -I

By Speed Post

F. No. CM-13011/88/2021-WM-I-HO-CPCB-HO(2096) 6233 -6237 **November 13, 2024**

To,

The Member Secretary,
(Lakshadweep, Sikkim, Manipur, Assam, J & K)

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Ref: *CPCB letter no.: F. No. CM-13011/88/2021-WM-I-HO-CPCB-HO(2096)- 5261-5266 dated 01.10.2024*

Sir,

This has reference above referred CPCB letter dated 01.10.2024 regarding compliance to the order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. and submit the information regarding implementation of Biomedical Waste Management Rules, 2016 in the format circulated by CPCB. However, the report is not yet received by CPCB.

In view of above, it is requested to kindly ensure compliance to the order passed by Hon'ble Tribunal and submit the information in the format attached at Annexure-I within in a week to this office.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

O/C

Reminder -I

By Speed Post

F. No. B-31011/BMW (2096/42.77)/2024/WMD-I 6238-6243 **November 13, 2024**

To,

The Member Secretary,
(Gujarat, Karnataka, J &K, Maharashtra, Odisha, Uttar Pradesh)

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Ref: *CPCB letter no.: F. No. CM-13011/88/2021-WM-I-HO-CPCB-HO(2096)- 5277-5282 dated 01.10.2024*

Sir,

This has reference to above referred CPCB letter dated 01.10.2024 regarding submission of details of action taken against all violating HCFs/CBWTFs in line with order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors. However, the details of action taken against .....no. violating of HCFs/CBWTFs is not provided to CPCB by your State/UT.

In view of above, it is requested to kindly submit the details of action taken against all violating HCFs/CBWTFs in your State within in a week to this office.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

O/C

By Speed Post

F. No. B-31011/BMW (2096/42.77)/2024/WMD-I/6244 **November 13, 2024**

To,

The Member Secretary
Nagaland Pollution Control Board
Signal Point, Dimapur, Nagaland – 797112

Sub: Compliance to the Order dated 02.09.2024 passed by Hon'ble NGT in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors – reg.

Ref: *CPCB letter no.: F. No. CM-13011/88/2021-WM-I-HO-CPCB-HO(2096)- 5274-5276 dated 01.10.2024*

Sir,

This has reference to above referred CPCB letter dated 01.10.2024 to ensure that all biomedical waste generated in your State is treated and disposed off in line with BMWM Rules, 2016 in line with order passed by Hon'ble National Green Tribunal (NGT) on 02.09.2024 in the matter of M.A. No. 98/2022 (PB) in O.A. No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors.

In view of above, it is requested to ensure that all biomedical waste generated in your State is treated and disposed off in line with BMWM Rules, 2016. Action taken in this regard may be submitted to this office within in a week.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

O/C

Reminder -I

By Speed Post

F. No. B-31011/BMW (2096/42.7)/2024/WMD-I/5381-5400 6245-6262 **November 13, 2024**

To,

The Member Secretary,
(As per list)

Sub: Regarding conduct of gap analysis as per CPCB guidelines prior to allow any new CBWTF

Ref: *CPCB letter No. : (i) F. No. B-31011/BMW (3398)/2023/WMD-I/4933-4968 dated 10.10.2023*
(ii) F. No. B-31011/BMW (3398)/2024/WMD-I/7956-7999 dated 28.12.2023
(ii) F. No. B-31011/BMW (3398)/2024/WMD-I/dated 26.04.2024
(iii)F. No. B-31011/BMW (2096/42.77)/2024/WMD-I/5381-5400 dated 01.10.2024

Sir/Madam,

This has reference to above referred letters wherein your board/committee was requested to conduct gap analysis with respect to biomedical waste generation and treatment as per CPCB guidelines prior to allow any new CBWTF. However, gap analysis report is not yet submitted by your Board/Committee to CPCB.

In view of above, it is requested to kindly conduct gap analysis with respect to generation and treatment of biomedical waste and submit the report to CPCB within 15 days.

Yours faithfully

(V. P. Yadav)
Director & Head
Waste Management -I Division

O/C

S.No.	Name of State/UT	Address of SPCB/PCC
1.	Delhi	The Member Secretary, Delhi Pollution Control Committee, Government of N.C.T. Delhi, 4th Floor, ISBT Building, Kashmere Gate, Delhi-110 006
2.	Punjab	The Member Secretary, Punjab Pollution Control Board, Vatavaran Bhawan, Nabha Road, Patiala – 147 001, Punjab
3.	Tripura	The Member Secretary, Tripura State Pollution Control Board, Vigyan Bhawan Pandit Nehru Complex, Gorkhabasti, PO: Kunjaban, Agartala – 799 006, Tripura
4.	Assam	The Member Secretary, Assam Pollution Control Board, Bamunimaidan, Guwahati- 781 021, Assam
5.	Chhattisgarh	The Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhavan, Paryavas Bhavan, North Block Sector-19, Atal Nagar, Raipur -492 002, Chhattisgarh
6.	Daman &Diu and Dadra & Nagar Haveli	The Member Secretary, Pollution Control Committee, Dadra and Nagar Haveli and Daman and Diu, 1st Floor, Udhyog Bhavan Bhenslore, Dunetha Nani Daman, Daman – 396 210, Daman
7.	Jharkhand	The Member Secretary, Jharkhand State Pollution Control Board, T.A Building, HEC, P.O. Dhurwa, Ranchi – 834 004, Jharkhand
8.	J & K	The Member Secretary, Jammu & Kashmir Pollution Control Committee, Parivesh Bhawan, Forest Complex, Gladni, Narwal, transport Nagar, Jammu - 180 004, Jammu and Kashmir
9.	Karnataka	The Member Secretary, Karnataka State Pollution Control Board, Parisara Bhavan, 4th & 5th Floor,# 49, Church Street, Bangalore-560 001, Karnataka
10.	Kerala	The Member Secretary, Kerala State Pollution Control Board, Plamoodu Jn., Pattom Palace P.O., Thiruvananthapuram-695 004, Kerala

11.	Maharashtra	The Member Secretary, Maharashtra Pollution Control Board, Kalpataru Point, 2nd – 4th Floor, (Opp. Cine Planet Cinema), Nr. Sion Circle, Sion, Mumbai – 400 022, Maharashtra
12.	Manipur	The Member Secretary, Manipur Pollution Control Board, Lamphelpat, Near Imphal West D.C. Office, Imphal – 795 004, Manipur
13.	Meghalaya	The Member Secretary, Meghalaya State Pollution Control Board, Arden-Lumpyngngad, Shillong- 793 014, Meghalaya
14.	Odisha	The Member Secretary, Odisha State Pollution Control Board, A-118, Nilakanta Nagar, Unit –VIII, Bhubaneshwar – 751 012, Odisha
15.	Rajasthan	The Member Secretary, Rajasthan State Pollution Control Board, 4, Jhalana Institutional Area, Jhalana Doongri, Jaipur- 302 004, Rajasthan
16.	Tamil Nadu	The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600 032, Tamil Nadu
17.	Uttarakhand	The Member Secretary, Uttarakhand Pollution Control Board, Gaura Devi Bhawan, 46 B IT Park Sahastradhara, Dehradun – 248 001, Uttarakhand
18.	Uttar Pradesh	The Member Secretary, Uttar Pradesh Pollution Control Board, Building No. TC-12V, Vibhuti Khand, Gomti Nagar, Lucknow - 226 010, Uttar Pradesh

Annexure - IV

By Registered Post

F. No. CP-23/78/2021-WM-I-HO-CPCB-HO- 19698 7204 - 7242 December 11 , 2024

To,

The Chairman,
(All SPCBs/PCCs)

DIRECTION UNDER SECTION 5 OF THE ENVIRONMENT (PROTECTION) ACT, 1986 – FOR COMPLIANCE TO BIOMEDICAL WASTE MANAGEMENT RULES, 2016

WHEREAS the Central Government has notified the Biomedical Waste Management Rules, 2016 (herein after referred as BMWM Rules, 2016) in suppression of the Bio-medical Waste (Management & Handling) Rules, 1998 and amendments thereof under the Environment (Protection) Act, 1986 to improve the collection, segregation, processing, treatment and disposal of the biomedical wastes in environmentally sound manner and thereby reducing its impact on the environment; and

WHEREAS as per Rule 9 (1) of BMWM Rules, 2016, "The prescribed authority for ensuring implementation of the provisions of Rules is the State Pollution Control Board (SPCB) in respect of State and Pollution Control Committee (PCC) in respect of Union territory"; and

WHEREAS as per Rule 10 of BMWM Rules, 2016, "Every occupier or operator handling bio-medical waste, irrespective of the quantity shall make an application in Form II to the prescribed authority for grant of authorisation and the prescribed authority shall grant the provisional authorisation in Form III and the validity of such authorisation for bedded health care facility and operator of a common facility shall be synchronised with the validity of the consents."; and

WHEREAS in the matter of Miscellaneous Application No. 98 of 2022 in Original Application No. 180 of 2021 titled Mukul Kumar Vs State of Uttar Pradesh & Ors., Hon'ble National Green Tribunal (Hon'ble NGT) reviewed implementation of BMWM Rules, 2016 in the country. In the said matter, Hon'ble NGT directed all States/UTs to submit report on implementation of BMWM Rules, 2016. Further, Central Pollution Control Board (CPCB) was directed to prepare a consolidated report indicating the compliance of various provisions of the BMWM Rules, 2016 by each State/UT. Accordingly, the as per the information submitted by SPCBs/PCCs, CPCB submitted the compiled report to Hon'ble NGT; and

WHEREAS Hon'ble NGT heard the aforesaid matter on 02.09.2024 and directed that CPCB shall update the report by taking updated information from all SPCBs/PCCs on implementation to BMWM Rules, 2016; and

WHEREAS CPCB has received updated information from 34 nos. of SPCBs/PCCs and while examining the reports it is observed that there are gaps in implementation of BMWM Rules, 2016 such as operating Health Care Facilities (HCFs) without having authorisation under BMWM Rules, 2016, action not being initiated against violating HCFs/CBWTFs, gap between biomedical waste generation and treatment, captive treatment facility (deep burial) in practice etc.; and

WHEREAS the Central Government vide notification S.O. 730 (E) dated July 10, 2002, has delegated the powers under Section 5 of the Environment (Protection) Act, 1986 to the Chairman, Central Pollution Control Board (CPCB), to issue directions for violation of the standards and rules relating to BMWM notified under the Environment (Protection) Act, 1986; and

%c

NOW, THEREFORE, in exercise of the powers vested under Section 5 of the Environment (Protection) Act, 1986, it is directed herewith to:

a. Initiate appropriate action immediately against the HCFs which are operational without having authorisation;

b. Take appropriate action against HCFs and CBWTFs for violation of BMWM Rules, 2016;

c. Ensure that there is no gap in biomedical waste generation and treatment by ensuring adequate numbers/capacity of treatment facilities in the State/UT;

d. Ensure deep burial disposal system is adopted by HCFs located only in rural or remote areas where there is no access to CBWTF with prior approval from SPCB/PCC and in compliance with standards prescribed under Schedule-III of BMWM Rules, 2016;

e. Submit gap analysis report to CPCB with respect to biomedical waste generation and treatment of biomedical waste;

Action taken report on above be submitted to the Central Pollution Control Board within 15 days from the date of receipt of these directions.

(Tanmay Kumar)
Chairman

Copy for information to:

i. The Additional Secretary, HSM Division, Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi - 110 003. : For kind information

ii. Regional Directorates CPCB (As per jurisdiction) : For kind information and follow-up

iii. I/c IT Division : For information and necessary action

(Bharat Kumar Sharma)
Member Secretary

o/c

Annexure - V

Central Pollution Control Board
Waste Management- I Division

Minutes of Second meeting of Expert Committee to review guidelines related to biomedical waste management and evaluation of project proposal for treatment of biomedical waste held on 22.10.2024.

Background

CPCB has constituted an Expert Committee to review the guidelines related to biomedical waste management and examine the proposals received by CPCB for treatment of biomedical waste. First meeting of the committee was conducted on 30.04.2024. Based on the outcomes of the first meeting and for further discussion on review of the guidelines related to biomedical waste management and to examine the proposals received by CPCB for treatment of biomedical waste, 2nd meeting of the Expert Committee was conducted on 22.10.2024 at 11:30 in hybrid mode. List of Participants is placed at **Annexure-I**.

Discussion and Conclusions

Sh. V.P. Yadav, Director, CPCB welcomed the participants and briefed them about the agenda of the 2nd meeting i.e. as follows:

1. Review of guidelines for Common Biomedical Waste Treatment and Disposal Facilities (CBWTFs)
2. Review of methodology for conducting gap analysis with respect to biomedical waste generation and treatment
3. Review of standards for treated liquid waste from Healthcare Facilities (issue of bio-assay test)
4. Evaluation of proposal received by CPCB for treatment of biomedical waste.

Further, Ms. Youthika, Sc. 'E', WM-I gave detailed presentation on agenda items. Agenda wise discussion has been summarized as follows:

(1) Review of guidelines for CBWTFs

(a) Coverage area of CBWTFs as per guidelines for Common Bio-medical Waste Treatment and Disposal Facilities- It was appraised to the Committee members that Hon'ble NGT has passed directions regarding reassessing the criteria for setting up of CBWTFs in a coverage area as defined under CBWTF guidelines of CPCB to ensure proper treatment & disposal of biomedical waste. Coverage area is already specified under the CPCB guidelines which is 75 km at radial distance and CBWTF may be allowed to cater services up to 150 km radial distance in case 10,000 beds are not available in a coverage area. It was emphasised that compliance to standards as prescribed under BMWM Rules, 2016 is prime requirement for implementation of BMWM Rules, 2016. Committee members were also informed about the methodology for conducting gap analysis by SPCBs to examine the requirement of additional CBWTFs.

Matter of inventory of health care facilities was also discussed. Members of IMA submitted that IMA has information of member doctors (holding MBBS and higher qualifications), it does not possess a complete inventory of all Health Care Facilities (HCFs). Additionally, members from DGHS informed that hospitals are registered either under the Clinical

Establishments (Registration and Regulation) Act, 2010 in certain States/UTs (through the Civil Surgeons of respective States/UTs), or under the Shop and Establishment Act, 1948 (through municipal body). After detailed discussion, following action points were decided:

- CBWTF Association of India shall submit inventory on healthcare facilities for all States/UTs covering district wise information (HCFs taken membership of CBWTFs, HCFs not taken membership of CBWTFs, unauthorised HCFs taken membership of CBWTF etc.)
- A separate working group of following members may be constituted for review of guidelines for CBWTFs by assessing gap analysis report prepared by SPCBs/PCCs:
    i. Dr. Amar Supate, Ex, PSO, Maharashtra SPCB
    ii. Sh. Vinod Kachhadia, CBWTF Association of India
    iii. Sh. Vikas Gahlot, CBWTF Association of India
    iv. Ms. Mousumi Bardalai, Assam SPCB
    v. Ms. Youthika, CPCB

(b) Vehicles used for transportation of biomedical waste- It was appraised to committee that CBWTF Association has submitted the proposal for colour of vehicle used for transportation of biomedical waste. After detailed discussion, following action points were decided:

- The colour of vehicle is decided as white, logo colour as red/black and details of CBWTFs will be in green colour.
- CBWTF Association of India shall suggest proportion of font size and logo size with respect to size of vehicles.

(2) Review of methodology for conducting gap analysis with respect to biomedical waste generation and treatment – It was appraised that a meeting was conducted with CBWTF Association of India to discuss the methodology for conducting gap analysis and outcomes of the said meeting deliberated before the committee members. After detailed discussion, following action points were decided:

- Biomedical waste generation from bedded HCFs may be considered as 277 grams/bed/day taking reference of report on health-care waste management status in countries of the South-East Asia Region by WHO which is also nearly equal to the average biomedical waste generation per day per bed as per Annual Report information received from States/UTs.
- Biomedical waste generation from non- bedded HCFs may be considered as 240 grams/day taking reference of data received from CBWTF Association of India regarding biomedical waste collected from non-bedded HCFs by CBWTFs of 12 States.
- Method of extrapolation may be fixed as linear method and previous 5 years' record of waste generation may be considered for extrapolation.
- CPCB will circulate revised methodology to all SPCBs/PCCs requesting to conduct gap analysis.

- The Gap Analysis report prepared by States/UTs may be reviewed by CPCB and then remarks may be circulated to respective SPCB/PCC.

(3) Review of standards for treated liquid waste from Healthcare Facilities (issue of bio-assay test) – Member of IMA represented the issue faced by HCFs related to compliance of bio-assay test and requested for exemption from bio-assay test under BMWM Rules, 2016. After detailed discussion, it was decided that CPCB may conduct the study on liquid waste discharge from the HCFs wherein qualitative and quantitative assessment of parameter mentioned under BMWM Rules, 2016 will be made (directly to sewer or after treatment through Effluent Treatment Plant). Further, findings of the study will be shared with MoEF &CC to take any decision, if required.

(4) Evaluation of proposal received by CPCB for treatment of biomedical waste-

Committee members were apprised about the five project proposals received by CPCB. Decision of committee is summarized in following table:

S. No.	Proposals	Decision
(i)	Proposal regarding inclusion of word safety needle in guidelines related to HCFs, received from Hindustan Syringes & Medical Devices Ltd.	Word "safety needle" may be included as red category waste under guidelines for management of healthcare waste.
(ii)	ENVOMED80 proposed by M/s Delhi Supply Ltd. – based on chemical sterilization and shredding of biomedical waste.	Project proponent may be called through VC to present their technology before Committee members
(iii)	Sterished and Steriplus proposed by M/s Delhi Supply Ltd. based on shredding followed by steam sterilization.	
(iv)	Sanmit Infra Ltd. - regarding treatment of biomedical waste using technology microwave with ultraviolet radiation	
(v)	Sterilewell proposed by M/s Meledom Traders Pvt. Ltd.	

Meeting ended with thanks to chair.

****

CENTRAL POLLUTION CONTROL BOARD DELHI

Waste Management Division -I

Attendance Sheet

Date: Oct. 22, 2024

Venue: 2nd Floor, conference Hall
Time: 11:00 AM

S. No.	Name	Designation	Signature
1.	V.P. Yadav	Director CPCB	
2.	Dr Joshi		
3.	Dr Satpati	Ex-PCO, MPPCB Visiting Professor TSTB	
4.	Ajay Arora	CBWTF Association	
5.	Vinod Kachhadia	CBWTF Association of India	
6.	Vikas Ghallot	CBWTF Association Gujarat	
7.	Parveen Saluja	SEE, PPCB	
8.	AKSHIT KAPIL	AEE, PPCB	
9.	DR PRIYA MAHAJAN	IMA HQ	
10.	Dr Rajender Sharma	IMA HQ.	
11.	Dr Aarti Tiwari	JD, NCDC	
12.	Dr. AVINASH SUNTHLIA	MoHFW	

13.	Dr. Akila.P	MOHFW	
14.	Youdhika	AD, CPCB	
15.	Niralee Verma	SCIC', CPCP	
16.	MOUSUMI BARDALAI	Addl. Chief Env. Engr. & PCBA	
17.	Suman Jhajharia	Supdt SO, RSPCB	
18.	Ankit Tripathi	Scientist 'B', CPCB	
19.	Dr. Varsha Sharma	Research Associate	Varsha
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Guidelines for Common Bio-medical Waste Treatment and Disposal Facilities

CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment, Forest and Climate Change)
Parivesh Bhawan, East Arjun Nagar
DELHI -110 032
website: www.cpcb.nic.in
(April 12, 2025)

Abbreviations

APCD	-	Air Pollution Control Device
BMWM Rules	-	Bio-medical Waste Management Rules, 2016
CBWTF	-	Common Bio-medical Waste Treatment and Disposal Facility
CO	-	Carbon Monoxide
CO_2	-	Carbon Dioxide
CPCB	-	Central Pollution Control Board
CRZ	-	Coastal Regulation Zone
DG	-	Diesel Generator
EC	-	Environmental Clearance
EIA	-	Environment Impact Assessment
ETP	-	Effluent Treatment Plant
GPS	-	Global Positioning System
HCFs	-	Health Care Facilities
HCl	-	Hydrochloric Acid
HOWM & TM Rules	-	Hazardous and Other Waste (Management & Transboundary Movement) Rules, 2016
MHz	-	Mega Hertz
MoEF& CC	-	Ministry of Environment, Forest & Climate Change
KM	-	Kilometer
KW	-	Kilowatt
MoU	-	Memorandum of Understanding
NABL	-	National Accreditation Board for Testing and Laboratories
NO_x	-	Oxides of Nitrogen
O_2	-	Oxygen
PCC	-	Pollution Control Committee
PLC	-	Programmable Logical Control
SEIAA	-	State Environment Impact Assessment Authority
SLF	-	Secured Landfill
SPCB	-	State Pollution Control Board
TSDF	-	Treatment Storage and Disposal Facility
TOC	-	Total Organic Carbon
VOCs	-	Volatile Organic Compounds

CONTENT

1) Introduction

A Common Bio-medical Waste Treatment and Disposal Facility (CBWTF) is a set up where biomedical waste generated from member health care facilities is imparted necessary treatment to reduce adverse effects that this waste may pose on human health and environment. The treated recyclable waste may finally be sent for disposal in a secured landfill or for recycling.

According to the Bio-medical Waste Management Rules, 2016, "bio-medical waste treatment and disposal facility" means any facility wherein treatment, disposal of bio-medical waste or processes incidental to such treatment and disposal is carried out, and includes common bio-medical waste treatment facilities and "operator of a common bio-medical waste treatment facility" means a person who owns or controls a Common Bio-medical Waste Treatment and Disposal Facility (CBWTF) for the collection, reception, storage, transport, treatment, disposal or any other form of handling of bio-medical waste.

The Bio-medical Waste Management Rules, 2016 (BMWM Rules) restricts occupier for establishment of on-site or captive bio-medical waste treatment and disposal facility, if a service of common bio- medical waste treatment and disposal facility is available within a distance of seventy-five kilometer, as installation of individual treatment facility by health care facility (HCF) requires comparatively high capital investment. In addition, it requires separate dedicated and trained skilled manpower and infrastructure development for proper operation and maintenance of treatment systems. The concept of CBWTF not only addresses such problems but also prevents proliferation of captive treatment facilities in a particular area. In turn, it reduces the monitoring pressure on regulatory agencies. By running the treatment equipment at CBWTF to its full capacity, the cost of treatment of per kilogram of bio-medical waste gets significantly reduced. Its considerable advantages have made CBWTF popular and proven concept in most part of the world.

The CBWTFs are also required to set up based on the need for ensuring environmentally sound management of bio-medical waste keeping in view the techno-economic feasibility and viable operation of the facility with minimal impact on human health and environment.

Since 1998, the CBWTF as an option for treatment of bio-medical waste also been legally introduced in India. Considering the likely impacts that may cause to the patients undergoing treatment because of operation of the captive treatment equipment within the health care facilities (HCFs), now the Bio-medical Waste Management Rules, 2016 recommends the Occupier (i.e., HCF) for ensuring treatment and disposal of generated bio-medical waste through a CBWTF, located within a distance of 75 KM. Further, these rules eased the bottleneck in upbringing the CBWTF

by making department in the business allocation of land assignment in the State or UT administration responsible for providing a suitable site (s) within its jurisdiction.

The concept of CBWTF is also being widely accepted in India among the healthcare units, medical associations and entrepreneurs. In order to set up a CBWTF to its maximum perfection, care shall be taken in choosing the right technology, development of CBWTF area, proper designing of transportation system to achieve optimum results etc. Key features of CBWTF have been addressed in the subsequent sections.

To facilitate the treatment and disposal of bio-medical waste generated from the HCFs, at present (as per Annual Report 2023 submitted by the State Pollution Control Boards/Pollution Control Committees), there are 234 no. of CBWTFs in operation and 30 no. of CBWTFs are under construction. Also, the Bio-medical Waste Management Rules, 2016 mandates that the operator of a CBWTF authorised by the prescribed authority is required to take all necessary steps to ensure that the bio-medical waste collected from the occupier is transported, handled, stored, treated and disposed of, without any adverse effect to the human health and the environment, in accordance with the BMWM Rules and the guidelines issued by the Central Government or the Central Pollution Control Board (CPCB) from time to time. Therefore, these guidelines have been prepared with an aim to have uniformity in ensuring site selection, allowing and establishment of a state-of-the-art CBWTF, operation as well as verification of compliance to the BMWM Rules, 2016 throughout the country. However, any other aspects which are not been covered under these guidelines and needs attention, in such a case, the prescribed authority may take suitable action in the interest of protection of the environment in consultation with MoEF & CC/CPCB. Also, it is pertinent to mention here that these guidelines are mandatory henceforth under the Bio-medical Waste Management Rules, 2016

2) Criteria for development of a new Common Bio-medical Waste Treatment and Disposal Facility for a locality or region.

Prior to allowing any new CBWTF, following criteria or steps may be followed:

a) Prescribed authority under the BMWM Rules, 2016 [i.e., State Pollution Control Board (SPCB) in the respective State or Pollution Control Committee (PCC) in the respective Union Territory Administration] is required to prepare an inventory or review with regard to the bio-medical waste generation at least once in five years in the coverage areas of the existing bio-medical waste treatment and disposal facility. The prescribed authority is also required to extrapolate the coverage-area wise bio-medical waste generation for the next ten years.

b) SPCB/PCC is required to conduct gap analysis w.r.to coverage area of the bio-medical waste generation, its projection over a period of next ten years, adequacy of existing treatment capacity of the CBWTF in each coverage area of radius 75 KM, as given in **Annexure-I** and as per methodology for conduct of gap analysis given at **Appendix-I**.

Further, decision may be taken by concerned SPCB/PCC based on gap analysis report to allow new facility or expansion of an existing facility. Adequacy of the existing facility to handle quantum of biomedical waste and/or compliance with the norms prescribed under BMWM Rules, 2016 shall also be taken into account.

All the SPCBs and PCCs shall conduct the gap analysis and based on the gap analysis, action plan for development of new CBWTFs is required to be prepared and submitted to MoEF & CC & CPCB within six months' time. In case of States/UTs, where no CBWTF is available, in such a case, SPCB/PCC being prescribed authority under the BMWM Rules is required to ensure establishment new facilities. SPCB/PCC may submit the detailed proposal to MoEF & CC/MoH & FW through the respective State Government or UT Administration. Association of HCFs may also be encouraged to develop their own CBWTF following these guidelines. In case, any coverage area requires additional treatment capacity, in such a case, action may be initiated by the prescribed authority for allowing a new CBWTF in that locality based on the gap analysis report without interfering the coverage area of the existing CBWTF.

c) SPCB/PCC shall identify the coverage area, which require additional treatment facility and bring it to the notice of the concerned department in the business allocation of land assignment in the respective State Government or UT Administration. The department in the business allocation of land assignment shall be responsible for providing suitable site in the identified coverage area for setting up of a CBWTF, in consultation with the prescribed authority (i.e., SPCB/PCC), other stakeholders and in accordance with these guidelines issued by CPCB from time to time.

d) Alternately, a CBWTF may also be allowed to be established on a land procured by an entrepreneur in accordance with the location criteria suggested under these guidelines.

e) The SPCB/PCC or concerned department in the business allocation of land assignment in the respective State Government or UT Administration may seek expression of interest from the proponents for development of new CBWTF (s) in the identified coverage area. Upon allocation of site to the proponent, the proponent is required to take necessary approvals as required under the Environment

(Protection) Act, 1986 for development of the new CBWTF in accordance with these guidelines.

f) In the absence of expression of interest by any proponent, then SPCB/PCC shall insist health care facilities to form association and to develop its own CBWTF in line with these guidelines or to have captive treatment facilities (Only hilly or remote areas) for ensuring treatment and disposal of generated bio-medical waste as stipulated under the BMWM Rules.

g) In case of any regulatory action including closure of any existing CBWTF is inevitable, the respective SPCB/PCC may take action under the BMWM Rules including for making alternate arrangement to ensure safe disposal of the bio-medical waste generated from the member health care facilities of such default CBWTF through CBWTF located nearby.

h) In case of hilly areas considering the geography, only one CBWTF with adequate treatment capacity may be developed covering at least two districts to cater treatment services to the HCFs located in the respective Districts. The selection and allocation of site etc., should be done as per the criteria suggested under these guidelines. The treatment charges to be prescribed by the respective SPCB/PCC in consultation with the State Advisory Committee.

The criteria for development of CBWTFs in any coverage area is also depicted in Figure 1.

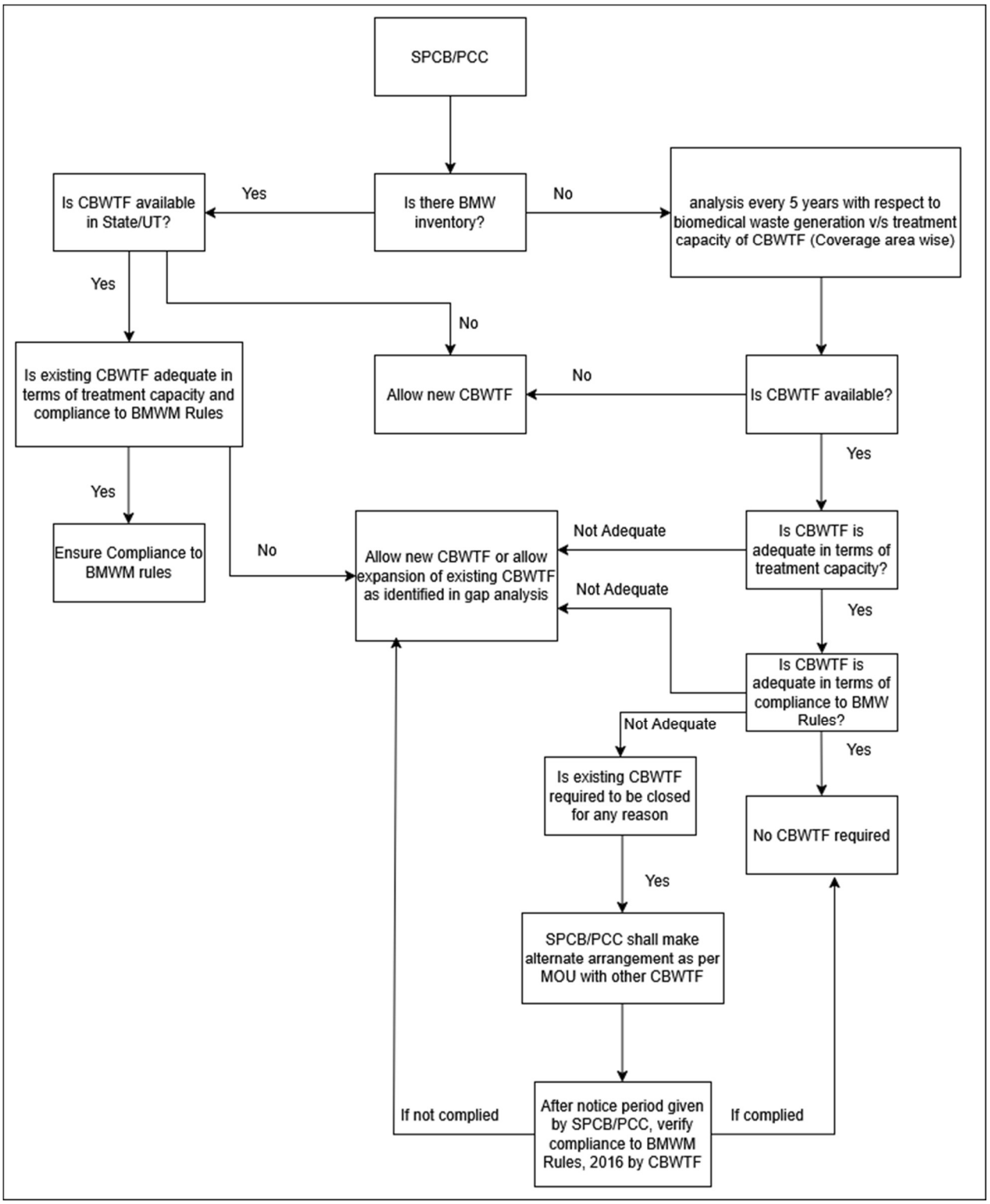

Figure 1. Criteria for Development of a CBWTF in a coverage area

3) Duties of the operator of a common bio-medical waste treatment and disposal facility

The duties of the operator of a common bio-medical waste treatment and disposal facility (CBWTF) as enunciated under Rule 5 of the Bio-medical Waste Management Rules, 2016 shall be ensured and complied with. All CBWTFs shall also comply w.r.to the residence time as well as emission norms including for Dioxins and Furans for incineration facility as prescribed under BMWM Rules, 2016. In addition to the above, to ensure proper management of bio-medical waste in the respective coverage area, as a mitigation measure, especially in the event of

(a) a temporary break down (not more than a week) of a CBWTF especially for rectification of the refractory lining of the incineration chambers or change of requisite APCD due to failure; and

(b) Closure of a CBWTF for violation of the provisions of the BMWM Rules or any other reason.

All CBWTFs are required to submit action plan (in case of closure), to the respective SPCB/PCC, for imposing suitable condition while granting authorisation under the BMWM Rules, 2016. The action plan should include:

(a) an MoU made with the nearest two CBWTF located within the respective State/UT as alternate arrangement ensuring that the bio-medical waste generated is collected, treated and disposed of within 48 hours as stipulated under the BMWM Rules. In case, if there is no CBWTF located nearby then such CBWTFshould have to install stand by treatment equipment (equal to the existing treatment capacity as per consents granted by the SPCB/PCC), and

(a) Decontamination plan of the CBWTF for execution of such plan prior to closure of a CBWTF.

4) Applicability of these guidelines

These guidelines are applicable to all the upcoming or new CBWTFs. In case of the existing CBWTFs, these guidelines shall be applicable in case

(a) the existing CBWTFs desires to expand or enhance the existing treatment capacity

(or)

(b) the existing CBWTFs desires to modernize the existing treatment equipment with the new equipment with enhancement in the existing treatment capacity.

5) Environmental laws applicable for commissioning or operation of a CBWTF

Operation of a CBWTF leads to air emissions as well as waste water generation as in case of an industrial operation. Most common sources of waste water generation in CBWTFs are vehicle washing, floor washing, and scrubbed liquid effluent from air pollution control systems attached with the incinerator/plasma pyrolysis. Incineration as well as DG Set is the general source of air emissions.

5.1 Any other approvals (such as Land Use /Change in Land Use as applicable) required from the concerned authorities under various laws have to be complied with by the proponent of the CBWTF prior to development of a CBWTF.

5.2 Consents under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 as well as Authorization under the BMWM Rules, 2016

The project proponent of the CBWTF is required to obtain 'Consent to Establishment' under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, from the respective prescribed authority i.e. SPCB/PCC. Upon installation of the requisite equipment, the CBWTF Operator is also required to obtain authorization under BMWM Rules, 2016 co-terminus with consent to operate under Water (Prevention and Control of Pollution) Act, 1976 & Air (Prevention and Control of Pollution) Act, 1981 from the respective SPCB/PCC prior to commencement of the CBWTF.

5.3 Environmental Clearance under EIA Notification 2006

Ministry of Environment, Forest & Climate Change (MoEF & CC), notified amendment to the EIA Notification 2006 and published vide MoEF & CC Notification of S.O. 1142 (E) dated April 17, 2015. According to this notification, the 'bio-medical waste treatment facility' is categorized under the Item 7 (da) in the schedule, requiring 'environmental clearance' from the State Environment Impact Assessment Authority (SEIAA). Therefore, the CBWTF operator is also required to obtain 'Environmental Clearance (EC)' from the respective SEIAA or Ministry of Environment, Forest& Climate Change (MoEF& CC), as the case may be, before any construction work, or preparation of land by the projects management, which include the following:

a) All new projects or activities pertaining to the bio-medical waste treatment facility; and

b) Expansion and modernization with additional treatment capacity of existing bio-medical waste treatment facility (excluding augmentation of incineration facility for compliance to the residence time as well as Dioxins and Furans without enhancing the existing treatment capacity).

c) Any expansion or modification in the treatment capacity or relocation of the existing CBWTF (requires compliance to the relevant provisions notified under the Environment (Protection) Act, 1986 by the MoEF & CC.

6) Location criteria

In the context of these guidelines, buffer zone represents a separation distance between the source of pollution in CBWTF and the receptor - following the principle that the degree of impact reduces with increased distance. The following parameters may be considered for ascertaining buffer distance on case-to-case basis:

(i) potential for spread of infection from wastes stored in the premises.
(ii) applicable standards for pollution control and the relative efficiency of the existing incinerators and emission control systems,
(iii) potential of fugitive dust emission from incinerators,
(iv) Quantity and quality of wastewater discharged
(v) the potential for odour production,
(vi) the potential for noise pollution,
(vii) the risk posed to human health due to exposure to emissions from incinerator,
(viii) the risk of fire and
(ix) significance of the residual impacts such as bottom ash and fly ash.

As far as possible, the CBWTF shall be located near to its area of operation in order to minimize the transportation distance in waste collection, thus enhancing its operational flexibility as well as for ensuring compliance to the time limit for treatment and disposal of bio-medical waste as stipulated under the BMWM Rules (i.e., within 48 hours). Also, the location of the CBWTF should be in conformity to the CRZ Norms and other provisions notified under the Environment (Protection) Act, 1986. The location shall be decided in consultation with the State Pollution Control Board (SPCB)/ Pollution Control Committee (PCC) and SEIAA or MoEF & CC, as the case may be. The location criteria for development of a CBWTF are as follows:

(a) A CBWTF shall preferably be developed in a notified industrial area without any requirement of buffer zone **(or)**

(b) A CBWTF can be located at a place reasonably far away from notified residential and sensitive areas and should have a buffer distance of preferably 500 m so that it shall have minimal impact on these areas. In case of non-availability of such a land, the buffer zone distance from the notified residential area may be reduced to less than 500 m by SPCB/PCC without referring the matter to CPCB by prescribing additional control measures such as (i) adoption of best available technologies (BAT) by the proponent of CBWTF; (ii) prescribing stringent standards for operation of the CBWTF

by the SPCB/PCC; (iii) adoption of zero liquid discharge by the CBWTF and (iv) in case of any complaints from the public, then CBWTF should prove that the facility is not causing any adverse impact on environment and habitation in the vicinity.

(c) The CBWTF can also be developed as an integral part of the Hazardous Waste Treatment Storage and Disposal Facility (TSDF) subject to obtaining of necessary approvals from the authorities concerned including 'environmental clearance' as per Environmental Impact Assessment 2006 and further amendments notified under the Environment (Protection) Act, 1986, provided there is no CBWTF exist within 150 KM distance from the existing TSDF.

7) Land requirement

Sufficient land shall be allocated to the CBWTF to provide all requisite systems which include dedicated space for storage of waste (both treated and untreated), waste treatment equipment, vehicle washing bay, vehicle parking space, ETP, incineration ash storage provision, administrative room, space for DG Set etc.,.

(a) Preferably, a CBWTF shall be set up on a plot size of not less than one acre in all the areas. However, a CBWTF can be developed in adjacent plots but cannot be set up in two or more different plots located in different areas. Separate plots can be permitted only for vehicle parking if located in the close vicinity of the proposed CBWTFs or the existing CBWTFs.

(b) In case of upcoming or new CBWTFs (where municipal population is more than 25 lakhs), the land area requirement may be relaxed (but in any case not less than 0.5 acre) by the SPCB/PCC, with additional control measures such as zero liquid discharge, increase in stack height, stringent emission norms, odour control measures or any other measures felt necessary by the prescribed authority on case-to-case basis, only in consultation with SEIAA or MoEF &CC, as the case may be.

8) Coverage area of CBWTF

Suggested coverage area for development of a CBWTF is as follows:

a) A CBWTF located within the respective State/Union Territory may be allowed to cater to healthcare units situated within a radial distance of 75 kilometers, subject to the condition that the facility possesses adequate treatment capacity to handle the bio-medical waste generated within the said radius. For the purpose of determining adequacy, 90% of the total treatment capacity as authorized by the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be

considered. It shall further be ensured that bio-medical waste generated is collected, treated and disposed of within 48 hours as stipulated under the BMWM Rules.

The concerned SPCB/PCC shall undertake a gap analysis, as per **Appendix-I**, to assess the quantum of bio-medical waste generated vis-à-vis the available treatment capacity of the CBWTF (considering 90% of the authorized treatment capacity). In case the analysis indicates a shortfall in treatment capacity or if the existing CBWTF is found to be non-compliant with the provisions of the Bio-Medical Waste Management Rules, 2016, the SPCB/PCC may consider proposals for establishing a new CBWTF or for expansion of an existing facility, ensuring that bio-medical waste generated is collected, treated and disposed of within 48 hours as stipulated under the BMWM Rules.

b) In case of hilly areas, considering the geography, only one CBWTF with adequate treatment capacity may be developed covering at least two districts to cater treatment services to the HCFs located in the respective Districts. The selection and allocation of site etc. should be done as per the criteria suggested under these guidelines. The treatment charges to be prescribed by the respective SPCB/PCC in consultation with the State Advisory Committee to be constituted under the BMWM Rules by the respective State Government or UT Administration.

9) Treatment equipment

The Common Bio-medical Waste Treatment Facility should treat the bio-medical waste as per BMWM Rules and as per the authorisation granted by the prescribed authority. The CBWTF should have the following treatment facilities:

a) Incineration/Plasma Pyrolysis

Incineration is a controlled combustion process where waste is completely oxidized and harmful microorganisms present in it are destroyed/ denatured under high temperature. The guidelines for "Design & Construction Requirements of Bio-medical Waste Incinerators" by CPCB from time to time shall be followed for selecting/or augmenting the incinerator.

Plasma Pyrolysis *is an alternate* to incinerator, Plasma Pyrolysis treatment technology can be installed for disposal of bio-medical waste categories as per BMWM Rules wherein destruction of bio-medical waste is similar to incineration can be achieved. In case of plasma pyrolysis, waste is treated at high temperature under controlled condition to form gases like methane, hydrogen and carbon monoxide which are subjected to combustion (oxidation) in secondary chamber. In the plasma

pyrolysis process waste is converted into small clinker which can be disposed in secured landfills.

b) *Autoclaving/Hydroclaving/Microwaving*

(i) *Autoclaving* is a low-heat thermal process where steam is brought into direct contact with waste in a controlled manner and for sufficient duration to disinfect the wastes as stipulated under the Bio-medical Waste Management Rules. For ease and safety in operation, the system should be horizontal type and exclusively designed for treatment of bio-medical waste. For optimum results, pre-vacuum based system be preferred against the gravity type system. It shall have tamper-proof control panel with efficient display and recording devices for recording critical parameters such as time, temperature, pressure, date and batch number etc. as required under the BMWM Rules.

(ii) *Hydroclaving* is similar to that of autoclaving except that the waste is subjected to indirect heating by applying steam in the outer jacket. The waste is continuously tumbled in the chamber during the process.

(iii) *Microwaving:* *In microwaving*, microbial inactivation occurs as a result of the thermal effect of electromagnetic radiation spectrum lying between the frequencies 300 and 300,000MHz. Microwave heating is an inter-molecular heating process. The heating occurs inside the waste material in the presence of steam.

c) *Chemical disinfection:* Though chemical disinfection or alternates as stipulated under the BMWM Rules is also an option for treatment of certain categories of bio-medical waste such as glass waste but looking at the volume of waste to be disinfected at the CBWTF and the pollution load associated with the use of chemical disinfectants, the chemical disinfection for treatment of bio-medical waste as part of a CBWTF may be used sparingly or avoided as far as possible.

d) *Dry heat sterilization:* This is the additional option for treatment of waste sharps as stipulated under the BMWM Rules. In this method, waste sharps are treated using dry heat (hot air) at a temperature not less than 185^0C, at least for a residence period of 150 minutes in each cycle (with sterilization period of 90 minutes).

e) *Shredder:* Shredding is a process by which waste are de-shaped or cut into smaller pieces so as to make the wastes unrecognizable. It helps in prevention of reuse of bio-medical waste and also acts as identifier that the wastes have been disinfected and are safe to dispose of. A shredder to be used for shredding bio-medical waste shall confirm to the following minimum requirements:

(i) The shredder for bio-medical waste shall be of robust design with minimum maintenance requirement;

(ii) The shredder should be properly designed and covered to avoid spillage and dust generation. It should be designed such that it has minimum manual handling;

(iii) The hopper and cutting chamber of the shredder should be so designed to accommodate the waste bag full of bio-medical waste;

(iv) The shredder blade should be highly resistant and should be able to shred waste sharps, syringes, scalpels, blades, plastics, catheters, intravenous sets/ bottles, blood bags, gloves, bandages etc. It should be able to handle/ shred wet waste, especially after microwave/ autoclave/hydroclave;

(v) The shredder blade shall be of non-corrosive and hardened steel;

(vi) The shredder should be so designed and mounted so as not to generate dust, high noise & vibration;

(vii) If hopper lid or door of collection box is opened, the shredder should stop automatically for safety of operator;

(viii) In case of shock-loading (non-shreddable material in the hopper), there should be a mechanism to automatically stop the shredder to avoid any emergency/accident;

(ix) In case of overload or jamming, the shredder should have mechanism of reverse motion of shaft to avoid any emergency/accident;

(x) The motor shall be connected to the shredder shaft through a gear mechanism, to ensure low rpm and safety;

(xi) The unit shall be suitably designed for operator safety, mechanical as well as electrical;

(xii) The shredder should have low rotational speed (maximum 50 rpm). This will ensure better gripping and cutting of the bio-medical waste;

(xiii) The discharge height (from discharge point to ground level) shall be sufficient (minimum 3 feet) to accommodate the containers for collection of shredded material. This would avoid spillage of shredded material;

(xiv) The minimum capacity of the motor attached with the shredder shall be 3 KW for 50 Kg/hr, 5 KW for 100 kg/hr & 7.5 KW for 200 Kg/hr and shall be three phase induction motor. This will ensure efficient cutting of the bio-medical wastes as prescribed in the Bio-medical Waste Management Rules; and

(xv) The shredder also should be fitted with separate 'energy meter' for recording total energy consumed for operation of this equipment.

g) *Sharp pit/ Encapsulation:* A sharp pit or a facility for sharp encapsulation in a metal container or cement concrete shall be provided for treated sharps *(i.e., treatment by autoclaving or dry heat sterilization followed by shredding or mutilation).* An option may also be worked out for recovery of metal from treated and shredded waste sharps within the CBWTF or iron foundries having consent to operate from the SPCBs/PCCs and located nearby, as per the conditions imposed in authorization granted under BMWM Rules by the SPCB/PCC.

A sharp pit may be of circular or rectangular shape and shall be dug and lined with cement plastered brick masonry or concrete rings. The pit should be covered with a heavy concrete slab with a provision of galvanized steel pipe projecting about 1.5 meters above the slab, with an internal diameter of up to 50 mm or 1.5 times the length of vials, whichever is more. The top opening of the steel pipe shall have a provision of locking after the treated waste sharps are disposed into the sharp pit. When the pit is full, it can be sealed completely, after another pit is prepared. In case of high water table regions (i.e., where water table is less than 6 metres beneath the bottom of the sharp pit), a tank with above mentioned arrangements shall be made above the ground.

h) *Deep burial:* SPCB/PCC should not allow the 'deep burial' of bio-medical waste as a part of CBWTF.

i) *Non-burn technology:* Non-incineration technologies for disposal of bio-medical waste are adopted in some of the developed countries. Non-incineration technology comprises of shredding and disinfection by autoclaving/microwaving or chemical treatment. The treated waste can be disposed along with municipal solid waste in sanitary landfills or through waste to energy plants. Such option can also be adopted in places where the sanitary landfill or waste to energy plant for disposal of municipal solid waste is available. Such technology is permitted only after prior approval of MoEF & CC and only after obtaining authorization under the BMWM Rules from the respective SPCB/PCC for the purpose of carrying out trial runs for assessment of efficacy of the treatment equipment.

j) *Vehicle/Containers washing facility:* Every time a vehicle is unloaded, the vehicle and empty waste containers shall be washed properly and disinfected. Washing can be carried out in an open area but on an impermeable surface and liquid effluent so generated shall be conveyed and treated in an effluent treatment plant. The impermeable area shall be of appropriate size so as to avoid spillage of liquid during washing.

k) *Effluent Treatment Plant:* A suitable Effluent Treatment Plant (ETP) shall be installed to ensure that liquid effluent generated during the process of washing containers,

vehicles, floors etc. is treated and reused after treatment. Proper treatment of waste water shall be ensured in case of zero discharge by recirculation of treated waste water for scrubbing. ETP may have treatment unit operations comprising collection tank, O & G trap, chemical dosing cum mixing (Flash and slow), coagulation chamber, primary settling tank (s), biological treatment process, secondary settling tank, pressure filter and activated carbon filter, pH Correction tank (wherever recirculation of treated water is practiced) so as to comply with the liquid discharge standards stipulated under the Bio-medical Waste Management Rules, 2016. ETP may also have the following provisions:

(i) separate 'energy meter' so as to know total consumption of electricity for operation of the machinery attached with the ETP.

(ii) pH meter so as to know pH level of treated water as well as pH level of treated water used for recirculated or recycling in APCD attached with the incinerator or any utility within the CBWTF.

(iii) A 'magnetic flow meter' should also be fitted at all the water supply extraction points of the CBWTF as well as the outlet to know the total wastewater treated for further end use or discharge in compliance to the BMWM Rules.

(iv) Provision of 'press filter' to reduce the moisture content of the ETP Sludge or it may be dried in 'sludge drying bed'. After removal of moisture content or drying, same need to be disposed of in an environmentally sound manner depending upon the hazardous constituents present in it as per Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016. In case, ETP sludge contains metal contents within the prescribed limits as per Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016, such ETP sludge shall be given to CBWTF for incineration or to hazardous waste treatment, storage and disposal facility (TSDF) for disposal in secured landfill.

Note:

a) If any CBWTF desires to adopt any other technology other than referred under Schedule –I of the BMWM Rules, may adopt new technology only with the prior approval from MoEF & CC and is also required to obtain authorization under the BMWM Rules from the respective SPCB/PCC for carrying out trial run for assessment of efficacy of the new technology.

b) All the treatment equipment should be operated and complied with the norms as stipulated under Schedule II of the Bio-medical Waste Management Rules, 2016 published by MoEF & CC vide GSR 343 (E) dated 28th March, 2016.

c) Incinerator / Plasma Pyrolyisis/ Autoclaving/Microwaving/ Hydroclaving/ Shredder/ Dry Heat Sterilization/ ETP should be fitted with separate 'energy meter' for recording total energy consumed for operation of these equipment.

d) In the event of temporary shutdown (not more than a week) due to any operational problems in the treatment equipment (such as restoration of refractory lining or maintenance or repairs in APCD), to ensure bio-medical waste collected from the member health care facilities is treated within the time limit as stipulated under the BMWM Rules, all CBWTF operators should also be provided with stand by treatment equipment especially incinerator/plasma pyrolysis/autoclave (or) alternately MoU made with the nearby CBWTF (located within the State/UT) shall be submitted to the respective SPCB/PCC, by all the existing CBWTF operators (whereas the upcoming facilities have to make such arrangement prior to commencement of the facility) so as to include such condition while granting authorisation under the BMWM Rules, 2016 to the concerned CBWTF operators (vice-versa).

(10) Infrastructure set up

The CBWTF shall have enough space within it to install required treatment equipment, untreated and treated waste storage area, vehicle-parking, vehicle and containers washing area, Effluent Treatment Plant (ETP), administration room or staff room etc. The required area for CBWTF would depend upon the projected amount of bio-medical waste to be handled by it. A CBWTF shall have the following infrastructure:

a) Treatment equipment room

A separate housing may be provided for each treatment equipment at the CBWTF such as incinerator room, autoclave room, microwave room etc., as applicable. Each room shall have well-designed roof and walls. Such room shall be well ventilated and easy to wash. The floor and interior finishing of the room shall be such that chances of sticking/harbouring of microorganisms are minimized. This can be attained by providing smooth & fine floor and wall surfaces (to a height of 2 meter from floor) preferably of tiles. The number of joints in such surfaces shall be minimal. The equipment room shall also have a separate cabin, to supervise the operation of the equipment and to record the waste handling and equipment operational data attached to each equipment room. There shall be two waste storage rooms, one for storage of untreated waste and another for treated waste and may be located at a distance from each other. The storage room shall have provisions similar to that of equipment room being well-ventilated with easy to wash floors & walls, smooth and

fine surfaces etc. All the treatment equipment rooms and waste storage rooms should be provided with 'fly catcher/killing device'. The room shall be washed and cleaned with a suitable disinfectant every day.

b) Main waste storage space

Separate space shall be provided near the entry point of the CBWTF to unload and store all biomedical wastes that have been transported to the CBWTF by its own transportation vehicle. The size of the room shall be adequate to store all wastes transported to the CBWTF. The front portion of the room shall be utilized for unloading the wastes from the vehicle and back or side portion shall be utilized for shifting the wastes to the respective treatment equipment. In the front portion of the room where transportation vehicle is parked for unloading, the floor shall be made impermeable so that any liquid spillage during unloading does not percolates into the ground. The liquid generated during handling of wastes and washing, shall be diverted to the inlet of effluent treatment plant (ETP). In the main storage room, wastes shall be stacked with clear distinction as per the color coding of the containers by providing partitions. From here, the colored containers may be sent to the respective treatment equipment by using suitable closed type of conveyance (trolley etc.,). The main storage room too shall have provisions similar to that of equipment room such as roofing, well ventilated, easy to wash floors & walls, smooth and fine surfaces etc.

Apart from the above, a CBWTF should have separate storage provision for storage of mercury bearing waste collected from the member health care facilities as per the procedure given in CPCB guidelines. Mercury storage provision should be provided as per the guidelines issued by CPCB (refer www.cpcb.nic.in). The capacity of the mercury storage provision should be maximum of 90 days and by which the collected mercury bearing waste shall have to be disposed of through a TSDF located nearby following the manifest as per Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016. The charges for collection and disposal of mercury bearing waste shall be collected by the CBWTF from the respective member HCF.

c) Treated waste storage room

Separate space should be provided to store the wastes treated in different treatment units. The wastes shall be stored in separate group as per the disposal options. Other provisions in the room shall be similar to the main storage room. Waste such as incineration ash/vitrified ash generated in the process of incineration/plasma pyrolysis respectively shall be stored safely in a separate area under the shed so as to avoid entry of rain water during the monsoon and for easy collection. In case, incineration ash/ vitrified ash is found to be hazardous waste in nature same should be disposed of through any authorized TSDF operator located nearby following the

manifest as per Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016. In case of a State/UT where TSDF is not available, all the CBWTF operators have to store incineration ash safely as per these guidelines.

d) Administrative Room

This room shall be utilized for general administration, record keeping, billing etc.

e) Generator set

CBWTF shall have a generator set of adequate capacity as standby arrangement for power, with sufficient capacity to run the treatment equipment during the failure of power supply. The generator set shall comply with the necessary requirement as per DG Set norms notified under the Environment (Protection) Act, 1986.

f) Continuous emission monitoring system (CEMS)

Monitoring provision for continuous monitoring of the incinerator/plasma pyrolysis stack emission shall be installed by the CBWTF operators for the parameters as stipulated by the respective SPCB/PCC as per the authorisation granted under the BMWM Rules, 2016. Other-wise, at present, all the existing CBWTF operators are required to carry out stack emission monitored using continuous emission monitoring system for the flue gas parameters such as CO_2, O_2, CO as well as primary & secondary chamber temperatures, and records maintained. The continuous emission monitoring system for stack emission should be installed as per the guidelines issued by SPCB/PCC/CPCB. Also, the real time continuous stack emission monitoring data is also required to be transmitted to the servers of the respective SPCB/PCC as well as CPCB, by all the existing CBWTF operators

g) Vehicle Parking

Provision for parking shall be made within the confines of the site for parking of required number of vehicles, loading and unloading of the vehicles meant for transporting waste to and from the facility, etc. In case of a CBWTF with space constraints, multi-storey parking or a separate provision may be allowed only for parking of vehicles.

h) Display and sign board

An identification board (Display) of durable material and finish shall be displayed at the entrance to the facility. This shall clearly display the name of the facility, owner name, address and telephone number of the operator and the prescribed authority, no. of hours of operation & operational hours, telephone numbers of the personnel

to be contacted in the event of an emergency, validity period of authorization as well as total daily waste treated and disposed. Also, sign boards should be provided at all the salient points (untreated waste storage area, treatment equipment, treated waste storage area, ETP, firefighting equipment) within the facility.

i) Washing Room

A washing room shall be provided for eye washing/hand washing/ bathing etc. for the workers.

j) Site Security

High walls, fencing and guarded gates shall be provided at the facility to prevent unauthorized access to the site by humans and livestock.

k) Fire safety

Fire safety equipment such as sand buckets and fire extinguishers should be provided at all the salient points of the CBWTF including at the diesel storage areas, diesel tanks connected with the incinerator etc. Fire alarm also should be provided within the CBWTF to prompt the workers in the event of any fire hazard. Workers should also be trained in First Aid administration.

l) First Aid Box

First Aid Box with necessary provisions need to be provided at all the salient points within the facility.

m) Green Belt

The open area available within the CBWTF shall be developed into green belt.

n) Website:

All CBWTFs shall develop own website and the upcoming CBWTF shall develop the website prior to the commencement of the facility. The website should be uploaded with relevant information periodically (on monthly basis) especially as detailed below:

(i) A copy of the Environmental Clearance obtained;
(ii) Copies of the Consents under the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 as well as the Authorisation under the BMWM Rules obtained from the SPCB/PCC;

(iii) List of all the member Health Care Facilities with complete address, bedded or non-bedded HCFs, no. of beds, bar code, category-wise average bio-medical waste generation in kg/annum;
(iv) Charges levied on the member Health Care Facilities (HCFs) for treatment and disposal of bio-medical waste;
(v) Vehicles connected with a provision of GPS as per BMWM Rules and Vehicle-wise route chart for collection, transportation of bio-medical waste from the member HCFs;
(vi) Real time continuous online stack emission monitoring data;
(vii) Monthly details of total waste collected from the member HCFs, total waste treated, and treated recyclable plastic waste or glass waste sold to the parties and final mode of disposal of incineration ash;
(viii) A copy of the annual report submitted to the respective SPCB/PCC;
(ix) Monitoring results of the stack emissions, treated wastewater and incineration ash, as per the frequency stipulated under the BMWM Rules;
(x) List of HCFs (located within the coverage area) with complete address which have not taken membership of the CBWTF for disposal of Bio-medical waste;
(xi) Contact person, contact telephone number and e-mail addresses of the facility; and.
(xii) Provision to have access to the SPCB/PCC/CPCB/MoEF & CC/MoH & FW especially on GPS, online monitoring system and the data.

Besides the provisions suggested in the earlier paras, following important provisions should also be made in a CBWTF:

(i) A telephone shall be provided and maintained at the facility.
(ii) A First Aid Box shall be provided and maintained at the CBWTDF.
(iii) Proper lighting shall be provided at the facility.
(iv) Proper care shall be taken to keep the facility and surroundings free from odors.
(v) Measures shall be implemented to control pests and insects at the site.
(vi) Measures shall be implemented to control the escape of litter from the site.
(vii) Necessary provision shall be made to prevent and control noise generated, if any, due to the activities at the site.
(viii) Necessary protective gear for the waste handlers shall be provided.
(ix) Immunization to all the workers of CBWTF against all the diseases including especially Tetanus and Hepatitis -B as stipulated under the BMWM Rules.
(x) Workers should have provisions such as washing, toilet, and suitable place for eating.
(xi) Workers should also be provided with N-95 mask besides other PPEs such as hand gloves, gumboots, goggles etc.

Every CBWTF operator shall submit a work-plan to the Prescribed Authority. The work-plan should include the details of facilities at the CBWTF, collection, transportation & storage of the bio-medical wastes, operational details etc.

11) Record keeping

Maintenance of records for all operations carried out at the CBWTF is very important to monitor overall operation of the CBWTF. It also helps in submission of the required information to be submitted to the 'Prescribed Authority' by 30 th June of every year as per the format prescribed under the BMWM Rules or provided by the SPCB/PCC. A well-maintained record of all the activities at the CBWTF also enables the facility operator to produce all information of the activities on demand of the concerned prescribed authority. The record should include all information relating to each activity at the CBWTF site as per BMWM Rules which include accidents occurred (spills, injury, fire accident) and the measures taken and also, however, minimum requirement is outlined below:

a) Records of waste movements

Daily records shall be maintained for the waste accepted and treated waste removed from the site. This record shall include the following minimum details:

(i) **Waste accepted: -**Records on day-to-day basis (as per the format given at **Annexure-II**) shall be maintained with respect to the waste collection date, name of the healthcare unit with bar code, waste category as per BMWM Rules, category-wise quantity of waste accepted, vehicle registration number used for collection of bio-medical waste from member health care facilities, time at which waste collected from member HCFs, name of the vehicle driver and his signature and waste receiving date & time (at CBWTF site). Similar information to be acknowledged to the member health care facility by the CBWTF operator on daily basis.

(ii) **Treated waste to be disposed :-** Date, treated waste type, Quantity, vehicle number, disposal as stipulated under BMWM Rules.

b) Logbook for the treatment equipment

A logbook shall be maintained for each treatment equipment installed at the site and shall include the following:

(i) The weight of each batch.
(ii) The categories of waste as per the Rules.

(iii) The time, date and duration of each treatment cycle and total hours of operations.
(iv) The complete details of all operational parameters during each cycle.

Log book to be maintained for operating the incinerator/plasma pyrolysis as well as the autoclave as per the formats given at **Annexure –III.**

c) Monitoring and reporting of operations in the CBWTF:

The monitoring of the key operating parameters of treatment equipment provides several benefits. First, monitoring provides the operator with information needed to make decisions on necessary combustion control adjustments. Second, properly maintained monitoring records can provide useful information for identifying operating trends and potential maintenance problems. Following are the suggested parameters for monitoring of the treatment equipment

(i) **Monitoring of operating parameters of the incinerator/plasma pyrolysis:** Following operating parameters can be monitored in case of incinerator/plasma pyrolysis:

- Waste charge rate.
- Combustion gas temperature in primary and secondary chamber as well as the temperature of the stack exit gas (flue gas).
- Condition of the draft (negative draft in primary chamber).
- Combustion gas oxygen level in primary and secondary chamber as well as stack exit gas.
- Air flow rate through the incinerator/plasma pyrolysis.
- Carbon-Di-Oxide (CO_2), Oxygen (O_2) and Carbon Monoxide (CO) level in the flue gas.
- Quantity of auxiliary fuel usage as well as the power consumption (in every batch).
- Pressure drop in the primary chamber and APCD attached with the incinerator/plasma pyrolysis and
- Bottom ash or slag quality (for Total Organic Carbon (TOC) as well as loss on ignition and the hazardous constituents (at least once in a quarter).

(ii) **Monitoring of operating parameters of the Autoclave:** Following operating parameters can be monitored during the sterilization using autoclave:

- Time at which sterilization started and time at which sterilization completed.
- Temperature conditions maintained throughout the sterilization
- Conditions of pressure maintained throughout the sterilization
- Duration of sterilization
- Validation test results

Records concerning the above parameters need to be maintained and checked periodically for taking remedial measures during the operation of the incinerator or plasma pyrolysis or autoclave. In case of other treatment processes, the operational conditions as well as the efficacy tests to be complied with as per the standards prescribed under the BMWM Rules.

(iii) Frequency of monitoring:

The CBWTF operator shall carry out following tests through a NABL approved laboratory or a laboratory approved under the Environment (Protection) Act, 1986, as per the frequency stipulated under the BMWM Rules or as prescribed by the SPCB/PCC and record of such analysis results shall be maintained and submitted to the prescribed authority (SPCB/PCC), as suggested below:

- Liquid effluent: Parameters such as pH, Suspended Solids, Oil & Grease, BOD, COD, Bio-assay for liquid effluent being discharged from the CBWTF be monitored as per the Consent conditions or once in a quarter and such records maintained and submitted to SPCB/PCC.

- Stack emission monitoring:

  In case of the BMW incinerators, the Stack Emission shall be monitored (under optimum capacity) for parameters such as Particulate Matter, HCl, NO_x, Hg & compounds and combustion efficiency once in three months as required under schedule II of the Bio-medical Waste Management Rules 2016 (All monitored values shall be corrected to 11% Oxygen on dry basis). In case of dioxins and furans, monitoring should be done once in a year (monitored values shall be corrected to 11% Oxygen on dry basis).

- Validation test of autoclave/microwave/chemical treatment/Dry heat sterilization:

  Suggested validation test for treatment of bio-medical waste by autoclave/microwave/chemical treatment/Dry heat sterilization is given in Table 1.

Table 1: Suggested validation test for treatment of bio-medical waste by autoclave/microwave/chemical treatment/Dry heat sterilization

S. No	Type of equipment used for treatment of bio-medical waste	Type of Validation Test	Frequency
(i)	Autoclave	(i) biological indicator strips or vials Geobacillus stearothermophilus spores with at least $1X10^6$ spores),	once in three months
		(ii) chemical indicator strip or tape	each batch of waste treated
(ii)	Microwave	Bacillus atrophaeus spores using vials or spore strips with at least 1 x 10^4spores per detachable strip	Recommended: once in three months
(iii)	Chemical treatment followed by shredding	Bacillus Subtilis (ATCC 19659)- 4 Log10 reduction or greater	Once in a week
(iv)	Dry heat sterilization	consistently kill the biological indicator Geobacillus Stearothermophillus or Bacillus Atropheaus spores using vials with at least 6 log10 spores per ml.	Once in three months
		A chemical indicator strip or tape	Once in a week

d) Site Records:

Site records shall include the following:

(i) All the approvals obtained from other concerned departments other than the prescribed authority;
(ii) Details of construction or engineering works;
(iii) Maintenance schedule, breakdowns/trouble shootings and remedial actions;
(iv) Emergencies;
(v) Incidents of unacceptable waste received and the action taken; and
(vi) Details of site inspections by the officials of the regulatory authorities, purpose of visits with date and necessary actions initiated on the observations.

Daily, monthly and annual summary records of all the above shall be maintained and made available at the site for inspection and same submitted whenever required by an authorized official of the concerned regulatory authorities.

12) Collection and transportation of bio-medical waste

The collection and transportation of bio-medical waste shall be carried out in a manner so as to prevent any possible hazard to human health and environment. Collection and transportation are the two operations where the chances of segregated bio-medical waste coming in contact with the public, rag pickers, animals/birds, etc. are high. Therefore, all care shall be taken to ensure that the segregated bio-medical waste handed over by the healthcare units reach CBWTF without any damage, spillage or unauthorized access by public, animals etc. A responsible person from the CBWTF operator shall always accompany the vehicle to supervise the collection and transportation of bio-medical waste. Also, the private transport vehicles should not be authorised by the SPCBs/PCCs only for transportation of the Bio-medical Waste. The CBWTF operator should be made responsible for collection and transportation of bio-medical waste.

a) Collection of bio-medical waste:

Generator of the bio-medical waste is responsible for providing segregated waste in accordance with the provisions of the Bio-medical Waste Management Rules, 2016, to the CBWTF operator. Dedicated temporary storage at healthcare unit shall be designated. The coloured bags handed over by the healthcare units shall be collected in similar coloured containers with proper cover. Each bag shall be labeled as per Schedule IV of the Bio-medical Waste Management Rules as well as with bar coding system (to be complied by the occupier or operator of a CBWTF as per BMWM Rules) so that at any time, the healthcare units can be traced back that are not segregating the bio-medical wastes as per BMWM Rules. The coloured containers should be strong enough to withstand any possible damage that may occur during loading, transportation or unloading of such containers. These containers shall also be labeled as per Schedule IV of the Rules. Sharps shall be collected in puncture resistant container. The person responsible for collection of bio-medical wastes shall also carry a register with him to maintain the records such as name of the healthcare unit, the type and quantity of waste received, time at which waste collected from the member HCF, signature of the authorised person from the healthcare unit etc. During transportation, the containers should be covered in order to prevent exposure of public to odours and contamination.

(b) Transportation of the collected bio-medical waste to the CBWTF:

All the vehicles used by the CBWTF operator shall not be sub-letted or contract vehicles should not be used by the CBWTF operator. All the vehicles owned by the CBWTF operator and intended only for collection of bio-medical waste from the member health care facilities should be registered under the Motor Vehicle Act with the respective RTO/Transport Department and such vehicle numbers should also be registered with the respective SPCB/PCC for the purpose of collection of bio-medical waste from the member health care facilities. The bio-medical waste collected in designated coloured containers shall be transported to the CBWTF in a fully covered vehicle. Such vehicle shall be dedicated for transportation of bio-medical waste only. Depending upon the volume of the wastes to be transported, the vehicle may be a two or three-wheeler, light motor vehicle or heavy duty vehicle. In either case, the vehicle must possess the following:

(i) Transportation vehicle shall be fitted with GPS to track the movement of the vehicle.

(ii) Separate cabins shall be provided for driver/staff as well as for placing the designated colour coded bio-medical waste containers.

(iii) Two wheeler registered under the Motor Vehicle Act shall be permitted for collection of bio-medical waste only from the clinics or dispensaries located in places where the lanes are narrow and not easily accessible to four wheeler vehicles. Such two wheeler vehicle (s) should have a provision of a suitable fixed waste collection box marked with bio-hazard symbol, contact details, proper lid, emergency spill collection procedure, first aid box and manifest record in accordance with the BMWM Rules

(iv) The base of the waste cabin shall be leak proof to avoid pilferage of liquid during transportation.

(v) The waste cabin may be designed for storing waste containers in tiers and also should be provided with a lighting provision.

(vi) The waste cabin shall be so designed that it is easy to wash and disinfect.

(vii) The inner surface of the waste cabin shall be made of smooth surface to minimize water retention.

(viii) The waste cabin shall have provisions for sufficient openings in the rear and/or sides so that waste containers can be easily loaded and unloaded.

(ix) The vehicles used for the purpose of collection and transportation of bio-medical waste must be labelled with the bio-hazard symbol (as per Schedule IV of the BMWM Rules, 2016) in red/black colour and should display the name, address, and contact number of the CBWTF operator in green colour. CBWTF authorized by *("Name of SPCB/PCC")* shall also be mentioned below name, address and contact number of the CBWTF operator in green colour, as given in **Annexure-VII**.

(x) All the existing vehicles used for the purpose of collection and transportation of biomedical waste shall be labelled with the bio-hazard symbol and shall display the name, address, and contact number of the CBWTF operator on white background (as given in **Annexure-VII**). Further, vehicles registered with the respective SPCB/PCC for the purpose of collection and transportation of biomedical waste after June, 2025 shall be white in colour.

(xi) Bio-hazard symbol size and font size shall be in minimum proportion of 12:3 and 12:1, respectively, with respect to body height of the vehicle used for transportation of biomedical waste. For Example: If body height is 6 feet i.e. 72" then minimum font size will 6" and minimum size of bio-hazard symbol will be 18"as given in **Annexure-VII**.

(xii) The vehicle driver should carry always valid registration of the vehicle obtained from the concerned transport authority and also carry valid 'pollution under control certificate' issued by the authorized certificate issuing agency.

Depending upon the area to be covered under the CBWTF, the route of transportation shall be worked out. The transportation routes of the vehicle shall be designed for optimum travel distance and to cover all member healthcare units of the CBWTF. The CBWTF operator should ensure online and real time tracking & monitoring provisions (GPS provision) should be given access with passwords to the SPCB/PCC and CPCB to cross check the movement of the transportation vehicles on any time by the SPCB/PCC/CPCB. As far as possible, the transportation shall be carried out during non-peak traffic hours. If the area to be covered is very large, a satellite station may be established to store the bio-medical waste collected from the adjoining areas. The wastes so stored at satellite station may then be transported to the CBWTF in a big vehicle. It shall be ensured that the total time taken from generation of bio-medical waste to its treatment, which also includes collection and transportation time, shall not exceed 48 hours.

13) Disposal option of solid waste generated from the CBWTF

Treated plastic waste, incineration ash, treated waste sharps and glass waste, Oil & Grease waste and ETP sludge are generally generated from the CBWTF from the treatment systems such as autoclaving/microwaving, incineration, chemical disinfection and effluent treatment plant respectively. The treated bio-medical waste shall be disposed as per the options suggested in the **Table 2** given below:

Table 2: Suggested Disposal option of solid waste generated from the CBWTF

Sl. No.	Treated Waste Category	Suggested Treatment and Disposal Options
1.	Plastic wastes	Plastic waste should not be sent to landfill sites. Plastic waste after disinfection and shredding , is required to be (i) sent to registered or authorized recyclers (or) (ii) for energy recovery (or) (iii) diesel or fuel oil recovery (or) (iv) for road making, whichever is possible.
2.	Disinfected Sharps (including needles and syringes)	Treatment by Autoclaving or Dry Heat Sterilization followed by shredding or mutilation or combination of shredding cum autoclaving. Treated sharps need to be disposed of (i) by encapsulation in metal container or cements concrete; (or) (ii) sent for final disposal to iron foundries (having consent to operate from the SPCBs/PCCs) (or) (iii) Disposal in sanitary landfill; (or) (iv) Disposal in designated concrete waste sharp pit.
3.	Incineration ash	Incineration ash from incineration of any bio-medical waste shall be disposed through hazardous waste treatment, storage and disposal facility (TSDF), if toxic or hazardous constituents are present beyond the prescribed limits as given in Schedule –II of the Hazardous and Other Waste Management & Transboundary Movement Rules or as revised from time to time.
4.	Other treated solid wastes like Glass waste	Disinfection (by soaking the washed glass waste after cleaning with detergent and Sodium Hypochlorite treatment) or through autoclaving or microwaving or hydroplaning and then sent for recycling.
5.	Oil & Grease	By Incineration
6.	ETP Sludge	After drying in sludge drying beds or removal of moisture content using 'Filter Press' and such ETP

Sl. No.	Treated Waste Category	Suggested Treatment and Disposal Options
		sludge shall be given to CBWTF for incineration or to the hazardous waste treatment, storage and disposal facility (HWTSDF) for disposal in Secured Landfill
7.	Hazardous Waste	Disposal through a TSDF located nearby following the manifest as per the Hazardous and Other Waste (Management & Transboundary Movement) Rules, 2016

14) Cost to be charged by the CBWTF Operator for the Health Care Facilities

Cost to be charged from the healthcare facilities plays an important role in financial viability and sustainable operation of a CBWTF project, for providing the best treatment services to the Health Care Units and for ensuring compliance to the BMWM Rules. The cost shall be so worked out that neither it becomes a monopoly of the CBWTF operator nor the interest of the CBWTF operator is overlooked. It is recommended that cost to be charged from the healthcare units, depending on the size, no, of beds and the distance from the location of the CBWTF and same shall be worked out in consultation with the concerned SPCB/PCC and the local Medical Association, keeping in view the following options:

(a) In case of non-bedded health care units, fixed charges depending on the average quantity of waste generation per day, in case of the nursing homes/clinics/sample collection Centres /Dental HCentres, dispensary, pathological laboratory, blood banks, and other non-bedded hospitals irrespective of their system of medicine including ayush hospitals.

(b) In case of bedded hospitals, fixed charges per bed per day basis and based on the no. of beds for which consents under the Water Act, 1974/Air Act, 1981 and authorization granted under the BMWM Rules, by the prescribed authority

Note:

(i) Rates are required to be revised once in a year based on the Wholesale Price Index (WPI Index) or Consumer Price Index (CPI Index) (considering the prevailing market price especially in respect of the labour expenses, diesel prices, electricity, operating cost etc.,.), by the State Advisory Committee in consultation with the concerned SPCB/PCC, local Medical Association and the representatives of the CBWTF Association

(ii) *The Health Care Facilities are required to ensure timely payments to the CBWTFs for ensuring timely treatment services in compliance to the BMWM Rules as well as agreement made with the concerned CBWTF Operator.*

15) Check list for development of CBWTF

The criteria for development of CBWTDF have been discussed in detail in the Previous sections. However, to have at a glance check in developing CBWTF, checklist is reproduced for convenience and is annexed **(Annexure-IV).**

16) Periodic inspection/monitoring or performance evaluation of the CBWTF

To have uniformity in performance evaluation of the CBWTF throughout the country, a check list for performance evaluation of the CBWTF for carrying out inspection/monitoring/compliance verification has been prepared and is annexed **(Annexure –V)**. All the prescribed authority (SPCB/PCC) shall inspect the CBWTF at least once in six months located in the respective State/UT and a copy of the inspection reports shall be submitted to CPCB and MoEF & CC along with a copy of the action taken for ensuring compliance to the BMWM Rules and CPCB guidelines issued from time to time and also such information is required to be uploaded in SPCB/PCC website. CPCB shall carryout random inspection of the CBWTFs once in a quarter and any violations observed further actions shall be initiated by CPCB if required under the Environment (Protection) Act, 1986.

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Appendix-I

Methodology to Conduct gap analysis with respect to generation and treatment of biomedical waste - Revision 1

Guidelines for Common Biomedical Waste Treatment Facilities was prepared by CPCB with an aim to have uniformity in ensuring site selection, allowing and establishment of a state-of-the-art Common Biomedical Waste Treatment Facilities (CBWTFs), operation as well as verification of compliance to the BMWM Rules, 2016 throughout the country. As per the said guideline, SPCB/PCC is required to prepare an inventory or review with regard to the bio-medical waste generation at least once in five years in the coverage areas of the existing CBWTF and conduct gap analysis as per format given in Annexure-I of the guideline.

Further, methodology for conducting gap analysis with respect to generation and treatment of biomedical waste prepared by CPCB and circulated to all SPCBs/PCCs. Accordingly, 12 SPCBs/PCCs have conducted gap analysis and submitted the report to CPCB. However, non-uniformity and ambiguity was observed specifically with regard to the method for extrapolating the data on biomedical waste generation and requirement of adequate treatment capacity in the gap analysis reports submitted by SPCBs/PCCs. Therefore, revised methodology have been prepared with an aim to have uniformity in the method for carrying out the gap analysis by State Pollution Control Boards/Pollution Control Committees.

The methodology for conducting gap analysis may be based on following parameters:

S. No.	Parameters	Details
1.	Coverage area of CBWTF	Mention farthest distance covered by CBWTF
2.	No. of HCFs (Bedded and non-bedded)	In Number
3.	No. of Beds covered	In Number
4.	Total biomedical waste generation (in Kg/day)	The generation of biomedical waste may be calculated by considering following aspects: a) Generation from bedded HCFs: The biomedical waste generation rate may be considered as 277* grams per bed per day b) Generation from non-bedded HCFs: The biomedical waste generation may be considered as 274** grams per day c) Biomedical waste generated from occasional waste generators such as health

		camps, institutions, vaccination camps etc as defined under CPCB guidelines may also be considered. * Reference: Report on Health-care Waste Management status in countries of the South-East Asia Region by WHO which is also nearly equal to the average biomedical waste generation per day per bed as per AR information received from States/UTs. **The value is taken based on the data given by CBWTF Associations regarding current average biomedical waste generation from non-bedded HCFs.
5.	Extrapolate the biomedical waste generation for next 10 years	Linear method may be adopted for extrapolation of biomedical waste generation
6.	Total existing treatment capacity (in Kg/day) (Sum of Incineration Capacity and Autoclave/Microwave/Hydroclave Capacity)	For calculation of existing treatment capacity, maintenance time (not more than 12-18 hrs/month) may be considered for calculating operational hours of equipment as below: a) Operational Hours for static incinerator 20 hrs/day b) Operational hours for Rotary incinerator 22 hrs/day c) 18 cycle per day for autoclave The actual capacity may also be considered as 90% of available capacity keeping 10% margin for diverted/extra waste etc.
7.	Total Biomedical Waste treated and disposed (Kg/day)	Sum of all categories of biomedical waste treated and disposal.
8.	Gap between total extrapolated biomedical waste generation (for next 10 years) and existing biomedical waste treatment capacity	Extrapolated biomedical waste generation minus total existing treatment capacity

Annexure-I

Coverage area-wise gap analysis for assessing additional BMW treatment capacity requirement

S. No	Coverage area (pl. indicate areas covered by a CBWTF in the State/UT)	No. of HCFs		No. of Beds covered	Total estimated BMW generation in Kg/day	Total existing treatment capacity in Kg					Total BMW Treated and Disposed in Kg/day	Gap between total BMW Generation and the Existing BMW Treatment Capacity in Kg	Remarks (Whether additional Treatment Capacity is required or not)	
		Bedded	Non-bedded			Incineration	Autoclaving/ Hydroclaving /microwaving	Chemical disinfection	Deep burial	Any other mode of disposal			Yes	No
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)

Note: Above gap analysis coverage area-wise is required to be prepared once in five years and should be shown or depicted in a Map of State/UT.

Annexure- II

Format for maintaining the records by the CBWTF Operator alongwith the transportation Vehicle used for collection of bio-medical waste from the member HCFs

Name of the CBWTF :
Address of the CBWTF with contact details :
Vehicle Registration Number (certificate to be carried by the vehicle driver) :
Route covered (indicate places) by the vehicle :

Note: Above format is required to be maintained in duplicate both by the CBWTF Operator and the member HCF

Date	Vehicle number and the Time of arrival of the vehicle	Vehicle Speedo meter mileage readings in KM		Name of the HCF with address and the bar code number from whom waste collected	Category-wise quantity of bio-medical waste received in kg					Total BMW collected by the CBWTF		Name of the Vehicle driver with	Signatures	
		Initial	Final		Yellow	Red	Blue	Out dated medicines	White - waste sharps	Total No. of Bags	Total waste		Vehicle Driver	Representative of the HCF
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)

Annexure - III

Log book for Operating the Incinerator/Plasma Pyrolysis

Date	Time of operation of the Incineration		Quantity of hourly BMW charged in Kg (Total BMW charged in a day in Kg)	Temperature maintained in ^{0}C			Negative draft in primary chamber *(in mm of water column) (Pl. indicate range i.e., min. to max)*	Pressure drop across APCD *(in mm of water column) (Pl. indicate range i.e, min. to max)*	p^{H} level of scrubbed liquid used *(Pl. indicate range – min. to max.)*	Average values of flue gas analysis results (continuous online) observed during the incineration/plasma pyrolysis process operation				Consumption of electricity/ Diesel whichever is applicable			Net Quantity of bio-medical waste received in Kg	Net Quantity of bio-medical Waste left over in a day (in Kg)
				Primary Chamber	Secondary Chamber	After scrubbing in exit stack gas				CO in mg/Nm^{3}	O_2 in %	CO_2 in %	% combustion Efficiency	Power (indicate electricity meter reading)		Diesel in liters (pl. indicate daily or weekly diesel consumption)		
	Start	End												Initial reading	Final reading			(19)= (18) – (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	16)	(17)	(18)	(19)

Note: Fill the details whichever is applicable

Log Book for Operating the Autoclave/Hydroclave

Date	Time of operation of the Autoclave or Hydroclave		Batch number	Quantity of waste feeding per batch in Kg (Total waste treated by autoclaving/ hydroclave in Kg)	Temperature and Pressure ~~in every ten minutes~~		Strip test result (pl. paste the strip test for each batch with a proof)	Consumption of electricity (indicate electricity meter reading)		Net Quantity of waste received in Kg	Net Quantity of Waste left over in Kg
	Start	End			Temperature in ^{0}C	Pressure in psi		Initial reading	Final reading		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)=(11)-(5)

Annexure – IV

Check List for Development of a Common Bio-medical Waste Treatment and Disposal Facility & For issuing 'Consent to Establishment under Water & Air Acts

1.	Name of the Proponent	:	
2.	Proposed location of the CBWTF	:	
3.	No. of HCFs in the locality	:	
4.	No. beds	:	
5.	Total Bio-medical Waste Generation in kg/day	:	
	(i) Incinerable in kg/day	:	
	(ii) Autoclavable in kg/day	:	
	(iii) Glass waste in kg/day	:	
	(iv) Waste sharps in kg/day	:	

6. **Proposed location of the CBWTDF**: located away from

a)	Residential area	:	Yes □ No □
b)	Sensitive area	:	Yes □ No □
c)	Industrial area	:	Yes □ No □
d)	Is it as a part of TSDF	:	Yes □ No □
e)	Is the facility proposed in Hilly areas	:	Yes □ No □
d)	Buffer distance of 500 m available	:	Yes □ No □

7. **Proposed land area for CBWTF:**

a)	Area about 1 acre	:	Yes □ No □
b)	Area less than 1 Acre	:	Yes □ No □
c)	Area more than 1 Acre	:	Yes □ No □

8. **Proposed coverage area of the CBWTF:**

a) Any facility located upto a radius of 75 KM from the proposed locality : Yes □ No □

b) No. of beds covered by the existing facility/proposed facility:

(i)	more than 10, 000 beds	:	Yes □ No □
(ii)	less than 10,000 beds	:	Yes □ No □

c) Is there any CBWTF within the radius of 75 KM : Yes □ No □

d) BMW Waste generation in a coverage area under consideration: …… Kg/day

e) Existing CBWTF treatment Capacity :

(a) Incineration/plasma pyrolysis :…… Kg/day

(b) Autoclave/hydroclave : ……Kg/day

(c) Chemical Disinfection :…… Kg/day

f) Is locality requires any additional capacity (within a radius of 75 KMs)?.
: Yes □ No □

(i) If so, indicate reason:……

9. Requirement of Treatment Facility: Following treatment facilities shall be provided in a CBWTF:

a) Incineration : Yes □ No □
b) Autoclave (Pre-vacuum horizontal feeding) / Hydroclave / Microwave.
: Yes □ No □
c) Shredder : Yes □ No □
d) Sharp pit (with drawing details) : Yes □ No □
e) Provision for floor washing/vehicle washing: Yes□ No □
f) Effluent Treatment Plant : Yes □ No □
g) Secured land fill/Disposal of ash in TSDF : Yes □ No □
h) Other provisions as per CPCB guidelines : Yes □ No □

10. Segregation

(i). Segregation shall be as per the Bio-medical Waste Management Rules, 2016 as amended as well as compatible with treatment facilities at CBWTF
(ii). Occupier/Generator is responsible for providing segregated waste to the operator.

11. Collection

(i) Respective coloured bags provided with bar code should be kept in similar coloured container i.e. coloured bags shall not be directly kept in vehicle.
(ii) Sharps shall be collected in puncture resistant, leak proof, rigid containers.
(iii) Temporary storage at healthcare unit shall be designated.

12. Transport Vehicle

(I) Dedicated vehicles for collection of Bio-medical waste : Yes □ No □
(II) Separate cabins shall be provided for driver/staff and the bio-medical waste containers : Yes □ No □
(III) The base of the waste cabin shall be leak proof to avoid pilferage of liquid during transportation : Yes □ No □
(I) The waste cabin may be designed for storing waste containers in tiers
: Yes □ No □
(V) The waste cabin shall be so designed that it is easy to wash and disinfect.
: Yes □ No □

(VI) The inner surface of the waste cabin shall be made of smooth surface to minimize water retention :Yes □ No □

(VII) The waste cabin shall have provisions of sufficient openings in the rear and/or sides so that waste containers can be easily loaded and unloaded : Yes □ No □

(VIII) The vehicle shall be labeled with the bio-hazard symbol (as per Schedule IV of BMWM Rules) and should display the name, address and telephone number of the CBWTF : Yes □ No □

(IX) Other provision as per CPCB guidelines : Yes □ No □

13. Storage

(I) Sufficient ventilated storage space for untreated and treated bio-medical waste shall be provided. : Yes □ No □

(II) The flooring and walls (to a height of 2M from floor) shall be finished with smooth and fine material. There shall be minimum number of joints. : Yes □ No □

14. Record Keeping

(I) Documents such as collection advice taken from health care units for each category of waste, records of waste movements, logbook for the equipment and site records shall be maintained. : Yes □ No □

(II) All the record (five year) shall be available at the CBWTF site for inspection. : Yes □ No □

15. Proposed Treated Waste Disposal method:

(i). Incineration ash - Secured landfill/near by TSDF: Yes□ No□

(ii). Plastic waste after disinfection and shredding –Registered Recycling Unit : Yes □ No □

(iii). Sharps, after disinfection (if encapsulated) - Municipal landfill : Yes □No □

(iv). Treated wastewater –Discharge into sewer/drain or recycling in APCD : Yes □ No □

(v). Oil & grease –By incineration: : Yes □ No □

(VI). Any other mode of disposal of recyclable waste:
(If so, pl. indicate .....)

16. Estimated energy consumption and fuel consumption per month :

(i) Estimated energy consumption per month

(a) General lighting in the facility :

(b)	Incinerator	:
(c)	Autolcave/microwave	:
(d)	Shredder	:
(e)	ETP	:
(f)	Any other	:

(ii) Estimated fuel consumption:

(a)	Diesel consumption	:..... in Kl per month
(b)	No. of hours of operation of DG Set	:
(c)	No. of hours of incineration	:

17. Whether the proponent obtained necessary approvals from the concerned departments as required : Yes □ No □

(i) If yes, attach details

18. Whether the proponent obtained EC as per EIA 2006 and the amendments made thereof : Yes □ No □

(i) If yes, attach a copy of the EC obtained from the concerned

19. Whether the proposal recommended for issuing consent to establish

: Yes □ No □

(Signature of the official verified with date)

Annexure – V

Check List for Performance Evaluation of the Common Bio-medical Waste Treatment and Disposal Facility (CBWTF)

S.No.	Details		Particulars
01.	Name of CBWTF with contact details	:	
02.	Date of visit	:	
03.	Location details of the CBWTF	:	a) Near to Residential area: :Yes □ No □ b) In/near Sensitive area: Yes □ No□ c) In Industrial area : Yes □ No □ d) Is there a buffer zone of 500 m: Yes □ No □ Indicate exact distance: in KM e) Is it as a part of TSDF: Yes □ No □ If so, distance of TSDF from the nearest CBWTF: ……KM.. f) Is the facility proposed in Metropolitan city: Yes □ No □ (i)Name of the City: …… (ii)Population of the City (as per latest census): …… g) Is the facility proposed in Hilly area : Yes □ No □ (i)Name of the Town/City: ……
04	Month / year of establishment and the Consents status	:	Establishment Month/Year :
05.	CBWTF set up by	:	
06.	CBWTF operated by	:	
07.	Total number of healthcare facilities and beds covered (as on date of visit)	:	No. of HCFs : No. of Beds : No. of HCFs and beds upto 75 KM radius:
08.	Total BMW Treatment Capacity of CBWTF (in kg / day)	:	Incineration : Autoclave : Chemical Disinfection: Any other treatment and disposal:
09.	**Consents and Authorization details :**		

S.No.	Details		Particulars
9.1	Consent under Water (Prevention and Control of Pollution) Act, 1974	:	□Applied for □ Not Applied for □ Possess Valid Consent □ Not renewed □ No consent If obtained: Consent is valid upto …… and issued by ……SPCB/PCC vide letter dated ……
9.2	Consent under Air (Prevention and Control of Pollution) Act, 1981	:	□Applied for □ Not Applied for □ Possess Valid Consent □ Not renewed □ No consent If obtained: Consent is valid upto …… and issued by ……SPCB/PCC vide letter dated ……
9.3	**Environmental Clearance (EC)**		□Applied for □ Not applied □ Obtained □ Not obtained If obtained: EC issued by SEIAA or MoEF& CC vide letter dated ……
9.4	Authorization under BMW Rules, 1998	:	□ Applied for □ Not Applied for □ Possess Valid Authorisation □ Not renewed □ No Authorisation If obtained: Authorisation is valid upto …… and issued by ……SPCB/PCC vide letter dated ……
10.	Investment in setting up the CBWTF	:	
11.	Area of plot size for CBWTF (Sq. ft.)	:	
12	Annual Report submission for the year ……	:	Submitted before due date : :Yes □ No □ If yes, provide details of waste collected, received and treated & disposed of: ……
12.	Coverage area of CBWTF (radius in KM covered)	:	Coverage area upto 75 km radius: Yes □ No □
13.	Name of Districts/Cities / places being covered	:	(Pl. indicate Districts or places covered:…… ……) W.r.to the CBWTF (i) Farthest HCF located at :.. ……KM (ii) Nearest HCF located at :……KM.
14.	Daily operation schedule (timings)	:	(i) Collection: …AM to …. PM. (ii) Incineration:….AM to ….PM (iii) Whether waste from member HCFs collected in holidays: □ Yes □ No

S.No.	Details		Particulars
15.	Cost charged to the healthcare facilities	:	(i) Charges in Rs…… (ii) Is the cost to be levied suggested by: ……Organisation
16.	**Total quantity of bio-medical waste treated:**		**kg/day (avg.)**
16.1	Incinerable	:	…… %
16.2	Autoclaving	:	……%
16.3	Chemical Disinfection	:	……%
16.4	Others (please specify waste type-wise)	:	……%
17.	**Staff involvement in CBWTF operation (number of persons):**		
17.1	Managerial / Administration	:	
17.2	Equipment operations	:	
17.3	Transportation of BMW	:	No. of Drivers: No. of Helpers:
17.4	Sanitation and others	:	
17.5	Total persons excluding managers	:	
18.0	**Collection and Transportation of bio-medical waste from member HCFs :**		
18.1	No. of Vehicles used for collection of waste from member HCFs	:	(i) Four Wheelers: ……Nos and Vehicle Numbers: …… (ii) Two Wheelers :……Nos and Vehicle Numbers:……
18.2	Vehicles are labeled as per BMWM Rules, 2016	:	□ Satisfactory □ No satisfactory
18.3	Vehicles used are as per CPCB Guidelines	:	□ Satisfactory □ No satisfactory
18.4	Vehicles attached with the GPS provision as per BMWM Rules 2016		□ Satisfactory □ No satisfactory
18.5	Whether waste collected from member HCFs adopted Bar coding system ?		□ Yes □ No
19.0	Temporary untreated waste storage area	:	□ Satisfactory □ No satisfactory

S.No.	Details		Particulars
20.0	Mode of conveyance of bio-medical waste from untreated waste storage area to the treatment equipment within the CBWTF	:	□ Closed Trolley/Pull cart with bio-hazard symbol □ No Closed Trolley/Pull cart □ Others like ……
21.0	**Treatment equipment installed at CBWTDF**		
21.1	Incinerator/plasma pyrolysis capacity and make	:	(i) No. of Incinerators including standby: (ii) Incineration capacity: …… kg /hr ……Kg/day.
21.2	Daily Operation schedule of the incinerator /plasma pyrolysis (timings)	:	……AM to ……PM (or) ……PM to ……AM Whether bio-medical waste collected from member HCFs is treated during holidays: Yes □ No □
21.3	Consumption of auxiliary fuels	:	S. No / Type of Fuel / Consumption Quantity in liters per day / Bill numbers of purchase of fuel a) b)
21.4	Stack attached with the incinerator /plasma pyrolysis	:	(i) Stack Diameter: m (ii) Stack Height : m above Ground Level
21.5	Monitoring provision attached with the stack	:	□ Platform □ Porthole □ access to the platform (Steps/Monkey Ladder/any other……)
21.6	Is stack monitoring provision satisfactory and as per CPCB guidelines	:	□ Yes □No
21.7	air pollution control systems attached with the incinerator/plasma pyrolysis	:	(i) Quenching : □ Yes □ No (ii) Venturi scrubber : □ Yes □ No (iii) Droplet separator : □ Yes □ No (iv) Mist eliminator : □ Yes □ No (v) Filters : □ Yes □ No (vi) Lime and Activated Carbon injection: : □ Yes □ No (vii) ID Fan : □ Yes □ No (viii) Any other : (Pl. indicate)
21.8	Waste feeding mechanism	:	(i) Manual feeding : □ Yes □ No (ii) PLC based Automatic feeding : □ Yes □ No

S.No.	Details		Particulars
21.9	Is PLC and automatic recording system (for recording operating parameters of the incinerator) attached with the incinerator/plasma pyrolysis	:	(i) PLC synchronized with waste feeding mechanism & in working condition: □ Yes □ No (I) PLC synchronized and recording system attached with incinerator and in working condition: □ Yes □ No
21.10	Operational conditions of the Incineration/plasma pyrolysis as observed during the visit	:	(i) Whether burners in working condition: □ Yes □ No (ii) Temperature maintained in Primary Chamber (range) : ……^{0} C (iii) Temperature maintained in Secondary Chamber (range):……^{0} C (iv) Negative draft in Primacy Chamber : ……mm of water column (v) Pressure drop in the Venturi: …… mm of water column
21.11	Is continuous on-line monitoring system/Flue gas analyser attached with the incinerator/plasma pyrolysis for flue gas analysis (i.e CO, O_2 and CO_2)	:	(i) Is continuous online monitoring system (COMS) attached with incinerator: □ Yes □ No (ii) Observed values of flue gas parameters: CO_2: …% ;O_2: …… % and CO: …… % (iii) Observed Combustion Efficiency: ……% (iv) Observed values of stack emissions as per COMS ……
21.12	Emergency and Fire safety measures adopted within the facility is adequate	:	Is Emergency stack attached with the incinerator: □ Yes □ No Whether fire safety measures adopted (Fire Extinguishers, Sand buckets etc.): □ Yes □ No
21.13	Log book for incinerator/ plasma pyrolysis is maintained and satisfactory	:	Log Book Maintained: □ Yes □ No Log Book Maintained is satisfactory : □ Yes □ No
21.14	Details of heat recovery system installed with incinerator/plasma pyrolysis	:	□ Yes □ No
22.0	**Capacity of autoclave and-- make**	:	Autoclave of capacity ……kg/cycle and make …… installed.

S.No.	Details		Particulars
22.1	Operating conditions of autoclave/microwave as observed during the visit	:	Operating parameters observed: (i) Temperature : in ^{0}C (ii) Pressure : in psi (iii) Residence time : in minutes
22.2	Provision made for the autoclave /micorwave	:	Trolley for waste feeding : □ Yes □ No Graphic or computer recording device attached: □ Yes □ No
22.3	Spore test or strip test conducted regularly and records maintained	:	□ Yes □ No Pl. indicate frequency of Strip test conducted: every batch /once in a week /quarterly /yearly Pl. indicate frequency of Spore test conducted: every batch /once in a week /quarterly /yearly
22.4	Performance of autoclave by spore testing or routine test	:	□ Satisfactory □ Not satisfactory
22.5	Log book maintained for autoclave is satisfactory	:	Log Book Maintained: □ Yes □ No Log Book Maintained is satisfactory : □ Yes □ No
23.0	**Capacity of shredder and make**	:	..... kg/hr. Self-designed & got fabricated locally.
24.0	Details of sharp pit / Encapsulation facility	:	(i) Sharp Pit provided : □ Yes □No (ii) Is it as per CPCB guideline : □ Yes □No (iii) Records maintained : □ Yes □No (iv) Total quantity of waste sharps stored: (v) Total quantity of waste sharps treated and disposed:
25.0	**Water Balance**		
25.1	Source and quantity of water intake per day (cu.m / day)	:	Water consumption source: ..... Water is drawn at ..... KLD approximately. Is magnetic water flow meter attached to the water source/water storage tank : □ Yes □No Magnetic water flow meter readings as per record (for last month): 1 St Day of Month : Last day of month : Magnetic Flow meter as observed during the visit:

S. No	Month	Magnetic flow meter reading	
		Initial	Final
(1	Previous month		

S.No.	Details		Particulars
			(2) | On the date of visit:…… | | | If water requirement is met from outside through tankers, pl. provide No. of Tankers procured in a previous six months: Total quantity of water consumed during the previous six months : .. ….. in KLD
25.2	Break up of water usage (such as washing, scrubbing etc.)	:	Scrubber – KL/hr or KLD Washing – KLD Disinfections – KLD Gardening – KLD Domestic – KLD
26.0	**Total wastewater effluent generated per day**	:	About ……KLD generated Quantity of treated water reused/recycled in %: Any other mode of disposal:
27.	**Effluent treatment plant details**		
27.1	ETP Capacity	:	…… KL/Cycle
27.2	Flow Chart of ETP	:	ETP comprising of: …… Unit operations
27.3	Intake and Discharge of ETP	:	(i) Magnetic Flow measuring device provided at the outlet of ETP: □ Yes □ No (ii) Energy meter attached to the ETP: □ Yes □ No (iii) Energy consumed over a period of one month: = …… Units (iv) pH meter attached at the outlet of ETP: □ Yes □ No
27.4	Final mode of disposal of treated water	:	(i) Is treated wastewater complying with the discharge norms □ Yes □ No (ii) Is Treated water is reused in the scrubber: □ Yes □ No (ii) Is Treated water is reused for gardening: □ Yes □ No (iii) Is Treated water is discharged in drain: □ Yes □ No (iv) Is Treated water is discharged in open area: □ Yes □ No

S.No.	Details		Particulars
28.	Status of infrastructure provided (Pl. indicate 'Yes / No' whichever is applicable)		
28.1	Separate treatment equipment room	:	□ Yes □ No
28.2	Main waste storage room	:	□ Yes □ No
28.3	Treated waste storage room	:	□ Yes □No
28.4	Administrative room	:	□Yes □No
28.5	Generator set	:	□ Yes □No
	(i) Capacity	:	
	(ii) Is Stack attached as per DG Set norms	:	□Yes □ No
	(iii) Is Acoustic enclosure provided as per DG Set norms	:	□ Yes □ No
	(iv) Is DG Set complying to the emissions norms and noise level norms	:	□Yes □ No If so, pl. indicate latest monitoring results: ……
28.6	Site security (high walls, fencing, guarded gates etc.)	:	High walls on all four sides :□ Yes □No Fencing on all the sides : □ Yes □ No Guarded Gates : □Yes □ No Any other observation pl indicate:……
28.7	Parking facility	:	□ Yes □ No
28.8	Sign board	:	□ Yes □ No
28.9	Green belt	:	□ Yes □ No
28.10	Washing room	:	□ Yes □ No
28.11	First aid box	:	□ Yes □ No
28.12	Lighting arrangements in the facility	:	□ Yes □ No
28.13	Odour problem remedial measures	:	□ Yes □ No
28.14	Fire fighting and emergency facilities	:	□ Yes □ No
28.15	Measures for control of pests / insects etc.	:	□ Yes □ No

S.No.	Details		Particulars
28.16	Protective gear for waste handlers	:	□ Yes □ No
28.17	Telephone facility	:	□ Yes □ No
28.18	Provision of washing, toilets and safe place for eating for the workers		□ Yes □ No
28.19	File alarm system provided in the facility		□ Yes □ No
29.	**Record maintenance and record keeping details (Pl. indicate 'Yes / No' whichever is applicable)**		
29.1	Waste Movement /Manifest record	:	□ Yes □ No
29.2	Log book for treatment equipment	:	□ Yes □ No
29.3	Site records	:	□ Yes □ No
29.4	Incineration ash generation and final disposal records	:	□ Yes □ No
29.5	Treated plastic waste generation and its sale to the registered recycler	:	□ Yes □ No
29.6	Syringes treated and its final disposal record	:	□ Yes □ No
29.7	Workers health status records		□ Yes □ No
29.8	Workers immunization records		□ Yes □ No
29.9	Medical and para-medical workers training records		□ Yes □ No
29.10	Whether records maintained with regard to the accidents (such as fire, spills and injury and measures taken)		□ Yes □ No
30.	**Collection and transportation status (Yes / No)***		
30.1	Whether waste collected in a container	:	□ Yes □ No

S.No.	Details		Particulars
	of similar colour with label as per the Rules?		
30.2	Whether the person who collects BMW maintain a register with him / her?	:	□ Yes □ No
30.3	Has due attention have been given in vehicles to prevent spillage / pilferage/ loading / unloading etc.?	:	□ Yes □ No
30.4	Is the vehicle labeled with the symbol and display the name, address, telephone number etc.?	:	□ Yes □ No
30.5	Does the CBWTF operator use satellite station to store the waste?	:	□ Yes □ No (If yes, give details……)
30.6	The CBWTF operator collects waste daily or alternate day including holidays?	:	□ Yes □ No
30.7	Whether waste treatment criterion of 48 hours is complied?		□ Yes □ No
31.	Disposal of treated waste:		
31.1	Plastic waste after treatment	:	Plastic waste Sold to: M/s. …… and approved by ……SPCB/PCC
31.2	Treated sharps	:	Treated syringes disposal by:…… or through M/s……and approved by ……SPCB/PCC
31.3	Incineration ash	:	Incineration ash disposal by: Disposal in Sanitary Landfill:□ Yes □ No Disposal through TSDF:□ Yes □ No Any other mode :……
31.4	Other treated solid wastes	:	
31.5	Oil & grease	:	

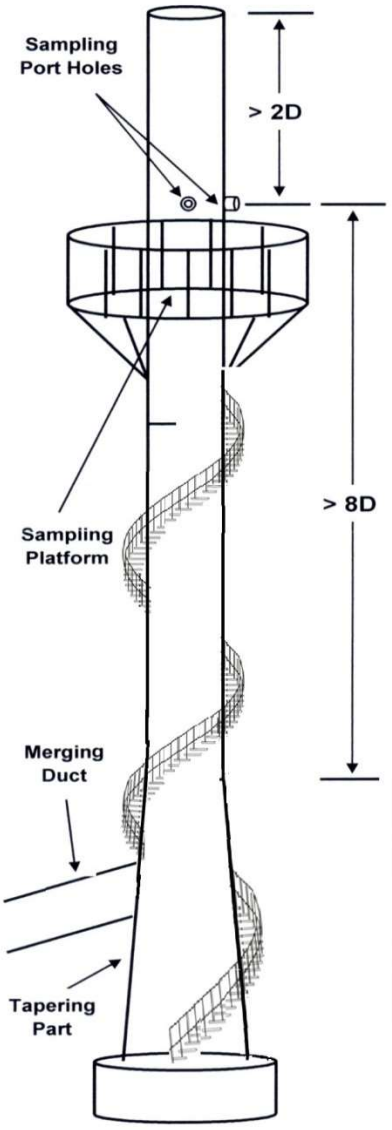
<table>
<tr><th>S.No.</th><th>Details</th><th></th><th>Particulars</th></tr>
<tr><td>31.6</td><td>Treated wastewater</td><td>:</td><td></td></tr>
<tr><td>32.</td><td>Frequency of incinerator / autoclave / microwave / hydroclave / ETP discharge effluent testing and name of the laboratory (specify approved or not under E(P) Act, 1986 or NABL Accredited Lab.). Give details of compliance / non-compliance)</td><td>:</td><td>(i) Reported monitoring frequency:
(ii) Stack monitoring : Quarterly :□ Yes □ No
(iii) Waste water : Monthly/Quarterly/Yearly
(iv) Incineration ash : Monthly/Quarterly/Yearly
(v) Name of the Laboratory conducted test: ……
(vi) Is the Laboratory approved under E (P) Act, 1986/……SPCB/PCC/ NABL: :□ Yes □ No
(vii) Copies of the analysis reports of treated effluent, incinerated ash, stack monitoring as (Annexures……)</td></tr>
<tr><td>32.1</td><td>Frequency of site inspection by SPCBs/PCCs/CPCB/any other agencies</td><td>:</td><td>(i) No. of times in a year inspected by the SPCB/PCC: ……
(ii) No. of times in a year inspected by the CPCB ……</td></tr>
<tr><td>33.</td><td colspan="3">Monitoring Results :</td></tr>
<tr><td>33.1</td><td>Incinerator stack emission (parameters stipulated in the Rules, temperature attainment in the chambers, residence time in the secondary chamber etc.)</td><td>:</td><td>
<table>
<tr><th>Parameter</th><th>PM</th><th>HCl</th><th>NOx</th><th>Hg & com-pounds</th><th>Dioxins and Furans</th><th>C.E.</th></tr>
<tr><td>Date</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>LIMIT</td><td>50</td><td>50</td><td>400</td><td>0.05</td><td>0.1 ng TEQ per Nm³</td><td>99.00%</td></tr>
</table>
Date of monitoring:
Note: All values are in mg/Nm³, except CE</td></tr>
<tr><td>33.2</td><td>Whether Stack emission norms are complied with by the CBWTF</td><td></td><td>□ Yes □ No</td></tr>
<tr><td>33.3</td><td>Incineration ash characteristics</td><td>:</td><td>Characteristics as per Schedule –II of HOW (M& TM) Rules,2016 (Annexure-----)
Is it hazardous waste as per HOWM&TM Rules, 2016: □ Yes □No</td></tr>
<tr><td>33.4</td><td>ETP inlet/outlet characteristics</td><td>:</td><td>
<table>
<tr><th>Parameter</th><th>pH</th><th>TSS</th><th>COD</th><th>BOD</th><th>O&G</th></tr>
<tr><td>ETP Inlet Result</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
</table>

S.No.	Details		Particulars
			ETP Outlet Result | | | | | | All values are in mg/l except pH
33.5	Whether liquid effluent discharge norms are complying by the CBWTF	:	□ Yes □ No
33.6	Whether CBWTF is submitting the annual report within the due date for the preceding year	:	□ Yes □ No If Yes, annual report submitted vide letter No…… dated……
34.	Any other relevant observations	:	(pl. enclose as annexure)
35.	Name of the officials with designation inspected /monitored the CBWTF and the signature	:	

Annexure-VI

STATIONARY SOURCE EMISSION MONITORING

MODIFICATIONS TO BE MADE TO SAMPLING PLATFORM AND SAMPLING PORT HOLE



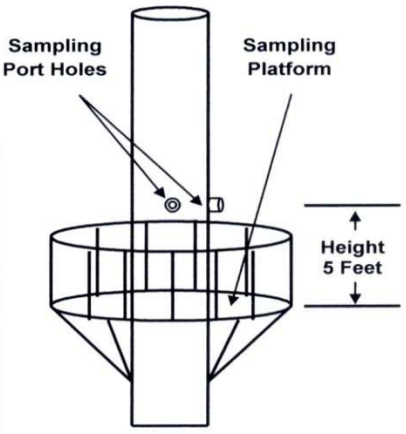
Number of Port Holes : Minimum two numbers of Port Holes at 90° apart from each other at a horizontal plane.

Location of Port Holes : Minimum 8 times of Internal Diameters of Stack downstream (upward direction of stack) from any duct confluence, bends and tapering & minimum 2 times of Internal Diameters of Stack upstream (downward direction of stack) from stack exit.

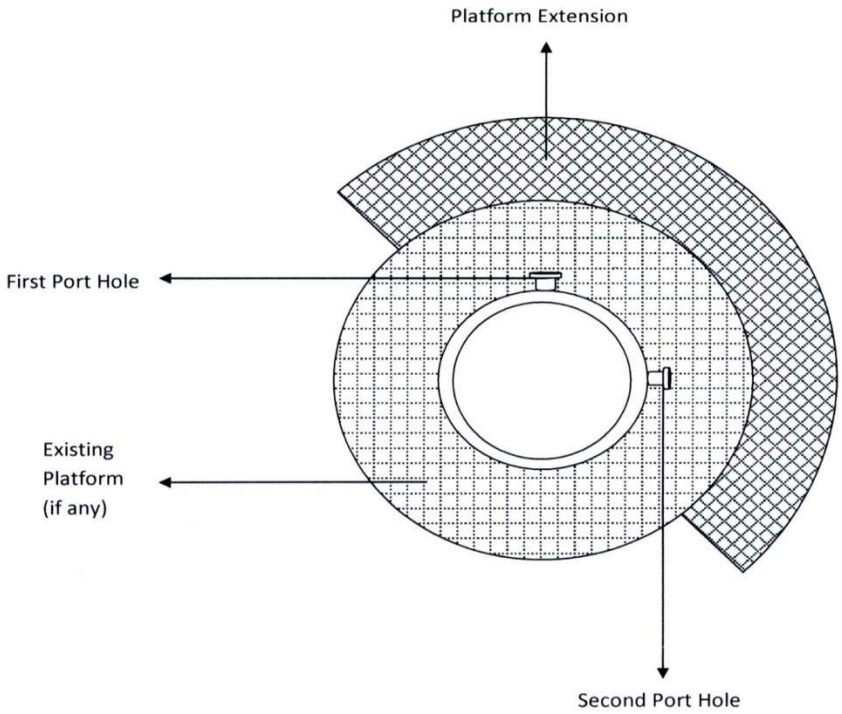
Location of Sampling Platform : 5 feet upstream (downward direction of stack) from the Port Hole as determined above.

Port Hole Flange : If the internal diameter of the flange is 4 inch or more then there is no need to change, if it is less than 4 inch than it has to be replaced with 4 inch flange. The flange should not protrude out more than 6 inches from the outer wall of the stack (it shall be kept as less as possible).

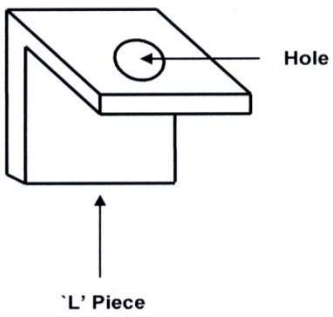
Sampling Platform Modification : A semi-circular extension of the existing platform (width extending outward by 6 feet from outside wall of the stack and covering at least one third of the circumference) may be provided for access to both the Port Holes. This area can be extended from the existing Platform and if deemed necessary for safety of the personnel a counter extension in opposite direction may also be provided. The extended Platform shall be strengthened with requisite support from the stack.



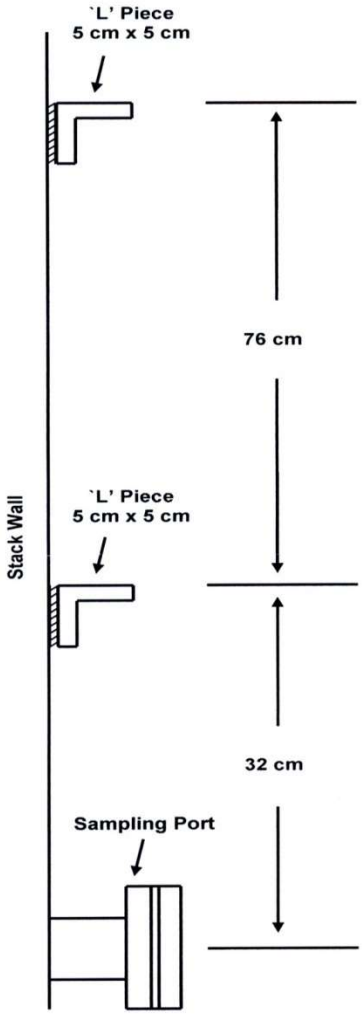
Note: Alternatively, safe access to monitoring platform may be provided with seperate scaffolding-cum-staircase arrangement



Sampling Platform Modification / Extension



**Fixing of `L' Pieces on the stack wall :** Two `L' shaped pieces are to be fixed on the stack wall for mounting the Mono-Rail & Chain (part of the Sampling Kit for movement of sampling Train in & out through the Sampling Port Hole). The `L' pieces shall be made of approximately 6 mm thick galvanized iron to have 5 cm long arms. One arm of the `L' piece shall be welded on the stack wall and another arm shall have a hole of 14 mm diameter near the open end. Both the `L' Pieces shall be welded on the stack wall at specified distances (as shown in the diagram on the next page) from the centre of Sampling Port Hole (in a vertical axis on the Stack Wall).



Fixing of `L' Pieces on the Stack Wall

ANNEXURE – VII

The vehicle shall be labeled with the bio-hazard symbol (as per Schedule IV of the BMWM Rules) and should display the name, address and contact telephone and mobile number of the CBWTF.

Bio Medical Waste Vehicle

Name and address of CBWTF with Contact number of CBWTF operator

Authorized by *(Name of)* State Pollution Control Board/Pollution Control Committee

Vehicle Side-1

Bio Medical Waste Vehicle

Name and address of CBWTF with Contact number of CBWTF operator

Authorized by *(Name of)* State Pollution Control Board/Pollution Control Committee

Vehicle Side-2

Bio- Hazard symbol at back side of the vehicle

Note: Proportion of Font size with respect to body height of the vehicle-12:1 (Minimum)

Proportion of Bio-hazard symbol with respect to body height of the vehicle-12:3 (Minimum)

Example: If body height is 6 feet i.e. 72" then minimum font size will 6" and minimum size of bio-hazard symbol will be 18".

REFERENCES

1. Bio-medical Waste Management Rules, 2016.
2. Revised Guidelines for Common Bio-medical Waste Treatment Facilities (2016).
3. CPCB Guidelines for BMW Incinerators.
4. 'Disposal of Bio-medical Waste generated during Universal Immunization Programme' issued by CPCB.
5. 'Guidelines for Environmentally Sound Management of Mercury Waste Generated from the Health Care Facilities' issued by CPCB.
6. Annual Report 2023 submitted to CPCB by the SPCBs/PCCs.
7. Stationary Source Emission Monitoring –Modifications to be made to the Sampling Platform and Sampling Port Hole issued by National Reference Trace Organics Laboratory (NRTOL), CPCB.

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