

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

Appeal No. 79/2025

IN THE MATTER OF:

Satjeet Singh Gulati

...Applicant

Vs.

State Level Environment Impact Assessment

Authority (SEIAA), Uttarakhand & Ors

...Respondent(s)

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NDTH. 24.07.2026

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PLACE NEW DELHI

DATE

THROUGH



Shri Narender Pal Singh

ADVOCATE, MoEF&CC

**BEFORE THE NATIONAL GREEN TRIBUNAL
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Authority (SEIAA), Uttarakhand & Ors

...Respondent(s)

COUNTER AFFIDAVIT ON BEHALF OF RESPONDENT NO. 3
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE.

MOST RESPECTFULLY SHOWETH:-

I, Dr. S. Prabhu, S/o. Shri. K. Subramani aged about 44 years, presently working as Scientist 'D' in the Ministry of Environment, Forest & Climate Change (MoEF&CC), Government of India having its Office at Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110003 do solemnly affirm and declare as under:

1. That I, in my official capacity in the Ministry of Environment, Forest and Climate Change, in the above mentioned matter, am conversant with the facts and circumstances of the case on the basis of official records, and as such authorized and competent to swear this affidavit.



2. It is respectfully submitted that the Applicant in the present appeal has, inter alia, challenged the Environmental Clearance dated 22.09.2025 issued by the State Level Environment Impact Assessment Authority (SEIAA), Uttarakhand, in favour of Respondent No.7 for establishment of a Common Bio-Medical Waste Treatment Facility, alleging violations of the provisions of the Environment (Protection) Act, 1986, the EIA Notification, 2006 and the Bio-Medical Waste Management Rules, 2016.
3. That the applicant has further contended that the grant of Terms of Reference dated 15.07.2024 and the subsequent Environmental Clearance dated 22.09.2025 was arbitrary and illegal, on the ground that mandatory requirements such as gap analysis, proper site appraisal, consideration of seismic sensitivity, disaster vulnerability, hydrological impact and effective public consultation were allegedly not complied with by the concerned authorities.

Applicable provisions for grant of Environmental Clearance

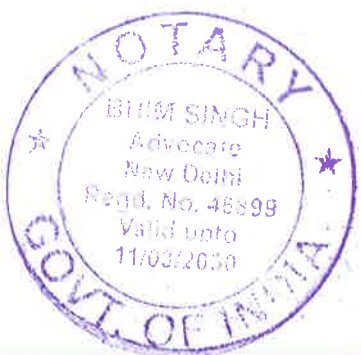
4. That the Ministry has issued an Environmental Impact Assessment Notification vide S.O. 1533(E) dated 14.09.2006 superseding the Environmental Impact Assessment (EIA) Notification, 1994 under the Environment (Protection) Act, 1986. The EIA Notification, 2006 regulates developmental projects in respect of construction of new projects/activities/ expansion or modernization of existing projects in



different parts of the country, in accordance with the procedure specified in the notification under the provisions of the EIA Notification, 2006.

5. That EIA Notification, 2006 covers 38 projects/activities in its Schedule, which *inter alia* include different types of infrastructure projects viz. Airports, Ports, Highways, and Building & Construction Projects etc., as specified and classified in the schedule of the said notification. All such projects/activities shall require prior environmental clearance from the concerned regulatory authority, e.g., MoEF&CC in the Central Government for matters falling under Category 'A' in the Schedule and the State Environment Impact Assessment Authority (SEIAA) at State level for matters falling under Category 'B' in the said Schedule, before starting any construction work, or preparation of land by the project management except for securing the land. Broadly, the following categories of projects/activities are covered under the ambit of EIA Notification, 2006:

- I. *All new projects or activities listed in the Schedule to the said notification;*
- II. *Expansion and modernization of existing projects or activities listed in the Schedule to the notification with addition of capacity beyond the threshold limits given in the Schedule, after expansion or modernization; and*



III. *Any change in product - mix in an existing manufacturing unit included in Schedule beyond the specified range.*

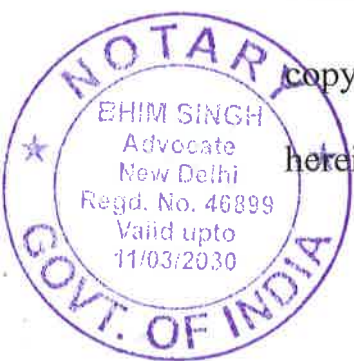
6. That the answering respondent has issued a Notification vide S.O.1142 (E) dated 17.04.2015 and made an amendment to the notification dated S.O.1533 (E) dated 14.09.2006 by inserting the item and entries 7(da) in the schedule of the said notification for the Bio-medical Waste Treatment Facilities. Therefore, any expansion of the existing Bio-Medical Waste Plant after 2015 or setting up of a new Bio-Medical Waste Plant would require EC. A true copy of Notification dated 17.04.2015 is marked and annexed herein as **Annexure-R3/1**.

7. That, as per the extant provisions, the Bio-Medical Waste Treatment Facilities are covered under 7(da) of the Schedule to the EIA Notification, 2006 with details as under:

	Project or Activity	Category with threshold limit		Conditions if any
		A	B	
(1)	(2)	(3)	(4)	(5)
7		Physical Infrastructure including Environmental Services		
7(da)	Bio-Medical Waste treatment Facilities	-	All projects	-



8. That the Bio-medical Waste Treatment Facilities fall under category 'B' of the EIA Notification, 2006 and require EC. Such projects are required to be appraised by the State Level Expert Appraisal Committees (SEACs) and approved by the State Level Environment Impact Assessment Authorities (SEIAAs). Further, that as per the EIA Notification, 2006, in the absence of a duly constituted SEIAA/SEAC, category 'B' projects shall be considered at the Central Level as category 'B' projects.
9. That this answering respondent, vide Notification No. S. O. 637(E) dated 28.02.2014, has authorized the SEIAAs, which have been constituted by the Central Government under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 and delegated the powers under the Section 19 of the said Act to take necessary action against the violations, if any. A true copy of the Notification dated 28.02.2014 is marked and annexed herein as **Annexure-R3/2**.
10. It is humbly submitted that the answering respondent, vide Office Memorandum dated 20.03.2019, has issued a clarification regarding the requirement of Environmental Clearance for Common Bio-Medical Waste Treatment Facilities (CBWTFs) under the EIA Notification, 2006. A true copy of the Office Memorandum dated 20.03.2019 is marked and annexed herein as **Annexure-R3/3**.



11. It is respectfully submitted that the project in question pertains to the proposed establishment of a Common Bio-Medical Waste Treatment Facility (CBWTF) by M/s Green Eco Enterprises, the Project Proponent, at Village Kanoli, Tehsil Chaukhutiya, District Almora, Uttarakhand. The proposed project falls under Item 7(da) Bio-Medical Waste Treatment Facilities of the Schedule to the EIA Notification, 2006 and is classified as a Category 'B' project, requiring appraisal at the State level.

12. It is submitted that the Project Proponent applied for grant of Terms of Reference (ToR) before the State Level Environment Impact Assessment Authority (SEIAA), Uttarakhand. The SEIAA, Uttarakhand, after due consideration, granted the Terms of Reference vide letter dated 15.07.2024, enabling the Project Proponent to undertake preparation of the Environment Impact Assessment (EIA) and Environment Management Plan (EMP) in accordance with the provisions of the EIA Notification, 2006.

13. It is respectfully submitted that the State Level Environment Impact Assessment Authority (SEIAA), Uttarakhand, granted the Environmental Clearance dated 22.09.2025, in favour of M/s Green Eco Enterprises for the proposed Common Bio-Medical Waste Treatment Facility (CBWTF) at Village Kanoli, Tehsil Chaukhutiya, District Almora, Uttarakhand,

contains detailed specific, standard and additional conditions governing the establishment, operation and monitoring of the project.



A true copy of the Environmental Clearance dated 22.09.2025 is marked and annexed herein as **Annexure-R3/4**.

Applicable provisions of Bio-Medical Waste Management (BMWM) Rules, 2016

14. It is submitted that the Ministry vide Gazette Notification No. G.S.R 343(E) dated 28th March 2016 had notified the Bio-Medical Waste Management (BMWM) Rules, 2016 in supersession of earlier Rules namely the Bio-Medical Waste (Management & Handling) Rules, 1998 with the objectives to improve segregation, collection, processing, treatment, and disposal of bio-medical waste in an environmentally sound manner, thereby reducing its impact on the environment. The Ministry has also issued three amendments in the BMWM Rules, 2016 vide GSR No. 234(E) dated 16th March 2018; GSR No. 129(E) dated 19th Feb 2019, and 360(E) dated 10th May 2019. A true copy of the BMWM Rules, 2016, amended upto date is marked and annexed herein as **Annexure-R3/5**.

15. That, the BMWM Rules, 2016 are uniformly applicable to all persons and institutions involved in the generation and handling of biomedical waste in the country.

16. That, Rule 3 of the BMWM Rules, 2016 titled 'Definitions' defines 'prescribed authority' as the State Pollution Control Board in respect of a State and Pollution Control Committees in respect of a Union territory.



17. That, Rule 5 of the Bio-Medical Waste Management Rules, 2016 titled as 'Duties of the operator of a common bio-medical waste treatment and disposal facility', mentions that:

"It shall be duty of every operator to:

(a) 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 these rules and guidelines issued by the Central Government or, as the case may be, the central pollution control board from time to time;

(b) ensure timely collection of bio-medical waste from the occupier as prescribed under these rules;

(c) establish bar coding and global positioning system for handling of bio- medical waste in accordance with the guidelines issued by the Central Pollution Control Board by 27th march 2019;

(d) inform the prescribed authority immediately regarding the occupiers which are not handing over the segregated bio medical waste in accordance with these rules;

(e) provide training for all its workers involved in handling of bio-medical waste at the time of induction and at least once a year thereafter;



(f) assist the occupier in training conducted by them for bio-medical waste management;

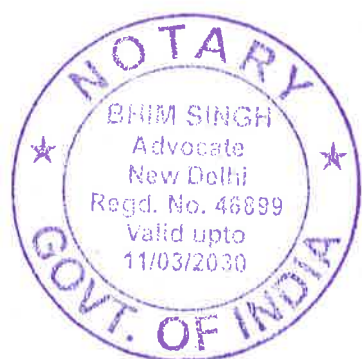
(g) undertake appropriate medical examination at the time of induction and at least once in a year and immunise all its workers involved in handling of bio-medical waste for protection against diseases, including Hepatitis B and Tetanus, that are likely to be transmitted while handling bio medical waste and maintain the records for the same;

(h) ensure occupational safety of all its workers involved in handling of bio- medical waste by providing appropriate and adequate personal protective equipment;

(i) report major accidents including accidents caused by fire hazards, blasts during handling of bio-medical waste and the remedial action taken and the records relevant thereto, (including nil report) in Form I to the prescribed authority and also along with the annual report;

(j) maintain a log book for each of its treatment equipment according to weight of batch; categories of waste treated; time, date and duration of treatment cycle and total hours of operation;

(k) allow occupier, who are giving waste for treatment to the operator, to see whether the treatment is carried out as per the rules;



(l) shall display details of authorisation, treatment, annual report etc on its web-site;

(m) after ensuring treatment by autoclaving or microwaving followed by mutilation or shredding, whichever is applicable, the recyclables from the treated bio-medical wastes such as plastics and glass, shall be given to recyclers having valid consent or authorisation or registration from the respective State Pollution Control Board or Pollution Control Committee;

(n) supply non-chlorinated plastic-coloured bags to the occupier on chargeable basis, if required;

(o) common bio-medical waste treatment facility shall ensure collection of biomedical waste on holidays also;

(p) maintain all record for operation of incineration, hydroor autoclaving for a period of five years; and

(q) upgrade existing incinerators to achieve the standards for retention time in secondary chamber and Dioxin and Furans within two years from the date of this notification."

18. That, Rule 6 of the BMWM Rules, 2016, titled as 'Duties of Authorities'

mentions that the authority specified in column (2) of Scheduled-III shall perform the duties as specified in column (3) thereof in accordance with provisions of these rules.



19. It is submitted that as per Schedule III of the BMW Rules, 2016, the Municipalities/Corporations, Urban Local Bodies and Gram Panchayats are required to provide or allocate suitable land for development of common bio-medical waste treatment facilities in their respective jurisdictions.

20. That, Rule 7 of the BMW Rules, 2016 titled as 'Treatment and Disposal' mentions that:

"(1) Bio-medical waste shall be treated and disposed of in accordance with Schedule I, and in compliance with the standards provided in Schedule-II by the health care facilities and common bio-medical waste treatment facility.

(2) Occupier shall hand over segregated waste as per the Schedule-I to common bio-medical waste treatment facility for treatment, processing and final disposal.

Provided that the lab and highly infectious bio-medical waste generated shall be pre-treated by equipment like autoclave or microwave.

(3) No occupier shall establish on-site treatment and disposal facility, if a service of common bio-medical waste treatment facility is available at a distance of seventy-five kilometre.



(4) In cases where service of the common bio-medical waste treatment facility is not available, the Occupiers shall set up requisite biomedical waste treatment equipment like incinerator, autoclave or microwave, shredder prior to commencement of its operation, as per the authorisation given by the prescribed authority....”

21. That, Rule 9 of the BMW Rules, 2016 titled as ‘Prescribed authority’ mentions that the prescribed authority for the implementation of the provisions of these rules shall be the State Pollution Control Boards (SPCBs) in respect of States and Pollution Control Committees (PCCs) in respect of Union territories and that the prescribed authorities shall comply with the responsibilities as stipulated in Schedule III of BMW Rules 2016.

22. It is submitted that the Rule 10 of the BMW Rules, 2016 titled as ‘Procedure for authorisation’ mentions that:

“Every occupier or operator handling bio-medical waste, irrespective of the quantity shall make an application in Form II to the prescribed authority i.e. State Pollution Control Board and Pollution Control Committee, as the case may be, 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.

(1) The authorisation shall be one time for non-bedded occupiers and the authorisation in such cases shall be deemed to have been granted, if not objected by the prescribed authority within a period of ninety days from the date of receipt of duly completed application along with such necessary documents.

(2) In case of refusal of renewal, cancellation or suspension of the authorisation by the prescribed authority, the reasons shall be recorded in writing:

Provided that the prescribed authority shall give an opportunity of being heard to the applicant before such refusal of the authorisation.

(3) Every application for authorisation shall be disposed of by the prescribed authority within a period of ninety days from the date of receipt of duly completed application along with such necessary documents, failing which it shall be deemed that the authorisation is granted under these rules.

(4) In case of any change in the bio-medical waste generation, handling, treatment and disposal for which authorisation was earlier granted, the occupier or operator shall intimate to the prescribed authority about the change or variation in the activity



and shall submit a fresh application in Form II for modification of the conditions of authorisation.”

23. That, Rule 17 of the BMW Rules, 2016 titled as ‘Site for common bio-medical waste treatment and disposal facility’ states that:

“(1) Without prejudice to Rule 5 of these rules, the department in the business allocation of land assignment shall be responsible for providing suitable site for setting up of common biomedical waste treatment and disposal facility in the State Government or Union territory Administration.

(2) The selection of site for setting up of such facility shall be made in consultation with the prescribed authority, other stakeholders and in accordance with guidelines published by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board.”

24. It is submitted that CPCB has issued guidelines for the implementation of BMW Rules, 2016, and the establishment and operation of Common Bio-medical Treatment and Disposal Facilities.

25. That Central Pollution Control Board (CPCB) has also issued guidelines for Common Bio-medical Waste Treatment and Disposal



Facilities on April 12, 2025. A true copy of the guidelines is marked and annexed herein as **Annexure-R3/6**.

26. It is submitted that SPCBs and the State Health Departments are the nodal agencies to ensure the enforcement and implementation of BMWM Rules 2016, which include segregation, collection, transportation, and scientific disposal of waste.
27. It is submitted that in view of the foregoing facts and submissions, this Hon'ble Tribunal may be pleased to take the present affidavit on record and pass such other order(s) as may be deemed fit in the interest of justice, which the answering respondent shall duly comply with.
28. The answering Respondent craves liberty to file additional information, if any, till *pendente lite*.

I Identify the deponent who has
Signed / put T.I. in my presence

VERIFICATION

Verified at _____ on this _____ day of 18 MAY 2026, 2026 that the contents of this affidavit based on official record(s) maintained and information available in the office are true and correct, no part of it is false and nothing has been concealed there from.



ATTESTED
BL
NOTARY PUBLIC, DELHI
18 MAY 2026

S.P.
DEPONENT
(डा. एस. प्रभु)
(Dr. S. PRABHU)
वैज्ञानिक 'डी' / Scientist 'D'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min. of Environment, Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

S.P.
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(डा. एस. प्रभु)
(Dr. S. PRABHU)
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पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min. of Environment, Forest and Climate Change
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Govt. of India, New Delhi

रजिस्ट्री सं० डी० एल०-33004/99

REGD. NO. D. L.-33004/99



भारत का राजपत्र The Gazette of India

असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)

PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

सं. 887]

नई दिल्ली, बृहस्पतिवार, अप्रैल 30, 2015/वैशाख 10, 1937

No. 887]

NEW DELHI, THURSDAY, APRIL 30, 2015 /VAISAKHA 10, 1937

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 17 अप्रैल, 2015

का.आ. 1142(अ).— केन्द्रीय सरकार, पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उपनियम (4) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उपधारा (1) और धारा 3 की उपधारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, लोक हित में उक्त नियम के नियम 5 के उपनियम (3) के खंड (क) के अधीन सूचना की आवश्यकता से छूट के पश्चात्, भारत सरकार के पर्यावरण और वन मंत्रालय की अधिसूचना संख्यांक का.आ. 1533(अ), तारीख 14 सितंबर, 2006 का निम्नलिखित और संशोधन करती है, अर्थात्:--

उक्त अधिसूचना की अनुसूची में मद 7(घ) और उससे संबंधित प्रविष्टियों के पश्चात् निम्नलिखित मद और प्रविष्टियां अंतःस्थापित की जाएंगी, अर्थात्:--

(1)	(2)	(3)	(4)	(5)
"7(घ)(क)	जैव-चिकित्सा (बायो-मैडिकल) अपशिष्ट उपचार सुविधाएं		सभी परियोजनाएं	

[फा.सं.3-9/2014-आई.ए. III]

मनोज कुमार सिंह, संयुक्त सचिव

टिप्पण: मूल नियम भारत के राजपत्र, असाधारण, भाग 2, खंड 3, उपखंड (ii) में अधिसूचना सं.का.आ.1533(अ), तारीख 14 सितंबर, 2006 द्वारा प्रकाशित किए गए थे और निम्नानुसार पश्चात्तवर्ती संशोधन किए गए:--

1. का.आ.1737(अ), तारीख 11 अक्टूबर, 2007;
2. का.आ.3067(अ), तारीख 1 दिसंबर, 2009;
3. का.आ.695(अ), तारीख 4 अप्रैल, 2011;
4. का.आ.2893(अ), तारीख 13 दिसंबर, 2012;

5. का.आ.674(अ), तारीख 13 मार्च, 2013;
6. का.आ.2559(अ), तारीख 22 अगस्त, 2013;
7. का.आ.2731(अ), तारीख 9 सितंबर, 2013;
8. का.आ.562(अ), तारीख 26 फरवरी, 2014
9. का.आ.637(अ), तारीख 28 फरवरी, 2014;
10. का.आ.1599(अ), तारीख 25 जून, 2014;
11. का.आ.2601(अ), तारीख 7 अक्टूबर, 2014;
12. का.आ.3252(अ), तारीख 22 दिसंबर, 2014;
13. का.आ.382(अ), तारीख 3 फरवरी, 2015;
14. का.आ.811(अ), तारीख 23 मार्च, 2015; और
15. का.आ.996(अ), तारीख 10 अप्रैल, 2015।

MINISTRY OF ENVIRONMENT AND FORESTS
NOTIFICATION

New Delhi, the 17th April, 2015

S.O.1142(E).— In exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986(29 of 1986) read with sub-rule(4) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following further amendments to the notification of the Government of India, in the Ministry of Environment and Forests number S.O.1533(E), dated the 14th September, 2006 after dispensed with the requirement of notice under clause(a) of sub-rule(3) of the said rule 5 in public interest, namely:—

In the said notification, in the Schedule, after item 7(d) and the entries relating thereto, the following item and entries shall be inserted, namely:—

(1)	(2)	(3)	(4)	(5)
"7(da)	Bio-Medical Waste Treatment Facilities	-	All projects	-

[F. No. 3-9/2014-IA.III]

MANOJ KUMAR SINGH, Jt. Secy.

Note:- The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii) vide notification number S.O. 1533 (E), dated the 14th September, 2006 and subsequently amended as follows:-

1. S.O.1737(E) dated the 11th October, 2007
2. S.O. 3067(E) dated the 1st December, 2009
3. S.O.695(E) dated the 4th April, 2011
4. S.O.2896(E) dated the 13th December, 2012
5. S.O.674(E) dated the 13th March, 2013
6. S.O.2559(E) dated the 22nd August, 2013
7. S.O. 2731(E) dated the 9th September, 2013
8. S.O. 562(E) dated the 26th February, 2014
9. S.O.637(E) dated the 28th February, 2014
10. S.O. 1599(E) dated the 25th June, 2014
11. S.O. 2601 (E) dated 7th October, 2014
12. S.O. 3252(E) dated 22nd December, 2014
13. S.O. 382 (E) dated 3rd February, 2015
14. S.O. 811(E) dated 23rd March, 2015
15. S.O. 996(E) dated 10th April, 2015.

रजिस्ट्री सं० डी० एल०-33004/99

REGD. NO. D. L.-33004/99



भारत का राजपत्र The Gazette of India

असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)

PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित

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No. 545]

NEW DELHI, TUESDAY, MARCH 4, 2014/PHALGUNA 13, 1935

पर्यावरण और वन मंत्रालय

अधिसूचना

नई दिल्ली, 28 फरवरी, 2014

का.आ. 637(अ).—केंद्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 23 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए उक्त अधिनियम की धारा 5 के अधीन इसमें निहित शक्तियों को पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 3 की उप-धारा (3) के अधीन केंद्रीय सरकार द्वारा गठित किए गए सभी राज्य और संघराज्यक्षेत्र पर्यावरण समाघात प्राधिकरणों (जिन्हें इसमें इसके पश्चात् उक्त प्राधिकरण कहा गया है) को उक्त प्राधिकरणों द्वारा अपनी अधिकारिता के भीतर परियोजनाओं या क्रिया कलापों को जारी पर्यावरण अनापत्तियों की शर्तों के अतिक्रमण की दशा में परियोजना प्रस्तावकों को कारण बताओ नोटिस जारी करने तथा इस शर्त के अधीन कि केंद्रीय सरकार शक्तियों के ऐसे प्रत्यायोजन का प्रतिसंहरण कर सकेगी या उक्त अधिनियम की धारा 5 के उपबंधों को स्वयं अवलंब ले सकेगी, यदि केंद्रीय सरकार की राय में लोक हित में ऐसी कार्यवाही आवश्यक है, यदि अपेक्षित हो तो अतिक्रमणों के लिए उक्त परियोजना प्रस्तावकों को ऐसी पर्यावरण अनापत्तियों को उन्हें प्रास्थगित रखने या वापस लिए जाने हेतु निदेश जारी करने की शक्तियों का प्रत्यायोजन करती है।

[सं. जे-11013/2/2013-आई ए (आई)]

अजय त्यागी, संयुक्त सचिव

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 28th February, 2014

S.O. 637(E).—In exercise of the powers conferred by section 23 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby delegates the powers vested in it under section 5 of the said Act to all the State and Union Territory Environment Impact Assessment Authorities (Hereinafter referred to as the said Authorities) constituted by the Central Government under sub-section (3) of section 3 of Environment (Protection) Act, 1986, to issue show cause notice to project proponents in case of violation of the conditions of the environment clearances issued by the said Authorities to projects or activities within their jurisdiction and to issue directions to the said project proponents for keeping such environment clearances in abeyance or withdrawing them, if required, for violations, subject to the condition that the Central Government may revoke such delegations of powers or may itself invoke the provisions of section 5 of the said Act, if in the opinion of the Central Government such a Course of action is necessary in the public interest.

[No. J-11013/2/2013-IA. (I)]

AJAY TYAGI, Jt. Secy.

अधिसूचना

नई दिल्ली, 28 फरवरी, 2014

का.आ. 638(अ).—केन्द्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 19 के खण्ड (क) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए उक्त की धारा के प्रयोजन के लिए इससे उपाबद्ध उस सारणी के स्तंभ (3) में उनमें से प्रत्येक के सामने उल्लिखित अधिकारिता के साथ उस सारणी के स्तंभ (2) में उल्लिखित प्राधिकरण या अधिकारी को प्रातिकृत करती है:

सारणी

क्रम संख्यांक	प्राधिकरण/अधिकारी	अधिकारिता
(1)	(2)	(3)
1.	पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 3 की उपधारा (3) के अधीन केंद्रीय सरकार द्वारा गठित राज्य या संघ राज्यक्षेत्र स्तर पर्यावरण समाघात प्राधिकरण (एस.ई.आई.ए.ए.)	संपूर्ण राज्य या संघ राज्यक्षेत्र
2.	पर्यावरण और वन मंत्रालय (एम.ओ.ई.एफ.) के किन्हीं प्रादेशिक कार्यालयों में तैनात कोई निदेशक, वन संरक्षक या अपर प्रधान मुख्य वन संरक्षक	पर्यावरण और वन मंत्रालय द्वारा यथा-विनिश्चित प्रादेशिक कार्यालय की अधिकारिता

[सं. जे-11013/2/2013-आई ए (आई)]

अजय त्यागी, संयुक्त सचिव

NOTIFICATION

New Delhi, the 28th February, 2014

S.O. 638(E).—In exercise of the powers conferred by clause (a) of section 19 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby authorises the Authority or officer mentioned in column (2) of the Table hereto for the purpose of the said section with the jurisdiction mentioned against each of them in column (3) of that Table:

TABLE

S. No.	Authority/Officer	Jurisdiction
(1)	(2)	(3)
1.	State or Union Territory level Environment Impact Assessment Authority (SEIAA) constituted by the Central Government under sub-section (3) of section 3 of the Environment (Protection) Act, 1986.	Whole of State or Union Territory
2.	Any Director, Conservator of Forests or Additional Principal Chief Conservator of Forests Posted in any of the Regional Offices of the Ministry of Environment and Forests (MoEF).	Jurisdiction of the Regional Office as decided by the Ministry of Environment and Forests

[No. J-11013/2/2013-IA. (I)]

AJAY TYAGI, Jt. Secy.

F. No. 22-28/2018-IA.III

Government of India

Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan
Aliganj, Jorbagh Road
New Delhi-110 003Dated: 20th March, 2019**OFFICE MEMORANDUM****Sub.: Clarification of requirement of Environmental Clearance by Common Bio-medical Waste Treatment Facilities (CBWTF) as per EIA Notification 2006 – reg.**

An OM from HSM Division dated 28.02.2019 has been received requesting clarification of requirement of Environmental Clearance by Common Bio-medical Waste Treatment Facilities (CBWTF) as per EIA Notification 2006. It is to inform that the CBWTF require prior EC and are appraised as per the provisions of schedule 7(da) of the EIA Notification 2006 as amended from time to time.

2. As per the EIA Notification 2006, expansion and modernization of existing projects or activities listed in the Schedule to this notification with addition of capacity beyond the limits specified for the concerned sector, that is, projects or activities which cross the threshold limits given in the Schedule, after expansion or modernization require EC.

3. It is also informed that as per para 7(ii) of the EIA Notification 2006 all applications seeking prior environmental clearance for expansion with increase in the production capacity beyond the capacity for which prior environmental clearance has been granted under this notification or with increase in either lease area or production capacity in the case of mining projects or for the modernization of an existing unit with increase in the total production capacity beyond the threshold limit prescribed in the Schedule to this notification through change in process and or technology or involving a change in the product mix shall be made in Form I and they shall be considered by the concerned Expert Appraisal Committee or State Level Expert Appraisal Committee within sixty days, who will decide on the due diligence necessary including preparation of EIA and public consultations and the application shall be appraised accordingly for grant of environmental clearance.

4. This issues with the approval of the competent authority.

Sharath
(Sharath Kumar Pallerla)
Director, IA Policy Division

To,

Sh. Aditya Narayan Singh,
Additional Director, HSM Division,
Ministry of Environment, Forest and Climate Change,
Indira Paryavaran Bhawan Aliganj,
Jorbagh Road New Delhi-110 003.

o/c
Issued
22/3/19



File No: EC-07(12)/2024

Government of India

Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment
Authority(SEIAA), UTTARAKHAND)



Date 22/09/2025



To,

Hema Adhikari

GREEN ECO ENTERPRISES

Khata No.00001 (Basra No.40) & Khata No.00002 (Basra No. 07), Village Kanoli, Tehsil Chaukhutiya,
District Almora, Uttarakhand, Kanoli, ALMORA, UTTARAKHAND, 263139
geeeia2024@gmail.com

Subject:

Grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA
Notification 2006 -regarding.

Sir/Madam,

This is in reference to your application submitted to SEIAA vide proposal number
SIA/UK/INFRA2/549162/2025 dated 26/08/2025 for grant of prior Environmental Clearance (EC) to
the proposed project under the provision of the EIA Notification 2006 and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC25B3301UK5203843N
(ii) File No.	EC-07(12)/2024
(iii) Clearance Type	Fresh EC
(iv) Category	B1
(v) Project/Activity Included Schedule No.	7(da) Bio-Medical Waste Treatment Facilities
(vii) Name of Project	Proposed Common Bio Medical Waste Treatment Facility (CBWTF) by M/s Green Eco Enterprises
(viii) Name of Company/Organization	GREEN ECO ENTERPRISES
(ix) Location of Project (District, State)	ALMORA, UTTARAKHAND
(x) Issuing Authority	SEIAA
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

Plot/Survey Khasra Nos.: KHATA NO. 00001 (BASRA NO. 40) & KHATA NO. 00002 (BASRA NO. 07)

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A, B and C)/

EIA & EMP Reports were submitted to the SEIAA for an appraisal by the SEIAA under the provision of EIA notification 2006 and its subsequent amendments.

4. The above-mentioned proposal has been considered by SEIAA in the meeting held on 28/06/2024. The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed from the PARIVESH portal by scanning the QR Code above or through the following web link [click here](#).
5. The brief about configuration of products and byproducts as submitted by the Project Proponent in form-1 (Part A, B and C)/ EIA & EMP Reports / presented during SEIAA are annexed to this EC as Annexure (1).
6. The SEIAA, in its meeting held on , based on information submitted viz: Form 1 (Part A, B and C), EIA/EMP report etc & clarifications provided by the project proponent and after detailed deliberations on all technical aspects and public hearing issues and compliance thereto furnished by the Project Proponent, recommended the proposal for grant of Environment Clearance under the provision of EIA Notification, 2006 and as amended thereof subject to compliance of Specific and Standard EC conditions as given in this letter.
7. The SEIAA has examined the proposal in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the State Environment Impact Assessment Authority (SEIAA) Appraisal Committee hereby accords Environment Clearance to the instant proposal of M/s. Hema Adhikari under the provisions of EIA Notification, 2006 and as amended thereof subject to compliance of the Specific and Standard EC conditions as given in Annexure (1)
8. The Ministry reserves the right to stipulate additional conditions, if found necessary.
9. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
10. The Project Proponent is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.
11. Validity of EC is upto 22/09/2025 to the start of production operations by the project or activity. Validity of EC becomes perpetual subject to the start of production operations by the project or activity on or before the [Project_Date] In case the project proponent fails to start the production operations within the EC validity date, application for EC validity extension shall be submitted to the regulatory authority as per the provision contained in the Para 9.0 of EIA notification, 2006 and its amendment.
12. General Instructions:

(a) The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.

(b) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

(c) The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.

(d) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.

(e) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(f) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(g) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

13. This issues with the approval of the Competent Authority

Copy To

N/A

Annexure 1

Standard EC Conditions for (Bio-Medical Waste Treatment Facilities)

1. Statutory Compliance

S. No	EC Conditions
1.1	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

Additional EC Conditions

Pre Operation-

- 1) The project proponent should advertise with basic details at least in two widely circulated local newspapers, within seven (7) days of the receipt of the clearance letter informing that the project has been accorded Environmental Clearance by SEIAA Uttarakhand and a copy of the same be sent to the Regional Office of Ministry of Environment, Forests and Climate Change, Govt of India located at 25 Subhash Road, Dehradun.
- 2) A copy of the Environmental Clearance letter shall be sent by the proponent to the concerned Panchayat/Town area.
- 3) Consent to Establish/Consent to Operate shall be obtained from Uttarakhand Pollution Control Board under relevant provisions of Air (Prevention and Control of Pollution) Act, 1981 and Water (Prevention and Control of Pollution) Act, 1974 before starting any construction activity at the site.
- 4) There shall be no felling of trees at the construction site and further no damage to the local vegetation shall be done. The installation of equipment/machineries shall be done within the vacant space available in the plant premises.

During Operation Phase-

- 60) Rainwater harvesting for surface run off shall be ensured. Before recharging the surface run off, pretreatment must be done to remove suspended matter, oil and other particles.
- 61) Emergency preparedness plan based on risk assessment shall be made and shall be submitted to this office within three months.
- 62) The project proponent shall submit within the next 3 months the details on quantification of yearwise CER activities along with cost and other details.
- 63) STP shall be connected with separate electric meter and photocopy of electric consumption bill shall be submitted with compliance report to this office.
- 64) The project proponent shall provide Personal Protection Equipment (PPE) as per the norms of factory act.
- 65) Agreement with TSDF vendors shall be submitted.
- 66) The grant of this EC is issued from the environmental angle only, and does not absolve the project proponent from the other statutory obligations prescribed under any other law or any other instrument as force the sole and complete responsibility to comply with the conditions laid down in all other laws for the time being inforce, rests with the project proponent.
- 67) The provisions of the Solid Waste (Management) Rules, 2016 and the plastic waste (management) Rules 2016 shall be followed.
- 68) The project proponent shall abide by all commitments and recommendation made in the form- I, Pre-feasibility report/Environment Management Plan (EMP) and also during their presentation to the expert appraisal committee.
- 69) Any change in planning of the approved plan/site plan will leads to environment clearance void-ab initio and project proponent will have to seek fresh Environmental Clearance.
- 70) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provision of Environment Protection Act 1986.
- 71) The ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of Environment Protection.

72) The ministry/SEIAA reserves the right to stipulate additional condition if necessary the project proponent/company in time bound manner shall implement these conditions.

73) The Ministry/SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

74) The Regional office of the Ministry shall monitor compliance of the stipulated conditions. The project authorities should extent full cooperation to the officers (s) of the Regional office by furnishing the requisite data/information/monitoring reports.

75) The above conditions shall be enforced, inter-alia under the provisions of water Prevention & Control of Pollution) Act 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment Protection) Act, 1986, Hazardous and other wastes Rules, 2016, and the Public Insurance Act 1991, along with their amendments and rules and any other orders passed by the Hon'ble Supreme court of India/High court of law relating to the subject matter.

76) The project proponent shall submit half yearly compliance report of stipulated conditions of Environment Clearance in soft copy through PARIVESH PORTAL given link: <https://parivesh.nic.in>. The compliance report shall also be e mailed to the Regional Office in Dehradun in moef.ddn@gov.in

77) The project proponent shall ensure compliance to provisions of all the Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.

78) The above environmental safeguards shall be implemented in letter and spirit. The project proponent shall establish Environment Monitoring Cell, and also submit six monthly compliance reports to this Authority and regional office of Ministry of Environment, Forests and Climate Change, Govt of India at Dehradun. The contact details of the incharge of Environment Monitoring Cell will also be intimated in the compliance reports.

79) The SEIAA reserves the right to include additional safeguard measures, if found necessary and also to take action including revoking of the EC granted under provisions of EIA Notification 2006. This EC is being granted subject to compliance of Hon'ble Court Orders issued from time to time.

80) The SEIAA Uttarakhand reserves the right to withdraw the Environmental Clearance or add additional conditions.

81) If ownership is transferred then fresh Environment Clearance is to be obtained under EIA notification dated 14.09.2006. However, no activity shall be undertaken till the Environment Clearance is transferred in his name and he is lawfully bound to comply with the conditions of the Environmental Clearance.

82) This Environmental Clearance (E.C.) is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent Authority as may be applicable to this project.

83) The Project Proponent shall follow all relevant directions/orders issued by Hon'ble High Court/NGT/ Supreme Court.

84) The project proponent shall ensure compliance to provisions of all the Acts, Rules, Regulations Guidelines and directions of Hon'ble Courts for the time being in force, as applicable to the project.

85) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

Annexure 2

Details of the Project

S. No.	Particulars	Details
a.	Details of the Project	Proposed Common Bio Medical Waste Treatment Facility (CBWTF) by M/s Green Eco Enterprises
b.	Latitude and Longitude of the project site	29.84346027936211,79.34909964119785 29.8443741668118,79.35020127939714

S. No.	Particulars	Details	
c.	Land Requirement (in Ha) of the project or activity	Nature of Land involved	Area in Ha
		Non-Forest Land (A)	0.5
		Forest Land (B)	0
		Total Land (A+B)	0.5
d.	Date of Public Consultation	Public consultation for the project was held on	
e.	Rehabilitation and Resettlement (R&R) involvement	NO	
f.	Project Cost (in lacs)	100	
g.	EMP Cost (in lacs)	50	
h.	Employment Details		

Details of Products & By-products

Name of the product /By-product	Product / By-product	Quantity	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
Incinerator	Product	100	Kg/Hr.	Road	
Autoclave	Product	450	Ltr.	Road	
Shredder	Product	100	Kg/Hr.	Road	

राज्य स्तर पर्यावरण समाघात निर्धारण
प्राधिकरण, उत्तराखण्ड, "गौरादेवी पर्यावरण
भवन, तृतीय तल, 46-बी, आई.टी. पार्क,
सहस्रत्रधारा रोड, देहरादून"
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय,
भारत सरकार, नई दिल्ली द्वारा गठित)
दूरभाष: 0135-2976159
ईमेल: seiaa.seac.uk@gmail.com



Assessment Authority, "Gauradevi
Paryavaran Bhawan, Third Floor, 46-B
I.T. Park, Sahastradhara Road,
Dehradun"
(Constituted by Ministry of
Environment, Forests and Climate
Change Government of India.)
Phone No-0135-2976159
Email- seiaa.seac.uk@gmail.com

E.C.No- 482 07(12)/2024
To,

Dated- 22.9.2025

M/s Green Eco Enterprises by Smt. Hema Adhikari (Partner).
Khata No. 00001(Basra No. 40) & Khata No. 00002 (Basra No. 07), Village- Kanoli,
Tehsil- Chaukhutiya, District- Almora.

**Sub: Regarding Environmental Clearance for Proposed Common Bio Medical
Waste Treatment Facility (CBMWTF) at Khata No. 00001(Basra No. 40) & Khata No.
00002 (Basra No. 07), Village- Kanoli, Tehsil- Chaukhutiya, District- Almora.**

Kindly refer to your online proposal No SIA/UK/INFRA2/549162/2025 on 26/08/2025
submitted to SEIAA Uttarakhand regarding aforementioned subject. The details about the project
site and proposal for EC as per the documents submitted by the project proponent is as under:

S.No	Parameters	Description															
1.	Products and quantity	<table> <tr> <th>Equipment</th><th>Capacity</th><th>Number</th></tr> <tr> <td>Incinerator</td><td>100 kg/hr.</td><td>1</td></tr> <tr> <td>Autoclave</td><td>450 liters/Batch</td><td>1</td></tr> <tr> <td>Shredder</td><td>100 kg/hr.</td><td>1</td></tr> <tr> <td>Effluent Treatment Plant</td><td>5.0 KLD</td><td>1</td></tr> </table>	Equipment	Capacity	Number	Incinerator	100 kg/hr.	1	Autoclave	450 liters/Batch	1	Shredder	100 kg/hr.	1	Effluent Treatment Plant	5.0 KLD	1
Equipment	Capacity	Number															
Incinerator	100 kg/hr.	1															
Autoclave	450 liters/Batch	1															
Shredder	100 kg/hr.	1															
Effluent Treatment Plant	5.0 KLD	1															
2.	Estimated Project Cost	Rs.1.0 Crores															
3.	Total Plot Area	0.5 Hectare															
4.	Existing Green Area	-															
5.	Proposed Green Area	0.165 Hectare															
6.	Fresh Water Consumption	11 KLD															
7.	Fresh Water Source	Water requirement will be met through Private water tanker supply.															
8.	Power Demand	Proposed: 40 KVA (Sources from UPCL)															
9.	Power back up	DG Set - 35.0 KVA															
10.	Wastewater Management	Sewage: 1.20 KLD to Septic Tank/Soak Pit Ind. Activities: 4.75 KLD to Proposed ETP (Capacity -5.0 KLD).															
11.	Steam and heating system	Nil															
12.	Fuel Consumption	Proposed Incinerator (100 Kg/Hr.): HSD DG set : HSD															

Land use details:

S.No	Parameters	Description
1.	Covered Area	--
2.	Green Area	--
3.	Other Area	--
	Total Plot Area	0.5 Hectare

Domestic Water Demand and Effluent Generation:

S.No.	Uses	Population/ area	Consumption rate	Water requirement [KLD]	Domestic Effluent [KLD]
1	Domestic uses [drinking, sanitation]			0.6	0.5
2	Gardening			0.4	-

	Total		1.0	0.5
Industrial Water Demand and Effluent Generation:				
S.No.	Uses	Water requirement [KLD]	Effluent Generation [KLD]	
1	Process (Scrubbing)	6.00	2.75	
2	Steam Generation (Autoclaving)	0.50	0.40	
3	Miscellaneous	3.5	1.60	
	Total	10.0	4.75	

Solid waste details:

S.No.	Waste Detail	Quantity Generation	Utilization/Disposal
1	Used Oil [Category 5.1]	5.0 MTPA	Handed over to authorized recyclers/re-processors
2	Discarded Containers/Barrels [Category 33.1]	250 Nos./Annum	Handed over to authorized recyclers/re-processors
3	Sludge from Wet scrubbers [Category 37.1]	2.0 MTPA	Send to TSDF / Co processing industries.
4	Ash from incinerator and flue gas cleaning residue [Category 37.2]	5.0 MTPA	Send to TSDF / Co processing industries.

The SEAC during its meeting held on 28th August, 2025 had undertaken appraisal of the project. This project falls under B1 & 7(da) Common Bio Medical Waste Treatment Facility (CBMWTF) as enlisted in project /activity as per EIA Notification, 2006 and requiring prior EC. After due examination of the relevant documents submitted by the project proponent and additional clarification furnished in response to its observations earlier, SEAC has recommended the grant of Environmental Clearance for the above project subject to compliance of the EMP and other stipulated conditions. SEIAA during its meeting dated 18th September, 2025 considered the above proposal based on the recommendation of SEAC. After due examination and deliberation, the **SEIAA Uttarakhand hereby accords Environmental Clearance** for the above project under category B1 & 7(da) Common Bio Medical Waste Treatment Facility of EIA notification 2006 (as amended from time to time) subject to the strict compliance of the conditions mentioned below:-

Pre Operation-

- 1) The project proponent should advertise with basic details at least in two widely circulated local newspapers, within seven (7) days of the receipt of the clearance letter informing that the project has been accorded Environmental Clearance by SEIAA Uttarakhand and a copy of the same be sent to the Regional Office of Ministry of Environment, Forests and Climate Change, Govt of India located at 25 Subhash Road, Dehradun.
- 2) A copy of the Environmental Clearance letter shall be sent by the proponent to the concerned Panchayat/Town area.
- 3) Consent to Establish/Consent to Operate shall be obtained from Uttarakhand Pollution Control Board under relevant provisions of Air (Prevention and Control of Pollution) Act, 1981 and Water (Prevention and Control of Pollution) Act, 1974 before starting any construction activity at the site.
- 4) There shall be no felling of trees at the construction site and further no damage to the local vegetation shall be done. The installation of equipment/machineries shall be done within the vacant space available in the plant premises.

During Operation Phase-

- 1) The Project Proponent shall comply with Bio-medical waste rule 2016 and shall follow SOP issued by CPCB.
- 2) The Project Proponent shall install OCEMS for continues monitoring of emission with connectivity to UKPCB server.
- 3) The Project Proponent shall carry out emission monitoring with special reference to dioxin and furan on quarterly basis and shall submit monitoring report along with six monthly compliance report.
- 4) The Project Proponent shall arrange medical camps to surrounding villages for regular health checkup and shall submit monitoring report along with six monthly compliance report.
- 5) Project Proponent shall install solar light in the surrounding villages by investing Rs. 50000 as agreed during presentation.
- 6) The Project Proponent shall construct a storage tank of adequate capacity to store storm water from initial rain and discharge only after ensuring the discharge quality norms to avoid the contamination of surrounding area.
- 7) The Project Proponent shall provide suitable PPEs kits to workers engaged in handling in BMW
- 8) The Project Proponent shall adopt Odour control technology to reduce the odour problem.
- 9) The Project Proponent shall carryout work zone monitoring once in a quarter on regular basis from the NABL accredited/MoEF&CC recognized laboratory.
- 10) Project Proponent shall install STP & ETP separately.



- 11) Project Proponent shall strengthen ETP & VOC scrubbing system.
- 12) The Project Proponent shall ensure that storm water drain and plant garland drains remain separate.
- 13) Project Proponent shall provide adequate Nos of toilets and urinals separately for male and female staff/workers. The project proponent shall also provide adequate drinking water facility & toilets for visitors and drivers.
- 14) Project Proponent shall ensure compliance of CER activity through any Govt. Organization.
- 15) Project Proponent shall dispose AHU filter dust and filters to TSDF.
- 16) The committee desired that proponent should undertake afforestation activities in consultation with concerned DFO equivalent to 33% area of the project site. The budget shall be disbursed to concerned DFO as prevailing rates of forest department along with 5 years maintenance cost.
- 17) Project Proponent shall undertake additional plantation by planting 2000 trees in the surrounding area with consultation of concerned forest office under the tree plantation campaign "Ek Ped Ma Ke Naam" launched by Hon'ble Prime Minister of India.
- 18) Project proponent shall strengthen as well as adopt latest technology for ETP.
- 19) Project Proponent shall comply with the EPR authorization, if applicable.
- 20) The Project Proponent shall achieve ZLD as per proposal.
- 21) In case of any violation is reported the E.C will be treated as cancelled.
- 22) The Project Proponent shall submitted certified six monthly compliance report from RO, MoEF & CC, Dehradun.
- 23) The project proponent shall adhere to undertaking given for compliance of various issues raised during public consultation and also adhere to the funds allocated to various activities.
- 24) The Project Proponent shall ensure that the issues/concerns raised during public consultation are addressed amicably.
- 25) The project proponent shall construct rainwater harvesting pits in such a manner to prevent the ingress of contaminated water from ETP & STP into rainwater harvesting pit.
- 26) The Project proponent shall install Solar lights in the adjoining villages in consultation with local Authorities/Forest officials. Detail shall be submitted within three months.
- 27) Project Proponent shall install solar lights on the periphery of its premises.
- 28) Regular health checkup of workers by recognized medical practitioners shall be ensured by the Project proponent and shall submit report to SEIAA along with six monthly compliance report.
- 29) The project proponent will submit reports pertaining to ambient air quality, report pertaining to ground water quality and noise. These reports should be monitored and generated by a NABL approved laboratory having scope of it.
- 30) The Project proponent will install advanced dust suppression system at the project site.
- 31) The Project proponent shall plant two rows fast growing species on both the sides of road connecting from the project premises to main road.
- 32) The project proponent shall submit the NoC from CGWB for utilization of ground water.
- 33) The project proponent shall undertake rain water harvesting activities in the two surrounding villages preferably in the schools, primary health centers in consultation with local authorities.
- 34) The building plan and structural design of the unit shall comply with requirements of Seismic Zone - IV as outlined in National Building Code.
- 35) No further expansion or modifications in the plan shall be carried out without the prior approval of competent authority.
- 36) During any type of construction in the existing land area, the topsoil excavated shall be used for backfilling/ landscape development/ green belt development. The same shall not be disposed of outside the boundaries of project site without approval of Competent Authority.
- 37) The groundwater samples shall be tested from accredited labs and it shall be ensured that test results comply with CPCB standards so as to ensure that there is no threat to groundwater quality by leaching of heavy metals and toxic contaminants.
- 38) All stacking and loading areas should be provided with proper garland drains equipped with baffles to prevent runoff from the site to enter any adjoining water body. Construction spoils including bituminous materials must not be allowed to contaminate watercourse and dumpsites as these may leach into ground water.
- 39) The manufacturing process shall be carried out in closed atmosphere without having any air emissions. However, air emissions from DG set should comply with CPCB norms by designing stack of adequate height.
- 40) No waste water shall be discharged outside the plant boundary and 'Zero Discharge' shall be strictly adhered to permissible standards.
- 41) All the hazardous residue and wastes arising from units shall be either sent to TSDF for land filling or for incineration. Hazardous chemicals shall be stored in tanks in tank farms, drums, carboys etc.
- 42) The gaseous emissions (SO₂, NO_x, CO, VOC and HC) and particulate matter along with Respirable Suspended Particulate Matter (RSPM) levels from various process units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.



- 43) Fugitive emissions in the work zone environment, product and raw materials storage areas shall be regularly monitored. The emissions shall conform to the limits imposed by the UKPCB/Central Pollution Control Board. Dust / Powder from the formulation process shall be collected by dust extractor.
- 44) The project authorities shall strictly comply with the rules and guidelines under Manufacture, Storages and Import of Hazardous Chemicals Rules, 1989, (as amended from time to time). Authorization from the UEPPCB shall be obtained for collection, treatment, storage, and disposal of hazardous wastes.
- 45) The DG sets shall use low sulphur diesel type fuel and should have stack height complying with CPCB norms. DG set should be operated only during power failure in emergency situation.
- 46) The ambient air quality and noise levels as per CPCB norms shall be ensured through a monitoring system. Dust Suppression during construction activity shall be ensured. Acoustic enclosures shall be provided with all machineries and DG sets on site complying with Noise Levels as per CPCB standards.
- 47) All liquid raw materials shall be stored in storage tanks and drums. Closed handling systems for chemicals and solvents shall be provided. Magnetic seals shall be provided for pumps/agitators for reactors for reductions of fugitive emissions.
- 48) The vehicles used at the factory site should comply with emission norms and noise level standards of CPCB and State Transport Department. They should be operated only during non-peak hours.
- 49) All necessary efforts shall be made to ensure safety and hygiene of workforce. First Aid facility shall be established and trained manpower be engaged to deal with emergency cases. The labour force engaged on site shall be screened for health from time to time.
- 50) Adequate drinking water and sanitation facility shall be provided on site for the workforce.
- 51) Separate toilets shall be provided for ladies staff.
- 52) A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- 53) Energy consumption measures like installation of LED/TFL for the external lighting area shall be ensured. The used LED/TFL shall be properly collected and disposed off as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.
- 54) Action plan for establishment of solar energy shall be submitted to this office within three months.
- 55) The project proponent shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- 56) The project proponent shall ensure compliance to provisions of all the Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.
- 57) The vehicles used at the factory site should comply with emission norms and noise level standards of CPCB.
- 58) The project authority shall also comply with the entire environment protection measures and safeguards proposed in the EMP. All the recommendations made in respect of environmental management and risk mitigation measures relating to the project shall be implemented.
- 59) **The fire safety arrangements and emergency exit plan should be as per the norms of the concerned regulatory authority/agency.**
- 60) Rainwater harvesting for surface run off shall be ensured. Before recharging the surface run off, pretreatment must be done to remove suspended matter, oil and other particles.
- 61) Emergency preparedness plan based on risk assessment shall be made and shall be submitted to this office within three months.
- 62) **The project proponent shall submit within the next 3 months the details on quantification of yearwise CER activities along with cost and other details.**
- 63) STP shall be connected with separate electric meter and photocopy of electric consumption bill shall be submitted with compliance report to this office.
- 64) The project proponent shall provide Personal Protection Equipment (PPE) as per the norms of factory act.
- 65) Agreement with TSDF vendors shall be submitted.
- 66) The grant of this EC is issued from the environmental angle only, and does not absolve the project proponent from the other statutory obligations prescribed under any other law or any other instrument as force the sole and complete responsibility to comply with the conditions laid down in all other laws for the time being in force, rests with the project proponent.
- 67) The provisions of the Solid Waste (Management) Rules, 2016 and the plastic waste (management) Rules 2016 shall be followed.
- 68) The project proponent shall abide by all commitments and recommendation made in the form- I, Pre-feasibility report/Environment Management Plan (EMP) and also during their presentation to the expert appraisal committee.
- 69) Any change in planning of the approved plan/site plan will leads to environment clearance void-ab initio and project proponent will have to seek fresh Environmental Clearance.
- 70) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provision of Environment Protection Act 1986.
- 71) The ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of Environment Protection.
- 72) The ministry/SEIAA reserves the right to stipulate additional condition if necessary the project proponent/company in time bound manner shall implement these conditions.
- 73) The Ministry/SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- 74) The Regional office of the Ministry shall monitor compliance of the stipulated conditions. The project authorities should extent full cooperation to the officers (s) of the Regional office by furnishing the requisite data/information/monitoring reports.
- 75) The above conditions shall be enforced, inter-alia under the provisions of water Prevention & Control of Pollution) Act 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment Protection)



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Act, 1986, Hazardous and other wastes Rules, 2016, and the Public Insurance Act 1991, along with their amendments and rules and any other orders passed by the Hon'ble Supreme court of India/High court of law relating to the subject matter.

- 76) The project proponent shall submit half yearly compliance report of stipulated conditions of Environment Clearance in soft copy through PARIVESH PORTAL given link: <https://parivesh.nic.in>. The compliance report shall also be e mailed to the Regional Office in Dehradun in moef.ddn@gov.in
- 77) The project proponent shall ensure compliance to provisions of all the Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.
- 78) The above environmental safeguards shall be implemented in letter and spirit. The project proponent shall establish Environment Monitoring Cell, and also submit six monthly compliance reports to this Authority and regional office of Ministry of Environment, Forests and Climate Change, Govt of India at Dehradun. The contact details of the Incharge of Environment Monitoring Cell will also be intimated in the compliance reports.
- 79) The SEIAA reserves the right to include additional safeguard measures, if found necessary and also to take action including revoking of the EC granted under provisions of EIA Notification 2006. This EC is being granted subject to compliance of Hon'ble Court Orders issued from time to time.
- 80) The SEIAA Uttarakhand reserves the right to withdraw the Environmental Clearance or add additional conditions.
- 81) If ownership is transferred then fresh Environment Clearance is to be obtained under EIA notification dated 14.09.2006. However, no activity shall be undertaken till the Environment Clearance is transferred in his name and he is lawfully bound to comply with the conditions of the Environmental Clearance.
- 82) This Environmental Clearance (E.C.) is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent Authority as may be applicable to this project.
- 83) The Project Proponent shall follow all relevant directions/orders issued by Hon'ble High Court/NGT/ Supreme Court.
- 84) The project proponent shall ensure compliance to provisions of all the Acts, Rules, Regulations Guidelines and directions of Hon'ble Courts for the time being in force, as applicable to the project.
- 85) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

Your's Faithfully

(Dr. S.P. Subudhi)
Member Secretary,
SEIAA, Uttarakhand

No.- 482/07(12)/2024 dated- as above

Copy to-

1. APCCF, Regional office (Central) MoEFCC Govt of India, 25 Subhash Road, Dehradun for information and necessary action.
2. Principal Secretary, Forests & Environment, Government of Uttarakhand, Dehradun for information.
3. District Magistrate, Almora for information and necessary action.
4. Member Secretary, UKPCB, IT Park Dehradun for information and necessary action.
5. DFO Almora.
6. Guard File for uploading in Parivesh Website.

(Dr. S.P. Subudhi)
Member Secretary,
SEIAA, Uttarakhand

Signature Not Verified

Digitally Signed by: Dr S P Subudhi
Member Secretary, SEIAA

Date: 23/09/2025

The Bio-Medical Waste Management Rules, 2016¹ (Bio-Medical Waste Management Rules, 2016)

[As amended upto G.S.R. 129(E), dt. 19-8-2019]

[28th March, 2016]

Whereas the Bio-Medical Waste (Management and Handling) Rules, 1998 was published vide notification number S.O. 630(E) dated the 20th July, 1998, by the Government of India in the erstwhile Ministry of Environment and Forests, provided a regulatory frame work for management of bio-medical waste generated in the country;

And whereas, to implement these rules more effectively and to improve the collection, segregation, processing, treatment and disposal of these bio-medical wastes in an environmentally sound management thereby, reducing the bio-medical waste generation and its impact on the environment, the Central Government reviewed the existing rules;

And whereas, in exercise of the powers conferred by Sections 6, 8 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government published the draft rules in the Gazette vide number G.S.R. 450(E), dated the 3rd June, 2015 inviting objections or suggestions from the public within sixty days from the date on which copies of the Gazette containing the said notification were made available to the public;

And whereas, the copies of the Gazette containing the said draft rules were made available to the public on the 3rd June, 2015;

And whereas, the objections or comments received within the specified period from the public in respect of the said draft rules have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by Section 6, 8 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), and in supersession of the Bio-Medical Waste (Management and Handling) Rules, 1998, except as respects things done or omitted to be done before such suppression, the Central Government hereby makes the following rules, namely—

1. Short title and commencement.—(1) these rules may be called the **Bio-Medical Waste Management Rules, 2016**.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. Application.—(1) These rules shall apply to all persons who generate, collect, receive, store, transport, treat, dispose, or handle bio medical waste in any form including hospitals, nursing homes, clinics, dispensaries, veterinary institutions, animal houses, pathological laboratories, blood banks, ayush hospitals, clinical establishments, research or educational institutions, health camps, medical or surgical camps, vaccination camps, blood donation camps, first aid rooms of schools, forensic laboratories and research labs.

(2) These rules shall not apply to,—

- (a) radioactive wastes as covered under the provisions of the Atomic Energy Act, 1962(33 of 1962) and the rules made there under;
- (b) hazardous chemicals covered under the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 made under the Act;
- (c) solid wastes covered under the ²[Solid Waste Management Rules, 2016] made under the Act;
- (d) the lead acid batteries covered under the Batteries (Management and Handling) Rules, 2001 made under the Act;
- (e) hazardous wastes covered under the ³[Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016] made under the Act;
- (f) waste covered under the ⁴[E-Waste (Management) Rules, 2016] made under the Act; and
- (g) hazardous micro organisms, genetically engineered micro organisms and cells covered under the Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms, Genetically Engineered Micro organisms or Cells Rules, 1989 made under the Act.

3. Definitions.—In these rules, unless the context otherwise requires,—

- (a) "Act" means the Environment (Protection) Act, 1986 (29 of 1986);
- (b) "animal house" means a place where animals are reared or kept for the purpose of experiments or testing;
- (c) "authorisation" means permission granted by the prescribed authority for the generation, collection, reception, storage, transportation, treatment, processing, disposal or any other form of handling of bio-medical waste in accordance with these rules and guidelines issued by the Central Government or Central Pollution Control Board as the case may be;
- (d) "authorised person" means an occupier or operator authorised by the prescribed authority to generate, collect, receive, store, transport, treat, process, dispose or handle bio-medical waste in

accordance with these rules and the guidelines issued by the Central Government or the Central Pollution Control Board, as the case may be;

- (e) "biological" means any preparation made from organisms or micro-organisms or product of metabolism and biochemical reactions intended for use in the diagnosis, immunisation or the treatment of human beings or animals or in research activities pertaining thereto;
- (f) "bio-medical waste" means any waste, which is generated during the diagnosis, treatment or immunisation of human beings or animals or research activities pertaining thereto or in the production or testing of biological or in health camps, including the categories mentioned in Schedule I appended to these rules;
- (g) "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;
- (h) "Form" means the Form appended to these rules;
- (i) "handling" in relation to bio-medical waste includes the generation, sorting, segregation, collection, use, storage, packaging, loading, transportation, unloading, processing, treatment, destruction, conversion, or offering for sale, transfer, disposal of such waste;
- (j) "health care facility" means a place where diagnosis, treatment or immunisation of human beings or animals is provided irrespective of type and size of health treatment system, and research activity pertaining thereto;
- (k) "major accident" means accident occurring while handling of bio-medical waste having potential to affect large masses of public and includes toppling of the truck carrying bio-medical waste, accidental release of bio-medical waste in any water body but exclude accidents like needle prick injuries, mercury spills;
- (l) "management" includes all steps required to ensure that bio- medical waste is managed in such a manner as to protect health and environment against any adverse effects due to handling of such waste;
- (m) "occupier" means a person having administrative control over the institution and the premises generating bio-medical waste, which includes a hospital, nursing home, clinic, dispensary, veterinary institution, animal house, pathological laboratory, blood bank, health care facility and clinical establishment, irrespective of their system of medicine and by whatever name they are called;
- (n) "operator of a common bio-medical waste treatment facility" means a person who owns or controls a Common Bio-medical Waste Treatment Facility (CBMWTF) for the collection, reception, storage, transport, treatment, disposal or any other form of handling of bio-medical waste;
- (o) "prescribed authority" means the State Pollution Control Board in respect of a State and Pollution Control Committees in respect of an Union territory;
- (p) "Schedule" means the Schedule appended to these rules.

4. Duties of the Occupier.—It shall be the duty of every occupier to—

- (a) take all necessary steps to ensure that bio-medical waste is handled without any adverse effect to human health and the environment and in accordance with these rules;
- (b) make a provision within the premises for a safe, ventilated and secured location for storage of segregated biomedical waste in colored bags or containers in the manner as specified in Schedule I, to ensure that there shall be no secondary handling, pilferage of recyclables or inadvertent scattering or spillage by animals and the bio-medical waste from such place or premises shall be directly transported in the manner as prescribed in these rules to the common bio-medical waste treatment facility or for the appropriate treatment and disposal, as the case may be, in the manner as prescribed in Schedule I;
- (c) pre-treat the laboratory waste, microbiological waste, blood samples and blood bags through disinfection or sterilisation on-site in the manner as prescribed by the World Health Organisation (WHO) ¹ [guidelines on Safe management of wastes from health care activities and WHO Blue Book, 2014 and then sent to the Common bio-medical waste treatment facility for final disposal;]
- ²[(d) phase out use of chlorinated plastic bags (excluding blood bags) and gloves by the 27th March, 2019;]
- ³[Explanation.—For removal of doubts, it is hereby clarified that the expression "Chlorinated plastic bags" shall not include urine bags, effluent bags, abdominal bags and chest drainage bags.]
- (e) dispose of solid waste other than bio-medical waste in accordance with the provisions of respective waste management rules made under the relevant laws and amended from time to time;
- (f) not to give treated bio-medical waste with municipal solid waste;
- (g) provide training to all its health care workers and others, involved in handling of bio medical waste at the time of induction and thereafter at least once every year and the details of training programmes conducted, number of personnel trained and number of personnel not undergone any training shall be provided in the Annual Report;
- (h) immunise all its health care workers and others, involved in handling of bio-medical waste for

protection against diseases including Hepatitis B and Tetanus that are likely to be transmitted by handling of bio-medical waste, in the manner as prescribed in the National Immunisation Policy or the guidelines of the Ministry of Health and Family Welfare issued from time to time;

- (i) establish a Bar- Code System for bags or containers containing bio-medical waste to be sent out of the premises or ¹[for the further treatment and disposal in accordance with the guidelines issued by the Central Pollution Control Board by 27th March, 2019;]
- (j) ensure segregation of liquid chemical waste at source and ensure pre-treatment or neutralisation prior to mixing with other effluent generated from health care facilities;
- (k) ensure treatment and disposal of liquid waste in accordance with the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974);
- (l) ensure occupational safety of all its health care workers and others involved in handling of bio-medical waste by providing appropriate and adequate personal protective equipments;
- (m) conduct health check up at the time of induction and at least once in a year for all its health care workers and others involved in handling of bio- medical waste and maintain the records for the same;
- ²[(n) in case of all bedded health care units, maintain and update on day to day basis the bio-medical waste management register and display the monthly record on its website according to the bio-medical waste generated in terms of category and colour coding as specified in Schedule I;]
- (o) report major accidents including accidents caused by fire hazards, blasts during handling of bio-medical waste and the remedial action taken and the records relevant thereto, (including nil report) in Form I to the prescribed authority and also along with the annual report;
- ¹⁰[(p) in case of all bedded health care facilities (any number of beds), make available the annual report on its web-site within a period of two years from the date of publication of the Bio-Medical Waste Management (Amendment) Rules, 2018;]
- (q) inform the prescribed authority immediately in case the operator of a facility does not collect the bio-medical waste within the intended time or as per the agreed time;
- (r) establish a system to review and monitor the activities related to bio-medical waste management, either through an existing committee or by forming a new committee and the Committee shall meet once in every six months and the record of the minutes of the meetings of this committee shall be submitted along with the annual report to the prescribed authority and the healthcare establishments having less than thirty beds shall designate a qualified person to review and monitor the activities relating to bio-medical waste management within that establishment and submit the annual report;
- (s) maintain all record for operation of incineration, hydro or autoclaving etc., for a period of five years;
- (t) existing incinerators to achieve the standards for treatment and disposal of bio-medical waste as specified in Schedule II for retention time in secondary chamber and Dioxin and Furans within two years from the date of this notification.

5. Duties of the operator of a common bio-medical waste treatment and disposal facility.—It shall be the duty of every operator to—

- (a) 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 these rules and guidelines issued by the Central Government or, as the case may be, the central pollution control board from time to time;
- (b) ensure timely collection of bio-medical waste from the occupier as prescribed under these rules;
- (c) establish bar coding and global positioning system for handling of bio- medical waste ¹¹[in accordance with the guidelines issued by the Central Pollution Control Board by 27th March, 2019];
- (d) inform the prescribed authority immediately regarding the occupiers which are not handing over the segregated bio-medical waste in accordance with these rules;
- (e) provide training for all its workers involved in handling of bio-medical waste at the time of induction and at least once a year thereafter;
- (f) assist the occupier in training conducted by them for bio-medical waste management;
- (g) undertake appropriate medical examination at the time of induction and at least once in a year and immunise all its workers involved in handling of bio-medical waste for protection against diseases, including Hepatitis B and Tetanus, that are likely to be transmitted while handling bio-medical waste and maintain the records for the same;
- (h) ensure occupational safety of all its workers involved in handling of bio-medical waste by providing appropriate and adequate personal protective equipment;
- (i) report major accidents including accidents caused by fire hazards, blasts during handling of bio-medical waste and the remedial action taken and the records relevant thereto, (including nil report) in Form I to the prescribed authority and also along with the annual report;
- (j) maintain a log book for each of its treatment equipment according to weight of batch; categories of waste treated; time, date and duration of treatment cycle and total hours of operation;
- (k) allow occupier, who are giving waste for treatment to the operator, to see whether the treatment is carried out as per the rules;

- (l) shall display details of authorisation, treatment, annual report etc on its web-site;
- (m) after ensuring treatment by autoclaving or microwaving followed by mutilation or shredding, whichever is applicable, the recyclables from the treated bio-medical wastes such as plastics and glass, shall be given to recyclers having valid consent or authorisation or registration from the respective State Pollution Control Board or Pollution Control Committee;
- (n) supply non-chlorinated plastic coloured bags to the occupier on chargeable basis, if required;
- (o) common bio-medical waste treatment facility shall ensure collection of biomedical waste on holidays also;
- (p) maintain all record for operation of incineration, hydroor autoclaving for a period of five years; and
- (q) upgrade existing incinerators to achieve the standards for retention time in secondary chamber and Dioxin and Furans within two years from the date of this notification.

6. Duties of authorities.—The Authority specified in column (2) of Schedule-III shall perform the duties as specified in column (3) thereof in accordance with the provisions of these rules.

7. Treatment and disposal.—(1) Bio-medical waste shall be treated and disposed of in accordance with Schedule I, and in compliance with the standards provided in Schedule-II by the health care facilities and common bio-medical waste treatment facility.

(2) Occupier shall hand over segregated waste as per the Schedule-I to common bio-medical waste treatment facility for treatment, processing and final disposal:

Provided that the lab and highly infectious bio-medical waste generated shall be pre-treated by equipment like autoclave or microwave.

(3) No occupier shall establish on-site treatment and disposal facility, if a service of common bio-medical waste treatment facility is available at a distance of seventy-five kilometer.

(4) In cases where service of the common bio-medical waste treatment facility is not available, the Occupiers shall set up requisite biomedical waste treatment equipment like incinerator, autoclave or microwave, shredder prior to commencement of its operation, as per the authorisation given by the prescribed authority.

(5) Any person including an occupier or operator of a common bio medical waste treatment facility, intending to use new technologies for treatment of bio medical waste other than those listed in Schedule I shall request the Central Government for laying down the standards or operating parameters.

(6) On receipt of a request referred to in sub-rule (5), the Central Government may determine the standards and operating parameters for new technology which may be published in Gazette by the Central Government.

(7) Every operator of common bio-medical waste treatment facility shall set up requisite biomedical waste treatment equipments like incinerator, autoclave or microwave, shredder and effluent treatment plant as a part of treatment, prior to commencement of its operation.

(8) Every occupier shall ~~phase out use of chlorinated plastic bags~~ within two years from the date of publication of these rules and after two years from such publication of these rules, the chlorinated plastic bags shall not be used for storing and transporting of bio-medical waste and the occupier or operator of a common bio-medical waste treatment facility shall not dispose of such plastics by incineration and the bags used for storing and transporting biomedical waste shall be in compliance with the Bureau of Indian Standards. Till the Standards are published, the carry bags shall be as per ~~the Plastic Waste Management Rules, 2016~~.

(9) After ensuring treatment by autoclaving or microwaving followed by mutilation or shredding, whichever is applicable, the recyclables from the treated bio-medical wastes such as plastics and glass shall be given to such recyclers having valid authorisation or registration from the respective prescribed authority.

(10) The Occupier or Operator of a common bio-medical waste treatment facility shall maintain a record of recyclable wastes referred to in sub-rule (9) which are auctioned or sold and the same shall be submitted to the prescribed authority as part of its annual report. The record shall be open for inspection by the prescribed authorities.

(11) The handling and disposal of all the mercury waste and lead waste shall be in accordance with the respective rules and regulations.

8. Segregation, packaging, transportation and storage.—(1) No untreated bio-medical waste shall be mixed with other wastes.

(2) The bio-medical waste shall be segregated into containers or bags at the point of generation in accordance with Schedule I prior to its storage, transportation, treatment and disposal.

(3) The containers or bags referred to in sub-rule (2) shall be labeled as specified in Schedule IV.

(4) Bar code and global positioning system shall be added by the Occupier and common bio-medical waste treatment facility in one year time.

(5) The operator of common bio-medical waste treatment facility shall transport the bio-medical waste from the premises of an occupier to any off-site bio-medical waste treatment facility only in the vehicles having label as provided in part 'A' of the Schedule IV along with necessary information as specified in part 'B' of the Schedule IV.

(6) The vehicles used for transportation of bio-medical waste shall comply with the conditions if any stipulated by the State Pollution Control Board or Pollution Control Committee in addition to the requirement

contained in the Motor Vehicles Act, 1988 (59 of 1988), if any or the rules made there under for transportation of such infectious waste.

(7) Untreated human anatomical waste, animal anatomical waste, soiled waste and, biotechnology waste shall not be stored beyond a period of forty-eight hours:

Provided that in case for any reason it becomes necessary to store such waste beyond such a period, the occupier shall take appropriate measures to ensure that the waste does not adversely affect human health and the environment and inform the prescribed authority along with the reasons for doing so.

(8) Microbiology waste and all other clinical laboratory waste shall be pre-treated by sterilisation to Log 6 or disinfection to Log 4, as per the World Health Organisation guidelines before packing and sending to the common bio-medical waste treatment facility.

9. Prescribed authority.—(1) The prescribed authority for implementation of the provisions of these rules shall be the State Pollution Control Boards in respect of States and Pollution Control Committees in respect of Union territories.

(2) The prescribed authority for enforcement of the provisions of these rules in respect of all health care establishments including hospitals, nursing homes, clinics, dispensaries, veterinary institutions, animal houses, pathological laboratories and blood banks of the Armed Forces under the Ministry of Defence shall be the Director General, Armed Forces Medical Services, who shall function under the supervision and control of the Ministry of Defence.

(3) The prescribed authorities shall comply with the responsibilities as stipulated in Schedule III of these rules.

10. Procedure for authorisation.—Every occupier or operator handling bio-medical waste, irrespective of the quantity shall make an application in Form II to the prescribed authority i.e. State Pollution Control Board and Pollution Control Committee, as the case may be, 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.

(1) The authorisation shall be one time for non-bedded occupiers and the authorisation in such cases shall be deemed to have been granted, if not objected by the prescribed authority within a period of ninety days from the date of receipt of duly completed application along with such necessary documents.

(2) In case of refusal of renewal, cancellation or suspension of the authorisation by the prescribed authority, the reasons shall be recorded in writing:

Provided that the prescribed authority shall give an opportunity of being heard to the applicant before such refusal of the authorisation.

(3) Every application for authorisation shall be disposed of by the prescribed authority within a period of ninety days from the date of receipt of duly completed application along with such necessary documents, failing which it shall be deemed that the authorisation is granted under these rules.

(4) In case of any change in the bio-medical waste generation, handling, treatment and disposal for which authorisation was earlier granted, the occupier or operator shall intimate to the prescribed authority about the change or variation in the activity and shall submit a fresh application in Form II for modification of the conditions of authorisation.

11. Advisory Committee.—(1) Every State Government or Union territory Administration shall constitute an Advisory Committee for the respective State or Union territory under the chairmanship of the respective health secretary to oversee the implementation of the rules in the respective state and to advise any improvements and the Advisory Committee shall include representatives from the Departments of Health, Environment, Urban Development, Animal Husbandry and Veterinary Sciences of that State Government or Union territory Administration, State Pollution Control Board or Pollution Control Committee, urban local bodies or local bodies or Municipal Corporation, representatives from Indian Medical Association, common bio-medical waste treatment facility and non-governmental organisation.

(2) Notwithstanding anything contained in sub-rule (1), the Ministry of Defence shall constitute the Advisory Committee (Defence) under the chairmanship of Director General of Health Services of Armed Forces consisting of representatives from the Ministry of Defence, Ministry of Environment, Forest and Climate Change, Central Pollution Control Board, Ministry of Health and Family Welfare, Armed Forces Medical College or Command Hospital.

(3) The Advisory Committee constituted under sub-rule (1) and (2) shall meet at least once in six months and review all matters related to implementation of the provisions of these rules in the State and Armed Forces Health Care Facilities, as the case may be.

(4) The Ministry of Health and Defence may co-opt representatives from the other Governmental and non-governmental organisations having expertise in the field of bio-medical waste management.

12. Monitoring of implementation of the rules in health care facilities.—(1) The Ministry of Environment, Forest and Climate Change shall review the implementation of the rules in the country once in a year through the State Health Secretaries and Chairmen or Member Secretary of State Pollution Control Boards and Central Pollution Control Board and the Ministry may also invite experts in the field of bio-medical waste management, if required.

(2) The Central Pollution Control Board shall monitor the implementation of these rules in respect of all the

Armed Forces health care establishments under the Ministry of Defence.

(3) The Central Pollution Control Board along with one or more representatives of the Advisory Committee constituted under sub-rule (2) of Rule 11, may inspect any Armed Forces health care establishments after prior intimation to the Director General Armed Forces Medical Services.

(4) Every State Government or Union territory Administration shall constitute District Level Monitoring Committee in the districts under the chairmanship of District Collector or District Magistrate or Deputy Commissioner or Additional District Magistrate to monitor the compliance of the provisions of these rules in the health care facilities generating bio-medical waste and in the common bio-medical waste treatment and disposal facilities, where the bio-medical waste is treated and disposed of.

(5) The District Level Monitoring Committee constituted under sub-rule (4) shall submit its report once in six months to the State Advisory Committee and a copy thereof shall also be forwarded to State Pollution Control Board or Pollution Control Committee concerned for taking further necessary action.

(6) The District Level Monitoring Committee shall comprise of District Medical Officer or District Health Officer, representatives from State Pollution Control Board or Pollution Control Committee, Public Health Engineering Department, local bodies or municipal corporation, Indian Medical Association, common bio-medical waste treatment facility and registered non-governmental organisations working in the field of bio-medical waste management and the Committee may co-opt other members and experts, if necessary and the District Medical Officer shall be the Member Secretary of this Committee.

13. Annual report.—(1) Every occupier or operator of common bio-medical waste treatment facility shall submit an annual report to the prescribed authority in Form-IV, on or before the 30th June of every year.

(2) The prescribed authority shall compile, review and analyse the information received and send this information to the ¹⁴[Central Pollution Control Board in Form IV-A before] the 31st July of every year.

(3) The Central Pollution Control Board shall compile, review and analyse the information received and send this information, along with its comments or suggestions or observations to the Ministry of Environment, Forest and Climate Change on or before 31st August every year.

(4) The Annual Reports shall also be available online on the websites of Occupiers, State Pollution Control Boards and Central Pollution Control Board.

14. Maintenance of records.—(1) Every authorised person shall maintain records related to the generation, collection, reception, storage, transportation, treatment, disposal or any other form of handling of bio-medical waste, for a period of five years, in accordance with these rules and guidelines issued by the Central Government or the Central Pollution Control Board or the prescribed authority as the case may be.

(2) All records shall be subject to inspection and verification by the prescribed authority or the Ministry of Environment, Forest and Climate Change at any time.

15. Accident reporting.—(1) In case of any major accident at any institution or facility or any other site while handling bio-medical waste, the authorised person shall intimate immediately to the prescribed authority about such accident and forward a report within twenty-four hours in writing regarding the remedial steps taken in Form I.

(2) Information regarding all other accidents and remedial steps taken shall be provided in the annual report in accordance with Rule 13 by the occupier.

16. Appeal.—(1) Any person aggrieved by an order made by the prescribed authority under these rules may, within a period of thirty days from the date on which the order is communicated to him, prefer an appeal in Form V to the Secretary (Environment) of the State Government or Union territory administration.

(2) Any person aggrieved by an order of the Director General Armed Forces Medical Services under these rules may, within thirty days from the date on which the order is communicated to him, prefer an appeal in Form V to the Secretary, Ministry of Environment, Forest and Climate Change.

(3) The authority referred to in sub-para (1) and (2) as the case may be, may entertain the appeal after the expiry of the said period of thirty days, if it is satisfied that the appellant was prevented by sufficient cause from filing the appeal in time.

(4) The appeal shall be disposed of within a period of ninety days from the date of its filing.

17. Site for common bio-medical waste treatment and disposal facility.—(1) Without prejudice to Rule 5 of these rules, the department in the business allocation of land assignment shall be responsible for providing suitable site for setting up of common biomedical waste treatment and disposal facility in the State Government or Union territory Administration.

(2) The selection of site for setting up of such facility shall be made in consultation with the prescribed authority, other stakeholders and in accordance with guidelines published by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board.

18. Liability of the occupier, operator of a facility.—(1) The occupier or an operator of a common bio-medical waste treatment facility shall be liable for all the damages caused to the environment or the public due to improper handling of bio-medical wastes.

(2) The occupier or operator of common bio-medical waste treatment facility shall be liable for action under Section 5 and Section 15 of the Act, in case of any violation.

SCHEDULE I

[See rules 3 (e), 4(b), 7(1), 7(2), 7(5), 7 (6) and 8(2)]

Part 1

Biomedical wastes categories and their segregation, collection, treatment, processing and disposal options

Category	Type of Waste	Type of Bag or Container to be used	Treatment and Disposal options
(1)	(2)	(3)	(4)
Yellow	(a) Human Anatomical Waste: Human tissues, organs, body parts and fetus below the viability period (as per the Medical Termination of Pregnancy Act 1971, amended from time to time).	Yellow coloured non-chlorinated plastic bags	Incineration or Plasma Pyrolysis or deep burial*
	(b) Animal Anatomical Waste: Experimental animal carcasses, body parts, organs, tissues, including the waste generated from animals used in experiments or testing in veterinary hospitals or colleges or animal houses.		
	(c) Soiled Waste: Items contaminated with blood, body fluids like dressings, plaster casts, cotton swabs and bags containing residual or discarded blood and blood components.		Incineration or Plasma Pyrolysis or deep burial* In absence of above facilities, autoclaving or micro-waving/ hydroclaving followed by shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent for energy recovery.
	(d) Expired or Discarded Medicines: Pharmaceutical waste like antibiotics, cytotoxic drugs including all items contaminated with cytotoxic drugs along with glass or plastic ampoules, vials etc.	Yellow coloured non-chlorinated plastic bags or containers	Expired cytotoxic drugs and items contaminated with cytotoxic drugs to be returned back to the manufacturer or supplier for incineration at temperature >1200°C or to common bio-medical waste treatment facility or hazardous waste treatment, storage and disposal facility for incineration at >1200°C Or Encapsulation or Plasma Pyrolysis at >1200°C. All other discarded medicines shall be either sent back to manufacturer or disposed by incineration.
	(e) Chemical Waste: Chemicals used in production of biological and used or discarded disinfectants.	Yellow coloured containers or non-chlorinated plastic bags	Disposed of by incineration or Plasma Pyrolysis or Encapsulation in hazardous waste treatment, storage and disposal facility.
	(f) Chemical Liquid Waste: Liquid waste generated due to use of chemicals in production of biological and used or discarded disinfectants, Silver X-ray film developing liquid, discarded Formalin, infected secretions, aspirated body fluids,	Separate collection system leading to effluent treatment system	After resource recovery, the chemical liquid waste shall be pre-treated before mixing with other wastewater. The combined discharge shall conform to the discharge norms given in Schedule- III.

	liquid from laboratories and floor washings, cleaning, housekeeping and disinfecting activities etc.		
	(g) Discarded linen, mattresses, beddings contaminated with blood or body fluid ¹⁵ [, routine mask and gown].	Non-chlorinated yellow plastic bags or suitable packing material	Non- chlorinated chemical disinfection followed by incineration or Plazma Pyrolysis or for energy recovery. In absence of above facilities, shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent for energy recovery or incineration or Plazma Pyrolysis.
	(h) Microbiology, Biotechnology and other clinical laboratory waste: Blood bags, Laboratory cultures, stocks or specimens of microorganisms, live or attenuated vaccines, human and animal cell cultures used in research, industrial laboratories, production of biological, residual toxins, dishes and devices used for cultures.	¹⁵ [Autoclave or Microwave or Hydroclave safe plastic bags or containers]	Pre-treat to sterilize with non-chlorinated chemicals on-site ¹² [as per World Health Organisation guidelines on Safe management of wastes from health care activities and WHO Blue Book, 2014 and thereafter sent for incineration].
Red	Contaminated Waste (Recyclable) (a) Wastes generated from disposable items such as tubing, bottles, intravenous tubes and sets, catheters, urine bags, syringes (without needles and fixed needle syringes) and vaccutainers with their needles cut) and gloves.	Red coloured non-chlorinated plastic bags or containers	Autoclaving or micro-waving/ hydroclaving followed by shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent to registered or authorized recyclers or for energy recovery or plastics to diesel or fuel oil or for road making, whichever is possible. Plastic waste should not be sent to landfill sites.
White (Translucent)	Waste sharps including Metals: Needles, syringes with fixed needles, needles from needle tip cutter or burner, scalpels, blades, or any other contaminated sharp object that may cause puncture and cuts. This includes both used, discarded and contaminated metal sharps	Puncture proof, Leak proof, tamper proof containers	Autoclaving or Dry Heat Sterilization followed by shredding or mutilation or encapsulation in metal container or cement concrete; combination of shredding cum autoclaving; and sent for final disposal to iron foundries (having consent to operate from the State Pollution Control Boards or Pollution Control Committees) or sanitary landfill or designated concrete waste sharp pit.
Blue	(a) Glassware: Broken or discarded and contaminated glass including medicine vials and ampoules except those contaminated with cytotoxic wastes.	¹⁸ (a) Puncture proof and leak proof boxes or containers with blue colored marking]	Disinfection (by soaking the washed glass waste after cleaning with detergent and Sodium Hypochlorite treatment) or through autoclaving or microwaving or hydroclaving and then sent for recycling.
	(b) Metallic Body Implants	¹⁸ (b) Puncture proof and leak proof boxes or containers with	

	blue marking	colored
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* Disposal by deep burial is permitted only in rural or remote areas where there is no access to common bio-medical waste treatment facility. This will be carried out with prior approval from the prescribed authority and as per the Standards specified in 20[Schedule II]. The deep burial facility shall be located as per the provisions and guidelines issued by Central Pollution Control Board from time to time.

Part 2

- (1) All plastic bags shall be as per BIS standards as and when published, till then the prevailing Plastic Waste Management Rules shall be applicable.
- (2) Chemical treatment using at least 21[1% to 2%] Sodium Hypochlorite having 30% residual chlorine for twenty minutes or any other equivalent chemical reagent that should demonstrate $\text{Log}_{10}4$ reduction efficiency for microorganisms as given in Schedule III.
- (3) Mutilation or shredding must be to an extent to prevent unauthorized reuse.
- (4) There will be no chemical pretreatment before incineration, except for microbiological, lab and highly infectious waste.
- (5) Incineration ash (ash from incineration of any bio-medical waste) shall be disposed through hazardous waste treatment, storage and disposal facility, if toxic or hazardous constituents are present beyond the prescribed limits as given in the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 or as revised from time to time.
- (6) Dead Fetus below the viability period (as per the Medical Termination of Pregnancy Act 1971, amended from time to time) can be considered as human anatomical waste. Such waste should be handed over to the operator of common bio-medical waste treatment and disposal facility in yellow bag with a copy of the official Medical Termination of Pregnancy certificate from the Obstetrician or the Medical Superintendent of hospital or healthcare establishment.
- (7) Cytotoxic drug vials shall not be handed over to unauthorised person under any circumstances. These shall be sent back to the manufactures for necessary disposal at a single point. As a second option, these may be sent for incineration at common bio-medical waste treatment and disposal facility or TSDFs or plasma pyrolysis at temperature $>1200^{\circ}\text{C}$.
- (8) Residual or discarded chemical wastes, used or discarded disinfectants and chemical sludge can be disposed at hazardous waste treatment, storage and disposal facility. In such case, the waste should be sent to hazardous waste treatment, storage and disposal facility through operator of common bio-medical waste treatment and disposal facility only.
- (9) On-site pre-treatment of laboratory waste, microbiological waste, blood samples, blood bags should be disinfected or sterilized as per the Guidelines of World Health Organisation or National AIDS Control Organisation and then given to the common bio-medical waste treatment and disposal facility.
- (10) Installation of in-house incinerator is not allowed. However in case there is no common biomedical facility nearby, the same may be installed by the occupier after taking authorisation from the State Pollution Control Board.
- (11) Syringes should be either mutilated or needles should be cut and or stored in tamper proof, leak proof and puncture proof containers for sharps storage. Wherever the occupier is not linked to a disposal facility it shall be the responsibility of the occupier to sterilize and dispose in the manner prescribed.
- (12) Bio-medical waste generated in households during healthcare activities shall be segregated as per these rules and handed over in separate bags or containers to municipal waste collectors. Urban Local Bodies shall have tie up with the common bio-medical waste treatment and disposal facility to pickup this waste from the Material Recovery Facility (MRF) or from the house hold directly, for final disposal in the manner as prescribed in this Schedule.

SCHEDULE II

[See Rule 4(t), 7(1) and 7(6)]

STANDARDS FOR TREATMENT AND DISPOSAL OF BIO-MEDICAL WASTES

1. STANDARDS FOR INCINERATION.—

All incinerators shall meet the following operating and emission standards-

A. Operating Standards

- (1) Combustion efficiency (CE) shall be at least 99.00%.
- (2) The Combustion efficiency is computed as follows:

$\%CO_2$

C.E. = ----- X 100

$\%CO_2 + \%CO$

(3) The temperature of the primary chamber shall be a minimum of 800°C and the secondary chamber shall be minimum of 1050°C = or – 50°C.

(4) The secondary chamber gas residence time shall be at least two seconds.

B. Emission Standards

Sl. No.	Parameter	Standards	
(1)	(2)	(3)	(4)
		Limiting concentration in $^{22}[mg/Nm^3]$ unless stated	Sampling Duration in minutes, unless stated
1.	Particulate matter	50	30 or 1NM ³ of sample volume, whichever is more
2.	Nitrogen Oxides NO and NO ₂ expressed as NO ₂	400	30 for online sampling or grab sample
3.	HCl	50	30 or 1NM ₃ of sample volume, whichever is more
4.	Total Dioxins and Furans	0.1ngTEQ/Nm ³ (at 11% O ₂)	8 hours or 5NM ³ of sample volume, whichever is more
5.	Hg and its compounds	0.05	2 hours or 5NM ³ of sample volume, whichever is more

C. Stack Height: Minimum stack height shall be 30 meters above the ground and shall be attached with the necessary monitoring facilities as per requirement of monitoring of 'general parameters' as notified under the Environment (Protection) Act, 1986 and in accordance with the Central Pollution Control Board Guidelines of Emission Regulation Part-III.

Note:

- The existing incinerators shall comply with the above within a period of two years from the date of the notification.
- The existing incinerators shall comply with the standards for Dioxins and Furans of 0.1ngTEQ/Nm³, as given below within two years from the date of commencement of these rules.
- All upcoming common bio-medical waste treatment facilities having incineration facility or captive incinerator shall comply with standards for Dioxins and Furans.
- The existing secondary combustion chambers of the incinerator and the pollution control devices shall be suitably retrofitted, if necessary, to achieve the emission limits.
- Wastes to be incinerated shall not be chemically treated with any chlorinated disinfectants.
- Ash from incineration of biomedical waste shall be disposed of at common hazardous waste treatment and disposal facility. However, it may be disposed of in municipal landfill, if the toxic metals in incineration ash are within the regulatory quantities as defined under the Hazardous Waste (Management and Handling and Transboundary Movement) Rules, 2008 as amended from time to time.
- Only low Sulphur fuel like Light Diesel Oil or Low Sulphur Heavy Stock or Diesel, Compressed Natural Gas, Liquefied Natural Gas or Liquefied Petroleum Gas shall be used as fuel in the incinerator.
- The occupier or operator of a common bio-medical waste treatment facility shall monitor the stack gaseous emissions (under optimum capacity of the incinerator) once in three months through a laboratory approved under the Environment (Protection) Act, 1986 and record of such analysis results shall be maintained and submitted to the prescribed authority. In case of dioxins and furans, monitoring should be done once in a year.
- The occupier or operator of the common bio-medical waste treatment facility shall install continuous emission monitoring system for the parameters as stipulated by State Pollution Control Board or Pollution Control Committees in authorisation and transmit the data real time to the servers at State Pollution Control Board or Pollution Control Committees and Central Pollution Control Board.
- All monitored values shall be corrected to 11% Oxygen on dry basis.
- Incinerators (combustion chambers) shall be operated with such temperature, retention time and turbulence, as to achieve Total Organic Carbon content in the slag and bottom ashes less than 3% or their loss on ignition shall be less than 5% of the dry weight.
- The occupier or operator of a common bio-medical waste incinerator shall use combustion gas analyzer to

measure CO₂, CO and O₂.

2. Operating and Emission Standards for Disposal by Plasma Pyrolysis or Gasification:

A. Operating Standards:

All the operators of the Plasma Pyrolysis or Gasification shall meet the following operating and emission standards:

- (1) Combustion Efficiency (CE) shall be at least 99.99%.
- (2) The Combustion Efficiency is computed as follows.

% CO₂

C.E =

X 100

(% CO₂ + % CO)

(3) The temperature of the combustion chamber after plasma gasification shall be 1050 ± 50°C with gas residence time of at least 2(two) second, with minimum 3 % Oxygen in the stack gas.

(4) The Stack height should be minimum of 30 m above ground level and shall be attached with the necessary monitoring facilities as per requirement of monitoring of 'general parameters' as notified under the Environment (Protection) Act, 1986 and in accordance with the CPCB Guidelines of Emission Regulation Part-III.

B. Air Emission Standards and Air Pollution Control Measures

- (i) Emission standards for incinerator, notified at SI No.1 above in this Schedule, and revised from time to time, shall be applicable for the Plasma Pyrolysis or Gasification also.
- (ii) Suitably designed air pollution control devices shall be installed or retrofitted with the 'Plasma Pyrolysis or Gasification to achieve the above emission limits, if necessary.
- (iii) Wastes to be treated using Plasma Pyrolysis or Gasification shall not be chemically treated with any chlorinated disinfectants and chlorinated plastics shall not be treated in the system.

C. Disposal of Ash Vitrified Material: The ash or vitrified material generated from the 'Plasma Pyrolysis or Gasification shall be disposed off in accordance with the Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008 and revisions made thereafter in case the constituents exceed the limits prescribed under Schedule II of the said Rules or else in accordance with the provisions of the Environment (Protection) Act, 1986, whichever is applicable.

3. STANDARDS FOR AUTOCLAVING OF BIO-MEDICAL WASTE.—

The autoclave should be dedicated for the purposes of disinfecting and treating bio-medical waste.

(1) When operating a gravity flow autoclave, medical waste shall be subjected to:

- (i) a temperature of not less than 121° C and pressure of 15 pounds per square inch (psi) for an autoclave residence time of not less than 60 minutes; or
- (ii) a temperature of not less than 135° C and a pressure of 31 psi for an autoclave residence time of not less than 45 minutes; or
- (iii) a temperature of not less than 149° C and a pressure of 52 psi for an autoclave residence time of not less than 30 minutes.

(2) When operating a vacuum autoclave, medical waste shall be subjected to a minimum of three pre-vacuum pulse to purge the autoclave of all air. The air removed during the pre-vacuum, cycle should be decontaminated by means of HEPA and activated carbon filtration, steam treatment, or any other method to prevent release of pathogen. The waste shall be subjected to the following:

- (i) a temperature of not less than 121°C and pressure of 15 psi per an autoclave residence time of not less than 45 minutes; or
- (ii) a temperature of not less than 135°C and a pressure of 31 psi for an autoclave residence time of not less than 30 minutes;

(3) Medical waste shall not be considered as properly treated unless the time, temperature and pressure indicators indicate that the required time, temperature and pressure were reached during the autoclave process. If for any reasons, time temperature or pressure indicator indicates that the required temperature, pressure or residence time was not reached, the entire load of medical waste must be autoclaved again until the proper temperature, pressure and residence time were achieved.

(4) **Recording of operational parameters:** Each autoclave shall have graphic or computer recording devices which will automatically and continuously monitor and record dates, time of day, load identification number and operating parameters throughout the entire length of the autoclave cycle.

(5) **Validation test for autoclave:** The validation test shall use four biological indicator strips, one shall be used as a control and left at room temperature, and three shall be placed in the approximate center of three containers with the waste. Personal protective equipment (gloves, face mask and coveralls) shall be used when opening containers for the purpose of placing the biological indicators. At least one of the containers with a biological indicator should be placed in the most difficult location for steam to penetrate, generally the bottom center of the waste pile. The occupier or operator shall conduct this test three consecutive times to define the

minimum operating conditions. The temperature, pressure and residence time at which all biological indicator vials or strips for three consecutive tests show complete inactivation of the spores shall define the minimum operating conditions for the autoclave. After determining the minimum temperature, pressure and residence time, the occupier or operator of a common biomedical waste treatment facility shall conduct this test once in three months and records in this regard shall be maintained.

(6) **Routine Test:** A chemical indicator strip or tape that changes colour when a certain temperature is reached can be used to verify that a specific temperature has been achieved. It may be necessary to use more than one strip over the waste package at different locations to ensure that the inner content of the package has been adequately autoclaved. The occupier or operator of a common bio medical waste treatment facility shall conduct this test during autoclaving of each batch and records in this regard shall be maintained.

(7) **Spore testing:** The autoclave should completely and consistently kill the approved biological indicator at the maximum design capacity of each autoclave unit. Biological indicator for autoclave shall be *Geobacillus stearothermophilus* spores using vials or spore Strips; with at least 1×10^6 spores. Under no circumstances will an autoclave have minimum operating parameters less than a residence time of 30 minutes, a temperature less than 121°C or a pressure less than 15 psi. The occupier or operator of a common bio medical waste treatment and disposal facility shall conduct this test at least once in every week and records in this regard shall be maintained.

4. **STANDARDS OF MICROWAVING.**—(1) Microwave treatment shall not be used for cytotoxic, hazardous or radioactive wastes, contaminated animal carcasses, body parts and large metal items.

(2) The microwave system shall comply with the efficacy test or routine tests and a performance guarantee may be provided by the supplier before operation of the limit.

The microwave should completely and consistently kill the bacteria and other pathogenic organisms that are ensured by approved biological indicator at the maximum design capacity of each microwave unit. Biological indicators for microwave shall be *Bacillus atrophaeus* spores using vials or spore strips with at least 1×10^4 spores per detachable strip. The biological indicator shall be placed with waste and exposed to same conditions as the waste during a normal treatment cycle.

5. **STANDARDS FOR DEEP BURIAL.**— (1) A pit or trench should be dug about two meters deep. 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.

(2) It must be ensured that animals do not have any access to burial sites. Covers of galvanised iron or wire meshes may be used.

(3) On each occasion, when wastes are added to the pit, a layer of 10 cm of soil shall be added to cover the wastes.

(4) Burial must be performed under close and dedicated supervision.

(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 authorised 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.

6. **STANDARDS FOR EFFICACY OF CHEMICAL DISINFECTION.**—

Microbial inactivation efficacy is equated to "Log10 kill" which is defined as the difference between the logarithms of number of test microorganisms before and after chemical treatment. Chemical disinfection methods shall demonstrate a 4 Log10 reduction or greater for *Bacillus Subtilis* (ATCC 19659) in chemical treatment systems.

7. **STANDARDS FOR DRY HEAT STERILIZATION.**—

Waste sharps can be treated by dry heat sterilization at a temperature not less than 185°C , at least for a residence period of 150 minutes in each cycle, which sterilization period of 90 minutes. There should be automatic recording system to monitor operating parameters.

(i) **Validation test for Sharps sterilization unit**

Waste sharps sterilization unit should completely and consistently kill the biological indicator *Geobacillus Stearothermophilus* or *Bacillus Atropheaus* spores using vials with at least $\log_{10} 6$ spores per ml. The test shall be carried out once in three months

(ii) **Routine test**

A chemical indicator strip or tape that changes colour when a certain temperature is reached can be used to verify that a specific temperature has been achieved. It may be necessary to use more than one strip over the waste to ensure that the inner content of the sharps has been adequately disinfected. This test shall be performed once in week and records in this regard shall be maintained.

8. **STANDARDS FOR LIQUID WASTE.**— (1) The effluent generated or treated from the premises of occupier or operator of a common bio medical waste treatment and disposal facility, before discharge into the sewer should conform to the following limits—

PARAMETERS	PERMISSIBLE LIMITS
------------	--------------------

pH	6.5-9.0
Suspended solids	100 mg/l
Oil and grease	10 mg/l
BOD	30 mg/l
COD	250 mg/l
Bio-assay test	90% survival of fish after 96 hours in 100% effluent.

²²[Note—

1. Above limits are applicable to the occupiers of Health Care Facilities (bedded) which are either connected with sewerage network without terminal sewage treatment plant or not connected to public sewers.
2. For discharge into public sewers with terminal facilities, the general standards as notified under the Environment (Protection) Act, 1986 (29 of 1986) shall be applicable.

²⁴[3. Health Care Facilities having less than ten beds shall have to comply with the output discharge standard for liquid waste by 31st December, 2019.]

4. Non-bedded occupiers shall dispose infectious liquid wastes only after treatment by disinfection as per Schedule II(6) of the principal rules.]

(2) Sludge from Effluent Treatment Plant shall be given to common bio-medical waste treatment facility for incineration or to hazardous waste treatment, storage and disposal facility for disposal.

SCHEDULE III

[See Rule 6 and 9(3)]

List of Prescribed Authorities and the Corresponding Duties

Sl. No. (1)	Authority (2)	Corresponding Duties (3)
1	Ministry of Environment, Forest and Climate Change, Government of India	(i) Making Policies concerning bio-medical waste Management in the Country including notification of Rules and amendments to the Rules as and when required. (ii) Providing financial assistance for training and awareness programmes on bio-medical waste management related activities to for the State Pollution Control Boards or Pollution Control Committees. (iii) Facilitating financial assistance for setting up or up-gradation of common bio-medical waste treatment facilities. (iv) Undertake or support operational research and assessment with reference to risks to environment and health due to bio-medical waste and previously unknown disposables and wastes from new types of equipment. (v) Constitution of Monitoring Committee for implementation of the rules. (vi) Hearing Appeals and give decision made in Form- V against order passed by the prescribed authorities. (vii) Develop Standard manual for Trainers and Training.
		(viii) Notify the standards or operating parameters for new technologies for treatment of bio medical waste other than those listed in Schedule- I.
2	Central or State Ministry of Health and Family Welfare, Central Ministry for Animal Husbandry and Veterinary or State Department of Animal Husbandry and Veterinary.	(i) Grant of license to health care facilities or nursing homes or veterinary establishments with a condition to obtain authorisation from the prescribed authority for bio-medical waste management. (ii) Monitoring, Refusal or Cancellation of license for health care facilities or nursing homes or veterinary establishments for violations of conditions of authorisation or provisions under these Rules. (iii) Publication of list of registered health care facilities with regard to bio-medical waste generation, treatment and disposal. (iv) Undertake or support operational research and assessment with reference to risks to environment and health due to bio-medical waste and previously unknown disposables and wastes from new types of equipment. (v) Coordinate with State Pollution Control Boards for organizing training programmes to staff of health care facilities and municipal workers on bio-medical waste. (vi) Constitution of Expert Committees at National or State level for

		(vii)	overall review and promotion of clean or new technologies for bio-medical waste management.
		(viii)	Organizing or Sponsoring of trainings for the regulatory authorities and health care facilities on bio-medical waste management related activities.
			Sponsoring of mass awareness campaigns in electronic media and print media.
3	Ministry of Defence	(i)	Grant and renewal of authorisation to Armed Forces health care facilities or common bio-medical waste treatment facilities ²⁵ [(Rule 10)].
		(ii)	Conduct training courses for authorities dealing with management of bio-medical wastes in Armed Forces health care facilities or treatment facilities in association with State Pollution Control Boards or Pollution Control Committees or Central Pollution Control Board or Ministry of Environment, Forest and Climate Change.
		(iii)	Publication of inventory of occupiers and bio-medical waste generation from Armed Forces health care facilities or occupiers
		(iv)	Constitution of Advisory Committee for implementation of the rules.
		(v)	Review of management of bio-medical waste generation in the Armed Forces health care facilities through its Advisory Committee (Rule 11).
		(vi)	Submission of annual report to Central Pollution Control Board within the stipulated time period (Rule 13).
		²⁶ [(vii)]	Inspection and monitoring of Medical Inspection (MI) rooms, sick bays onboard ships or submarines, station medical centres and field hospitals in forward locations operated by the Director General, Armed Force Medical Services.]
4.	Central Pollution Control Board	(i)	Prepare Guidelines on bio-medical waste Management and submit to the Ministry of Environment, Forest and Climate Change.
		(ii)	Co-ordination of activities of State Pollution Control Boards or Pollution Control Committees on bio-medical waste.
		(iii)	Conduct training courses for authorities dealing with management of bio-medical waste.
		(iv)	Lay down standards for new technologies for treatment and disposal of bio-medical waste (Rule 7) and prescribe specifications for treatment and disposal of bio-medical wastes (Rule 7).
		(v)	Lay down Criteria for establishing common bio-medical waste treatment facilities in the Country.
		(vi)	Random inspection or monitoring of health care facilities and common bio-medical waste treatment facilities.
		(vii)	Review and analysis of data submitted by the State Pollution Control Boards on bio-medical waste and submission of compiled information in the form of annual report along with its observations to Ministry of Environment, Forest and Climate Change .
		²⁸ [(viii)]	Inspection and monitoring of health care facilities other than Medical Inspection (MI) rooms, sick bays on board ships or submarines, station medical centres and field hospitals in forward locations operated by the Director General, Armed Forces Medical Services (Rule-9).]
		(ix)	Undertake or support research or operational research regarding bio-medical waste.
5.	State Government of Health or Union Territory Government Administration	(i)	To ensure implementation of the rule in all health care facilities or occupiers.
		(ii)	Allocation of adequate funds to Government health care facilities for bio-medical waste management.
		(iii)	Procurement and allocation of treatment equipments and make provision for consumables for bio-medical waste management in Government health care facilities.

		(iv)	Constitute State or District Level Advisory Committees under the District Magistrate or Additional District Magistrate to oversee the bio-medical waste management in the Districts.
		(v)	Advise State Pollution Control Boards or Pollution Control Committees on implementation of these Rules.
		(vi)	Implementation of recommendations of the Advisory Committee in all the health care facilities.
6.	State Pollution Control Boards or Pollution Control Committees	(i)	Inventorisation of Occupiers and data on bio-medical waste generation, treatment & disposal.
		(ii)	Compilation of data and submission of the same in annual report to Central Pollution Control Board within the stipulated time period.
		(iii)	Grant and renewal, suspension or refusal cancellation or of authorisation under these rules (Rule 7, 8 and 10).
		(iv)	Monitoring of compliance of various provisions and conditions of authorisation.
		(v)	Action against health care facilities or common bio-medical waste treatment facilities for violation of these rules (Rule 18).
		(vi)	Organizing training programmes to staff of health care facilities and common bio-medical waste treatment facilities and State Pollution Control Boards or Pollution Control Committees Staff on segregation, collection, storage, transportation, treatment and disposal of bio-medical wastes.
		(vii)	Undertake or support research or operational research regarding bio-medical waste management.
		(viii)	Any other function under these rules assigned by Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
		(ix)	Implementation of recommendations of the Advisory Committee.
		(x)	Publish the list of Registered or Authorised (or give consent) Recyclers.
		(xi)	Undertake and support third party audits of the common bio-medical waste treatment facilities in their State.
7	Municipalities or Corporations, Urban Local Bodies and Gram Panchayats	(i)	Provide or allocate suitable land for development of common bio-medical waste treatment facilities in their respective jurisdictions as per the guidelines of Central Pollution Control Board.
		(ii)	Collect other solid waste (other than the bio-medical waste) from the health care facilities as per the Municipal Solid Waste (Management and handling) Rules, 2000 or as amended time to time.
		(iii)	Any other function stipulated under these Rules.

SCHEDULE IV

[See Rule 8(3) and (5)]

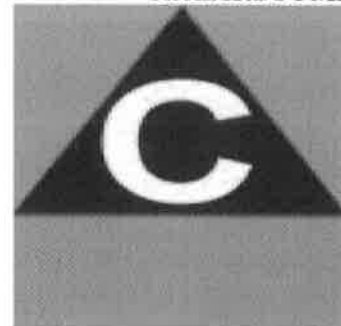
Part A

LABEL FOR BIO-MEDICAL WASTE CONTAINERS or BAGS



HANDLE WITH CARE

CYTOTOXIC HAZARD SYMBOL



HANDLE WITH CARE

Part B

LABEL FOR TRANSPORTING BIO-MEDICAL WASTE BAGS OR CONTAINERS

Day Month.....

Year.....

Date of generation.....

Waste category Number

Waste quantity.....

Sender's Name and Address

Phone Number

Receiver's Name and Address:

Phone Number.....

Fax Number

Contact Person

Fax Number.....

Contact Person.....

In case of emergency please contact:

Name and Address:

Phone No.

Note : Label shall be non-washable and prominently visible.

FORM I

[(See Rule 4(o), 5(i) and 15 (2))]

ACCIDENT REPORTING

1. Date and time of accident:

2. Type of Accident:

3. Sequence of events leading to accident:

4. Has the Authority been informed immediately:

5. The type of waste involved in accident:

6. Assessment of the effects of the accidents on human health and the environment:

7. Emergency measures taken:

8. Steps taken to alleviate the effects of accidents:

9. Steps taken to prevent the recurrence of such an accident:

10. Does your facility has an Emergency Control policy? If yes give details:

Date: Signature

Place: Designation

FORM II

(See Rule 10)

APPLICATION FOR AUTHORISATION OR RENEWAL OF AUTHORISATION

(To be submitted by occupier of health care facility or common bio-medical waste treatment facility)

To

The Prescribed Authority

(Name of the State or UT Administration)

Address.

1. Particulars of Applicant:

(i) Name of the Applicant:

(In block letters & in full)

(ii) Name of the health care facility (HCF) or common bio-medical waste treatment facility (CBWTF):

(iii) Address for correspondence:

(iv) Tele No., Fax No.:

(v) Email:

(vi) Website Address:

2. Activity for which authorisation is sought:

Please tick

Activity

Generation, segregation

Collection,

Storage

packaging

Reception

Transportation

Treatment or processing or conversion

Recycling

Disposal or destruction

use

offering for sale, transfer

Any other form of handling

3. Application for ☐ fresh or ☐ renewal of authorisation (please tick whatever is applicable):

(i) Applied for CTO/CTE Yes/No

(ii) In case of renewal previous authorisation number and date:

(iii) Status of Consents:

(a) under the Water (Prevention and Control of Pollution) Act, 1974

(b) under the Air (Prevention and Control of Pollution) Act, 1981:

4. (i) Address of the health care facility (HCF) or common bio-medical waste treatment facility (CBWTF):

(ii) GPS coordinates of health care facility (HCF) or common bio-medical waste treatment facility (CBWTF):

5. Details of health care facility (HCF) or common bio-medical waste treatment facility (CBWTF):

(i) Number of beds of HCF:

(ii) Number of patients treated per month by HCF:

(iii) Number healthcare facilities covered by CBMWTF: _____

(iv) No of beds covered by CBMWTF: _____

(v) Installed treatment and disposal capacity of CBMWTF: _____ Kg per day

(vi) Quantity of biomedical waste treated or disposed by CBMWTF: _____ Kg/ day

(vii) Area or distance covered by CBMWTF: _____

(pl. attach map a map with GPS locations of CBMWTF and area of coverage)

(viii) Quantity of Biomedical waste handled, treated or disposed:

Category	Type of Waste	Quantity Generated or Collected, kg/day	Method of Treatment and Disposal (Refer Schedule-I)
(1)	(2)	(3)	(4)
Yellow	(a) Human Anatomical Waste:		
	(b) Animal Anatomical Waste:		
	(c) Soiled Waste:		
	(d) Expired or Discarded Medicines:		
	(e) Chemical Solid Waste:		
	(f) Chemical Liquid Waste:		
	(g) Discarded linen, mattresses, beddings contaminated with blood or body fluid.		

	(h) Microbiology, Biotechnology and other clinical laboratory waste:		
Red	Contaminated Waste (Recyclable)		
White (Translucent)	Waste sharps including Metals:		
Blue	Glassware:		
	Metallic Body Implants		

6. Brief description of arrangements for handling of biomedical waste (attach details):

(i) Mode of transportation (if any) of bio-medical waste:

(ii) Details of treatment equipment (please give details such as the number, type & capacity of each unit)

No of units Capacity of each unit

Incinerators:

Plasma Pyrolysis:

Autoclaves:

Microwave:

Hydroclave:

Shredder:

Needle tip cutter or destroyer

Sharps encapsulation or concrete pit:

Deep burial pits:

Chemical disinfection:

Any other treatment equipment:

7. Contingency plan of common bio-medical waste treatment facility (CBWTF)(attach documents):

8. Details of directions or notices or legal actions if any during the period of earlier authorisation

9. Declaration

I do hereby declare that the statements made and information given above are true to the best of my knowledge and belief and that I have not concealed any information.

I do also hereby undertake to provide any further information sought by the prescribed authority in relation to these rules and to fulfill any conditions stipulated by the prescribed authority.

Signature of the Applicant

Designation of the Applicant

Date:

Place:

FORM III

(See Rule 10)

AUTHORISATION

(Authorisation for operating a facility for generation, collection, reception, treatment, storage, transport and disposal of biomedical wastes)

1. File number of authorisation and date of issue.....

2. M/s _____ an occupier or operator of the facility located at _____ is hereby granted an authorisation for;

Please tick

Activity

Generation, segregation

Collection,

Storage

packaging

Reception

Transportation

Treatment or processing or conversion

Recycling

Disposal or destruction

use

offering for sale, transfer

Any other form of handling

3. M/s _____ is hereby authorized for handling of biomedical waste as per the capacity given below;

(i) Number of beds of HCF:

- (ii) Number healthcare facilities covered by CBMWTF: _____
(iii) Installed treatment and disposal capacity: _____ Kg per day
(iv) Area or distance covered by CBMWTF: _____

(v) Quantity of Biomedical waste handled, treated or disposed:

Type of Waste Category

Quantity permitted for

Handling

Yellow

Red

White (Translucent)

Blue

4. This authorisation shall be in force for a period of Years from the date of issue.

5. This authorisation is subject to the conditions stated below and to such other conditions as may be specified in the rules for the time being in force under the Environment (Protection) Act, 1986.

Date Signature.....

Place: Designation

*Terms and conditions of authorisation**

1. The authorisation shall comply with the provisions of the Environment (Protection) Act, 1986 and the rules made there under.

2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the prescribed authority.

3. The person authorized shall not rent, lend, sell, transfer or otherwise transport the biomedical wastes without obtaining prior permission of the prescribed authority.

4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.

5. It is the duty of the authorised person to take prior permission of the prescribed authority to close down the facility and such other terms and conditions may be stipulated by the prescribed authority.

FORM IV

(See Rule 13)

ANNUAL REPORT

[To be submitted to the prescribed authority on or before 30th June every year for the period from January to December of the preceding year, by the occupier of health care facility (HCF) or common bio-medical waste treatment facility (CBWTF)]

Sl. No.	Particulars		
1.	Particulars of the Occupier	:	
	(i) Name of the authorised person (occupier or operator of facility)	:	
	(ii) Name of HCF or CBMWTF	:	
	(iii) Address for Correspondence	:	
	(iv) Address of Facility	:	
	(v) Tel. No, Fax. No	:	
	(vi) E-mail ID	:	
	(vii) URL of Website	:	
	(viii) GPS coordinates of HCF or CBMWTF	:	
	(ix) Ownership of HCF or CBMWTF	:	(State Government or Private or Semi Govt. or any other)
	(x). Status of Authorisation under the Bio-Medical Waste (Management and Handling) Rules	:	Authorisation No.: valid up to
	(xi). Status of Consents under Water Act and Air Act	:	Valid up to:
2.	Type of Health Care Facility	:	
	(i) Bedded Hospital	:	No. of Beds:.....
	(ii) Non-bedded hospital (Clinic or Blood Bank or Clinical Laboratory or Research Institute or Veterinary Hospital or any other)	:	
	(iii) License number and its date of expiry	:	
3.	Details of CBMWTF	:	

	(i) Number healthcare facilities covered by CBMWTF	:																																																	
	(ii) No of beds covered by CBMWTF	:																																																	
	(iii) Installed treatment and disposal capacity of CBMWTF:	:	_____ Kg per day																																																
	(iv) Quantity of biomedical waste treated or disposed by CBMWTF	:	_____ Kg/day																																																
4.	Quantity of waste generated or disposed in Kg per annum (on monthly average basis)	:	Yellow Category: Red Category: White: Blue Category: General Solid waste:																																																
5	Details of the Storage, treatment, transportation, processing and Disposal Facility																																																		
	(i) Details of the on-site storage facility	:	Size: Capacity: Provision of on-site storage : (cold storage or any other provision)																																																
	disposal facilities		<table border="1"> <thead> <tr> <th>Type of treatment equipment</th><th>No of units</th><th>Capacity Kg/day</th><th>Quantity treated or disposed in kg per annum</th></tr> </thead> <tbody> <tr><td>Incinerators</td><td></td><td></td><td></td></tr> <tr><td>Plasma Pyrolysis</td><td></td><td></td><td></td></tr> <tr><td>Autoclaves</td><td></td><td></td><td></td></tr> <tr><td>Microwave</td><td></td><td></td><td></td></tr> <tr><td>Hydroclave</td><td></td><td></td><td></td></tr> <tr><td>Shredder</td><td></td><td></td><td></td></tr> <tr><td>Needle tip cutter or destroyer</td><td></td><td>-</td><td></td></tr> <tr><td>Sharps encapsulation or concrete pit</td><td></td><td>-</td><td></td></tr> <tr><td>Deep burial pits:</td><td></td><td>-</td><td></td></tr> <tr><td>Chemical disinfection:</td><td></td><td>-</td><td></td></tr> <tr><td>Any other treatment equipment:</td><td></td><td>-</td><td></td></tr> </tbody> </table>	Type of treatment equipment	No of units	Capacity Kg/day	Quantity treated or disposed in kg per annum	Incinerators				Plasma Pyrolysis				Autoclaves				Microwave				Hydroclave				Shredder				Needle tip cutter or destroyer		-		Sharps encapsulation or concrete pit		-		Deep burial pits:		-		Chemical disinfection:		-		Any other treatment equipment:		-	
Type of treatment equipment	No of units	Capacity Kg/day	Quantity treated or disposed in kg per annum																																																
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Any other treatment equipment:		-																																																	
	(iii) Quantity of recyclable wastes sold to authorized recyclers after treatment in kg per annum.	:	Red Category (like plastic, glass etc.)																																																
	(iv) No of vehicles used for collection and transportation of biomedical waste	:																																																	
	(v) Details of incineration ash and ETP sludge generated and disposed during the treatment of wastes in Kg per annum		<table border="1"> <thead> <tr> <th>Incineration Ash</th><th>Quantity generated</th><th>Where disposed</th></tr> </thead> <tbody> <tr><td>ETP Sludge</td><td></td><td></td></tr> </tbody> </table>	Incineration Ash	Quantity generated	Where disposed	ETP Sludge																																												
Incineration Ash	Quantity generated	Where disposed																																																	
ETP Sludge																																																			
	(vi) Name of the Common Bio-Medical Waste Treatment Facility Operator through which wastes are disposed of	:																																																	
	(vii) List of member HCF not handed over bio-medical waste.																																																		
6	Do you have bio-medical waste management committee? If yes, attach minutes of the meetings held during the reporting period																																																		
7	Details trainings conducted on BMW																																																		
	(i) Number of trainings conducted on BMW Management.																																																		
	(ii) number of personnel trained																																																		
	(iii) number of personnel trained at the time of induction																																																		
	(iv) number of personnel not undergone																																																		

	any training so far		
	(v) whether standard manual for training is available?		
	(vi) any other information)		
8	Details of the accident occurred during the year (i) Number of Accidents occurred (ii) Number of the persons affected (iii) Remedial Action taken (Please attach details if any) (iv) Any Fatality occurred, details.		
9	Are you meeting the standards of air Pollution from the incinerator? How many times in last year could not met the standards?		
10	Details of Continuous online emission monitoring systems installed		
11	Liquid waste generated and treatment methods in place. How many times you have not met the standards in a year?		
12	Is the disinfection method or sterilization meeting the log 4 standards? How many times you have not met the standards in a year?		
13	Any other relevant information	:	(Air Pollution Control Devices attached with the Incinerator)

Certified that the above report is for the period from

Name and Signature of the Head of the Institution

Date:

Place

29[FORM IV-A

[See Rule 13(2)]

Format for Submission of the Annual Report Information on Bio-medical Waste Management (to be submitted by the State Pollution Control Boards or Pollution Control Committees and Director General Armed Forces Medical Services to Central Pollution Control Board on or before 31st July of every year for the period from January to December of the preceding calendar year)

Part 1 (Summary of Information)

- (1) Name of the Organisation :
- (2) Name of the Nodal Officer with contact telephone number and e-mail :
- (3) Total no. of Health Care Facilities/Occupiers :
 - (i) Bedded Hospitals and Nursing Homes (bedded) :
 - (ii) Clinics, dispensaries: :
 - (iii) Veterinary institutions :
 - (iv) Animal houses :
 - (v) Pathological laboratories :
 - (vi) Blood banks :
 - (vii) Clinical establishment: :
 - (viii) Research Institutions :
 - (ix) AYUSH :
- (4) Total no. of beds :
- (5) Status of authorisation :
 - (i) Total number of Occupiers applied for authorisation :
 - (ii) Total number of Occupiers granted authorisation :
 - (iii) Total number of application under consideration :
 - (iv) Total number of applications rejected :
 - (v) Total number of Occupiers in operation without applying for authorisation :

- (6) Quantity of Bio-medical Waste Generation (in kg/day) :
(Please enclose District Wise Bio-medical Waste Generation as per Part 2)
(i) Bio-medical waste generation by bedded hospitals (in kg/day) :
(ii) Bio-medical waste generation by non-bedded hospitals (in kg/day) :
(iii) Any other: :
Total : Kg/day
- (7) Bio-medical waste treatment and disposal
(a) By Captive bio-medical waste treatment and disposal by Health Care Facilities (please enclose details as per Part 3)
(i) Number of Health Care Facilities having captive :
treatment and Disposal facilities
(ii) Total bio-medical waste treated and disposed by captive :
treatment facilities in kg/day
(b) Bio-medical waste treatment and disposal by Common Bio Medical Waste Treatment Facilities (please enclose details as per Part 4)
(i) Number of Common Bio Medical Waste Treatment :
Facilities in Operation
(ii) Number of Common Bio Medical Waste Treatment :
Facilities under construction
(iii) Total bio-medical waste treated in kg/day:
(iv) Total treated bio-medical waste disposed through
authorised recyclers (in Kg/day):
- (8) Total no. of violation by:
(i) Health Care Facilities (bedded and non-bedded):
(ii) Common Bio Medical Waste Treatment Facilities:
(iii) Others (please specify):
- (9) Show cause notices/directions issued to defaulters:
(i) Health Care Facilities (bedded and non-bedded):
(ii) Common Bio Medical Waste Treatment Facilities:
(iii) Others:
- (10) Any other relevant information:
(i) Number of workshops/trainings conducted during the year :
(ii) Number of occupiers installed liquid waste treatment facility :
(iii) Number of captive incinerators complying to the norms :
(iv) Number of occupiers organised trainings :
(v) Number of occupiers constituted Bio-medical Waste :
Management Committees
(vi) Number of occupiers submitted Annual Report for the previous :
calendar year
(vii) Number of occupiers practising pre-treatment of lab :
microbiology and Bio-technology waste
(viii) Number of Common Bio Medical Waste Treatment Facilities that :
have installed Continuous Online Emission Monitoring Systems

Part 2: District-wise Bio-medical Waste Generation (for the previous calendar year)

Sl. No.	Name of the State/ Union Territory	Name of the District	Bio-medical Waste Generation (in Kg/day)	Existing Total bio-medical waste treatment capacity (both captive and CBMWTF) in kg/day	
				Equipment	Total
				Incinerator:	
				Autoclave:	
				Deep	
				Burial:	
				Any other:	

Part 3 : Information on Health Care Facilities having captive treatment facilities (for the previous calendar Year)

Sl.	Name and	Quantity of Bio-medical Waste	Total Installed Treatment	Total bio-
-----	----------	-------------------------------	---------------------------	------------

[illegible]

Part 4: Information on Common Bio-Medical Waste Treatment and Disposal Facilities (for the previous calendar Year)

Sl. No.	Name and Address of the Common Bio-Medical Waste Treatment Facilities with contact person name and telephone number	GPS Coordinates	Coverage Area in KMS	Name of the cities/ areas covered by Common Bio-Medical Waste Treatment Facilities	Total number of Health Care Facilities being covered	Total number of beds covered	Total Quantity of Bio-Medical Waste collected from member Health Care Facilities (in Kg/day)	Capacity of Treatment equipments installed by Common Bio Medical Waste Treatment Facilities	Total Bio-Medical waste treated in kg/day	Method of Disposal of treated wastes (Incineration Ash/ Sharps/ Plastics)
								Equipment Numbers Total Installed capacity (kg/day)		
								Incinerator		Incineration Ash:
								Plasma Pyrolysis		Quantity: Disposed by:
								Autoclave		Sharps:
								Hydroclave		Quantity: Disposed by:
								Micro-wave		Plastics:
								Shredder		Quantity: Disposed by:
								Sharps encapsulation or concrete pit		
								Deep burial pits		
								Any other equipment		
								Effluent Treatment		ETP Sludge: Quantity:

		Plant	Disposed by:
(a)	Total Number of transportation vehicles used for collection of Bio-medical Waste on daily basis by the Common Bio-Medical Waste Treatment Facilities:	Sub-total	
(b)	List of Health Care Facilities not having membership with the Common Bio-Medical Waste Treatment Facilities and neither having captive treatment facilities:		
(c)	Number of trainings organised by the Common Bio-Medical Waste Treatment Facility operators:		
(d)	Number of Accidents reported by the Common Bio-Medical Waste Treatment Facility:]		

FORM V

(See Rule 16)

Application for filing appeal against order passed by the prescribed authority

1. Name and address of the person applying for appeal:
2. Number, date of order and address of the authority which passed the order, against which appeal is being made (certified copy of order to be attached):
3. Ground on which the appeal is being made:
4. List of enclosures other than the order referred in para 2 against which appeal is being filed:

Signature

Name and Address.....

Date:

¹ Ministry of Environment, Forest and Climate Change, Noti. No. G.S.R. 343(E), dated March 28, 2016 and published in the Gazette of India, Extra., Part II, Section 3(i), dated 28th March, 2016, pp. 39-63, No. 197.

² Subs. for "Municipal Solid Waste (Management and Handling) Rules, 2000" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

³ Subs. for "Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

⁴ Subs. for "e-Waste (Management and Handling) Rules, 2011" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

⁵ Subs. for "or National AIDS Control Organisation (NACO) guidelines and then sent to the common bio-medical waste treatment facility for final disposal" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

⁶ Subs. by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018). Prior to substitution it read as:
"(d) phase out use of chlorinated plastic bags, gloves and blood bags within two years from the date of notification of these rules;"

⁷ Ins. by G.S.R. 360(E), dt. 10-5-2019 (w.e.f. 13-5-2019).

⁸ Subs. for "place for any purpose within one year from the date of the notification of these rules;" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

⁹ Subs. by G.S.R. 129(E), dt. 19-8-2019 (w.e.f. 20-2-2019). Prior to substitution it read as:
"(n) maintain and update on day to day basis the bio-medical waste management register and display the monthly record on its website according to the bio-medical waste generated in terms of category and colour coding as specified in Schedule I;"

¹⁰ Subs. by G.S.R. 129(E), dt. 19-8-2019 (w.e.f. 20-2-2019). Prior to substitution it read as:
"(p) all the health care facilities (any number of beds) shall make available the annual report on its web site within a period of two years from the date of publication of Bio-Medical Waste Management (Amendment) Rules, 2018;"

¹¹ Subs. for "within one year" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

¹² Subs. for "phase out use of non-chlorinated plastic bags" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

¹³ Subs. for "the Plastic Waste Management Rules, 2011" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

¹⁴ Subs. for "Central Pollution Control Board on or before" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

¹⁵ Ins. by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

¹⁶ Subs. for "Autoclave safe plastic bags or containers" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

¹⁷ Subs. for "as per National AIDS Control Organisation or World Health Organisation guidelines thereafter for Incineration" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

¹⁸ Subs. for "Cardboard boxes with blue colored marking" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

¹⁹ Subs. for "Cardboard boxes with blue colored marking" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

²⁰ Subs. for "Schedule III" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

²¹ Subs. for "10%" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

²² Subs. for "mg Nm³" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

²³ Ins. by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

²⁴ Subs. by G.S.R. 129(E), dt. 19-8-2019 (w.e.f. 20-2-2019). Prior to substitution it read as:
"3. Health Care Facilities having less than ten beds shall have to install Sewage Treatment Plant by the 31st December, 2019."

²⁵ *Subs.* for "(Rule 9)" by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

²⁶ *Ins.* by G.S.R. 129(E), dt. 19-8-2019 (w.e.f. 20-2-2019).

²⁷ *Subs.* for "(viii)" by G.S.R. 360(E), dt. 10-5-2019 (w.e.f. 13-5-2019).

²⁸ *Subs.* by G.S.R. 129(E), dt. 19-8-2019 (w.e.f. 20-2-2019). Prior to substitution it read as:

"(viii) Inspection and monitoring of health care facilities operated by the Director General, Armed Forces Medical Services [(Rule 12)]"

²⁹ *Ins.* by G.S.R. 234(E), dt. 16-3-2018 (w.e.f. 16-3-2018).

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HSM-20/4/2021-HSM

346350/2023/HSM

नरेश पाल गंगवार, आई.ए.एस.
Naresh Pal Gangwar, IAS



अपर सचिव
भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
ADDITIONAL SECRETARY
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST
AND CLIMATE CHANGE

D.O. No. 20/4/2021-HSMD

Dated: 14th October, 2022

Respected Sir,

The Ministry of Environment, Forest and Climate Change (MoEFCC) is administering the Bio-medical Waste Management (BMWM) Rules, 2016 for scientific disposal of BMW. Further, to assist stakeholders in the implementation of the BMWM Rules, 2016, the Central Pollution Control Board (CPCB) has also formulated various guidelines.

2. I would like to emphasize here that the purpose of these rules is to uniformly implement its provisions across the country with support of various stakeholders like the Ministry of Health and Family Welfare, State Health Department, State Pollution Control Boards/ Pollution Control Committees (SPCBs/ PCCs), Occupiers (waste generators), Common Bio-Medical Waste Treatment Facility Operators (CBWTFs) etc. In this regard, it is noteworthy to mention here the important role played by various stakeholders and facilities during the COVID-19 pandemic period towards effective management of COVID-19 waste.

3. May I highlight here that the Ministry often comes across media reports, and receive representations from civil society/ stakeholder groups on non-compliance of BMWM Rules, 2016/ CPCB Guidelines. The major issues highlighted in such complaints are related to unscientific/ non-compliant functioning of Healthcare Facilities (HCFs)/ CBWTFs, lack of gap-analysis studies & monitoring by SPCBs/ PCCs, non-consideration of gap-analysis reports while grant of environmental clearances by SEIAA, illegal dumping of BMW by HCFs/ CBWTFs, earmarking of HCFs for BMW treatment to CBWTFs against distance criteria etc. It is to be noted that new facilities may be allowed on the basis of gap analysis by SPCBs wherever required.

4. In light of the above, I would request you to intervene in the matter and ensure that gap-analysis studies and BMWM Rules, 2016/ CPCB guideline provisions must become the one of the fundamental grounds of granting ECs to HCFs/ CBWTFs. Further, the SPCBs/ PCCs may be directed to ensure effective monitoring of CBWTFs and ensure that all CBWTFs within their jurisdiction come under the ambit of Online Continuous Emission Monitoring System and connect with CPCB server. In case of insufficient capacity, proper gap analysis be made and new facilities may be allowed. If required, the non-compliant entities can be penalized, and asked to deposit of requisite environmental compensation.

With regards,

Yours sincerely,

(Naresh Pal Gangwar)

Shri Manoj Singh
Principal Secretary,
Environment, Forest and
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HSM-20/4/2021-HSM



सत्यमेव जयते

अपर सचिव

भारत सरकार

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय

ADDITIONAL SECRETARY
GOVERNMENT OF INDIAMINISTRY OF ENVIRONMENT, FOREST
AND CLIMATE CHANGE

346350/2023/HSM

नरेश पाल गंगवार, आई.ए.एस.
Naresh Pal Gangwar, IAS

D.O. No. 20/4/2021-HSMD

Dated: 18th October, 2022

Respected Sir,

The Ministry of Environment, Forest and Climate Change (MoEFCC) is administering the Bio-medical Waste Management (BMW) Rules, 2016 for scientific disposal of BMW. Further, to assist stakeholders in the implementation of the BMW Rules, 2016, the Central Pollution Control Board (CPCB) has also formulated various guidelines. The purpose of these rules is to uniformly implement its provisions across the country with support of various stakeholders like the Ministry of Health and Family Welfare, State Health Department, State Pollution Control Boards/ Pollution Control Committees (SPCBs/ PCCs), Occupiers (waste generators), Common Bio-Medical Waste Treatment Facility Operators (CBWTFs) etc.

2. May I highlight here that the Ministry often comes across media reports, and receive representations from civil society/ stakeholder groups on non-compliance of BMW Rules, 2016/ CPCB Guidelines. The major issues highlighted in such complaints are related to unscientific/ non-compliant functioning of Healthcare Facilities (HCFs)/ CBWTFs, lack of gap-analysis studies & monitoring by SPCBs/ PCCs, non-consideration of gap-analysis reports while grant of environmental clearances by SEIAA, illegal dumping of BMW by HCFs/ CBWTFs, earmarking of HCFs for BMW treatment to CBWTFs against distance criteria etc.

3. In compliance to the Hon'ble NGT's directions in the matter of O.A. No. 180 of 2021 (Mukul Kumar vs. Uttar Pradesh Pollution Control Board & Ors.), the Ministry had coordinated with CPCB for preparation of a 'Standard Monitoring Framework', which has been submitted to Hon'ble NGT. The provisions of framework aim to facilitate SPCBs/ PCCs in compliance monitoring of HCFs/ CBWTFs. A copy of the same is attached for implementation.

4. In light of the above, I would request you to intervene in the matter and ensure that compliance to BMW Rules, 2016/ CPCB guideline provisions must become the fundamental ground for grant/ renewal of consent and authorization to HCFs/ CBWTFs. All the CBWTFs be brought under the ambit of Online Continuous Emission Monitoring System and connect with CPCB server. In case of insufficient BMW treatment capacity, proper gap analysis be undertaken, and new facilities may be allowed. Further, non-compliant entities be penalized, and asked to deposit requisite environmental compensation.

With regards,

Yours sincerely,

(Naresh Pal Gangwar)

Shri Manoj Singh,
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MINISTRY OF ENVIRONMENT, FOREST
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Dated: 18th October, 2022

Respected Sir

The Ministry of Environment, Forest and Climate Change (MoEFCC) is administering the Bio-medical Waste Management (BMW) Rules, 2016 for scientific disposal of BMW. Further, to assist stakeholders in the implementation of the BMW Rules, 2016, the Central Pollution Control Board (CPCB) has also formulated various guidelines. The purpose of these rules is to uniformly implement its provisions across the country with support of various stakeholders like the Ministry of Health and Family Welfare, State Health Department, State Pollution Control Boards/ Pollution Control Committees (SPCBs/ PCCs), Occupiers (waste generators), Common Bio-Medical Waste Treatment Facility Operators (CBWTFs) etc.

2. May I highlight here that the Ministry often comes across media reports, and receive representations from civil society/ stakeholder groups on non-compliance of BMW Rules, 2016/ CPCB Guidelines. The major issues highlighted in such complaints are related to unscientific/ non-compliant functioning of Healthcare Facilities (HCFs)/ CBWTFs, lack of gap-analysis studies & monitoring by SPCBs/ PCCs, non-consideration of gap-analysis reports while grant of environmental clearances by State Environment Impact Assessment Authorities (SEIAA), illegal dumping of BMW by HCFs/ CBWTFs, earmarking of HCFs for BMW treatment to CBWTFs against distance criteria etc.

3. In light of the above, I would request you to intervene in the matter and ensure that the grant of ECs by the SEIAA must be based on gap analysis studies undertaken by the concerned SPCBs/ PCCs duly highlighting the difference in the BMW generated vis-à-vis the treatment capacity available.

With regards,

Yours sincerely,

(Naresh Pal Gangwar)

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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

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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 BMW 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 BMW 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 BMW 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 BMW 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 BMW 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**.

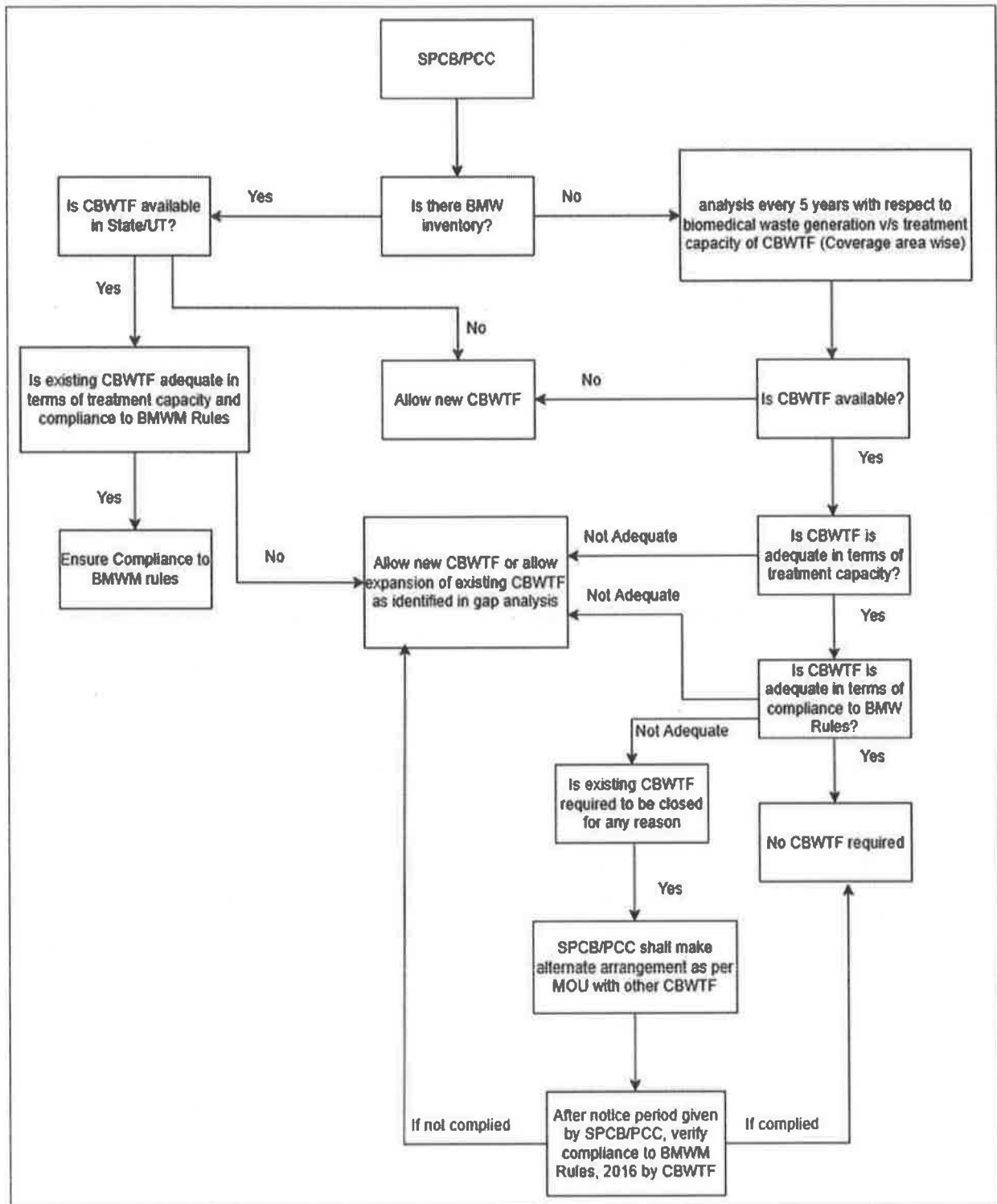


Figure 1. Criteria for Development of a CBWTF in a coverage area

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 CBWTF should 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

- (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
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- 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.
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- c) **Chemical disinfection:** Though chemical disinfection or alternates as stipulated under the BMW 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 BMW Rules. In this method, waste sharps are treated using dry heat (hot air) at a temperature not less than 185°C, 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 conform 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;
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- (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.

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- 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 BMW 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.
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- (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 BMW 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 BMW Rules, may adopt new technology only with the prior approval from MoEF & CC and is also required to obtain authorization under the BMW 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 Pyrolysis/ 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 BMW 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 BMW 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/harbours 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 CO₂, O₂, 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 BMW Rules obtained from the SPCB/PCC;
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- (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 BMW 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 BMW 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 BMW Rules.
 - (x) Workers should have provisions such as washing, toilet, and suitable place for eating.
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- (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 30th 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 (CO₂), Oxygen (O₂) 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 <i>Geobacillus stearothermophilus</i> spores with at least 1×10^6 spores),	once in three months
		(ii) chemical indicator strip or tape	each batch of waste treated
(ii)	Microwave	<i>Bacillus atrophaeus</i> spores using vials or spore strips with at least 1×10^4 spores per detachable strip	Recommended: once in three months
(iii)	Chemical treatment followed by shredding	<i>Bacillus Subtilis</i> (ATCC 19659)- Log10 reduction or greater	4 Once in a week
(iv)	Dry heat sterilization	consistently kill the biological indicator <i>Geobacillus Stearothermophilus</i> or	Once in three months

S. No	Type of equipment used for treatment of bio-medical waste	Type of Validation Test	Frequency
		Bacillus Atropheaus spores using vials with at least 6 log ₁₀ spores per ml.	
		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 BMW Rules) so that at any time, the healthcare units can be traced back that are not segregating the bio-medical wastes as per BMW 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 BMW 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 BMW 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

Sl. No.	Treated Waste Category	Suggested Treatment and Disposal Options
		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 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 CBWTF 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 meter readings in KM		Speedo mileage 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 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 °C			Negative draft 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)	pH 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				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)		
	Initial reading	Final reading																
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	16)	(17)	(18)	(19)= (18) – (4)

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 °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 BMW 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 ☐

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:

S.No.	Details	Particulars
08.	Total BMW Treatment Capacity of CBWTF (in kg / day)	Incineration : Autoclave : Chemical Disinfection: Any other treatment and disposal:
09.	Consents and Authorization details :	
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 bySPCB/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 bySPCB/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 bySPCB/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 ☐

S.No.	Details	Particulars
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 toPM (iii) Whether waste from member HCFs collected in holidays: ☐ Yes ☐ No
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 BMW Rules, 2016	☐ Satisfactory ☐ No satisfactory
18.3	Vehicles used are as per CPCB Guidelines	☐ Satisfactory ☐ No satisfactory

S.No.	Details		Particulars												
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												
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 CBWTF														
21.1	Incinerator/plasma pyrolysis capacity and make	:	(i) No. of Incinerators including standby: (ii) Incineration capacity: kg /hrKg/day.												
21.2	Daily Operation schedule of the incinerator /plasma pyrolysis (timings)	:	AM toPM (or)PM toAM Whether bio-medical waste collected from member HCFs is treated during holidays: Yes ☐ No ☐												
21.3	Consumption of auxiliary fuels	:	<table border="1"> <thead> <tr> <th>S. No</th> <th>Type of Fuel</th> <th>Consumption Quantity in liters per day</th> <th>Bill numbers of purchase of fuel</th> </tr> </thead> <tbody> <tr> <td>a)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>b)</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	S. No	Type of Fuel	Consumption Quantity in liters per day	Bill numbers of purchase of fuel	a)				b)			
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	:	☐ Yes ☐ No												

S.No.	Details		Particulars
	and as per CPCB guidelines		
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
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) :° C (iii) Temperature maintained in Secondary Chamber (range):.....° 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	:	(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:%

S.No.	Details		Particulars
	analysis (i.e CO, O ₂ and CO ₂)		(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 capacitykg/cycle and make installed.
22.1	Operating conditions of autoclave/microwave as observed during the visit	:	Operating parameters observed: (i) Temperature : in °C (ii) Pressure : in psi (iii) Residence time : in minutes
22.2	Provision made for the autoclave /microwave	:	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.

S.No.	Details	Particulars														
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): 1st Day of Month : Last day of month : Magnetic Flow meter as observed during the visit: <table border="1"> <thead> <tr> <th rowspan="2">S. No</th> <th rowspan="2">Month</th> <th colspan="2">Magnetic flow meter reading</th> </tr> <tr> <th>Initial</th> <th>Final</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>Previous month</td> <td></td> <td></td> </tr> <tr> <td>(2)</td> <td>On the date of visit:.....</td> <td></td> <td></td> </tr> </tbody> </table> 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	S. No	Month	Magnetic flow meter reading		Initial	Final	(1)	Previous month			(2)	On the date of visit:.....		
S. No	Month	Magnetic flow meter reading														
		Initial	Final													
(1)	Previous month															
(2)	On the date of visit:.....															
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														

S.No.	Details		Particulars
26.0	Total wastewater effluent generated per day	:	AboutKLD 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
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

S.No.	Details		Particulars
	(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
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	Fire alarm system provided in the facility	:	☐ Yes ☐ No

S.No.	Details	Particulars
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 of similar colour with label as per the Rules? :	☐ Yes ☐ No
30.2	Whether the person who collects BMW maintain a register with him / her? :	☐ Yes ☐ No

S.No.	Details		Particulars
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 bySPCB/PCC
31.2	Treated sharps	:	Treated syringes disposal by:..... or through M/s.....and approved bySPCB/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	:	
31.6	Treated wastewater	:	

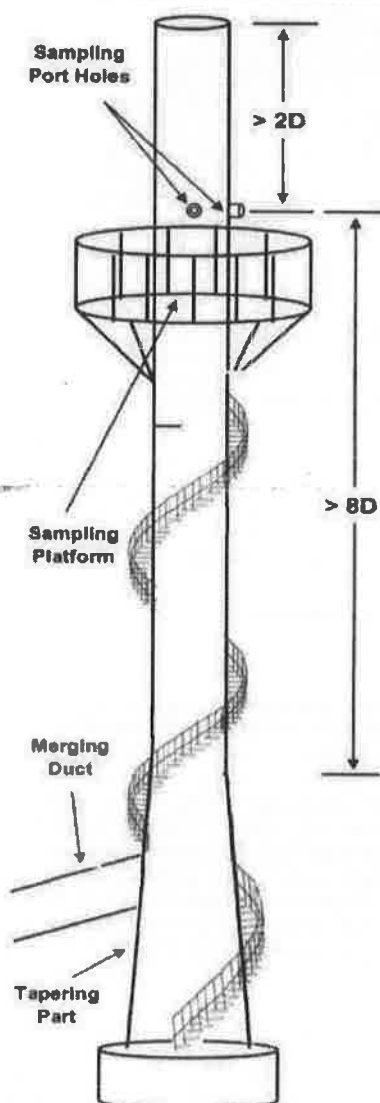
S.No.	Details	Particulars																					
32.	Frequency of incinerator / autoclave / microwave / hydroclave / ETP discharge effluent testing and name of the laboratory (specify approved or not under E(P) Act, 1986 or NABL Accredited Lab.). Give details of compliance / non-compliance)	(i) Reported 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.....)																					
32.1	Frequency of site inspection by SPCBs/PCCs/CPCB/any other agencies	(i) No. of times in a year inspected by the SPCB/PCC: (ii) No. of times in a year inspected by the CPCB																					
33.	Monitoring Results :																						
33.1	Incinerator stack emission (parameters stipulated in the Rules, temperature attainment in the chambers, residence time in the secondary chamber etc.)	<table border="1"> <thead> <tr> <th>Parameter</th><th>PM</th><th>HCl</th><th>NOx</th><th>Hg & com- pounds</th><th>Dioxins and Furans</th><th>C.E.</th></tr> </thead> <tbody> <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> </tbody> </table> Date of monitoring: Note: All values are in mg/Nm ³ , except CE	Parameter	PM	HCl	NOx	Hg & com- pounds	Dioxins and Furans	C.E.	Date							LIMIT	50	50	400	0.05	0.1 ng TEQ per Nm ³	99.00%
Parameter	PM	HCl	NOx	Hg & com- pounds	Dioxins and Furans	C.E.																	
Date																							
LIMIT	50	50	400	0.05	0.1 ng TEQ per Nm ³	99.00%																	
33.2	Whether Stack emission norms are complied with by the CBWTF	☐ Yes ☐ No																					
33.3	Incineration ash characteristics	Characteristics as per Schedule –II of HOW (M& TM) Rules, 2016 (Annexure-----) Is it hazardous waste as per HOWM&TM Rules, 2016: ☐ Yes ☐ No																					
33.4	ETP inlet/outlet characteristics	<table border="1"> <thead> <tr> <th>Parameter</th><th>pH</th><th>TSS</th><th>COD</th><th>BOD</th><th>O&G</th></tr> </thead> <tbody> <tr> <td>ETP Inlet Result</td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	Parameter	pH	TSS	COD	BOD	O&G	ETP Inlet Result														
Parameter	pH	TSS	COD	BOD	O&G																		
ETP Inlet Result																							

S.No.	Details		Particulars						
			ETP Result	Outlet					
			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



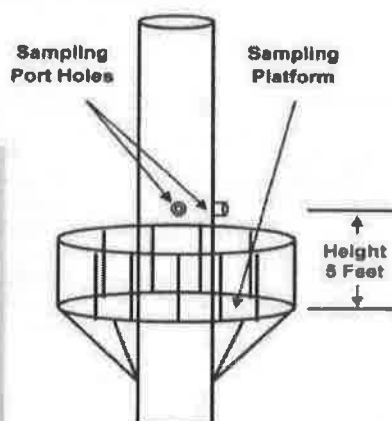
Number of Port Holes : Minimum two numbers of Port Holes at 90° apart from each other at a horizontal plane.

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.

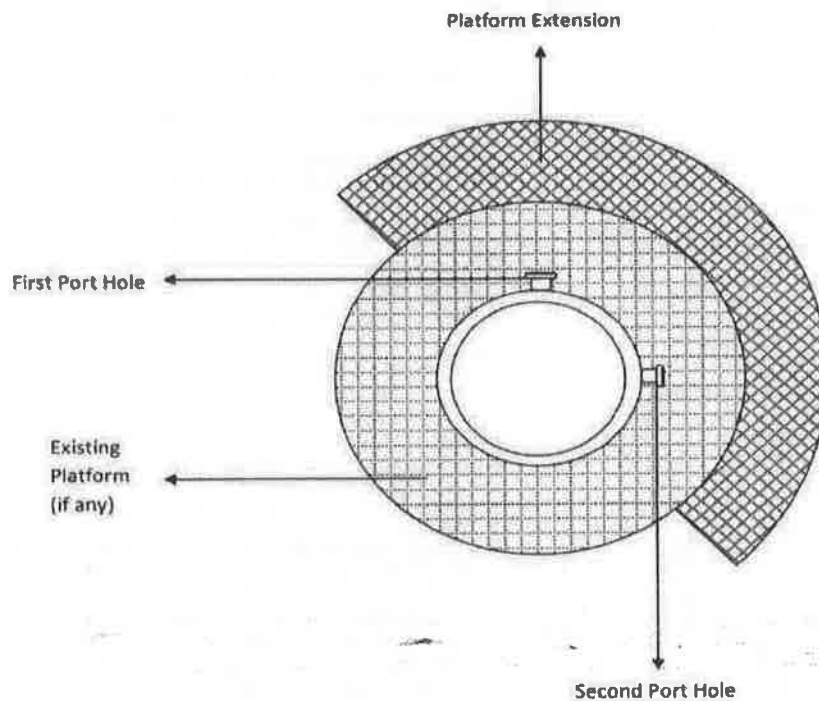
Location of Sampling Platform : 5 feet upstream (downward direction of stack) from the Port Hole as determined above.

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 then 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).

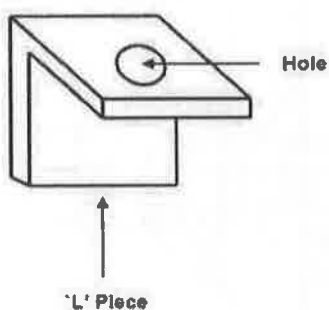
Sampling Platform Modification : A semi-circular extension of the existing platform (width extending outward by 6 feet from outside wall of the stack and covering at least one third of the circumference) may be provided for access to both the Port Holes. This area can be extended from the existing Platform 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.



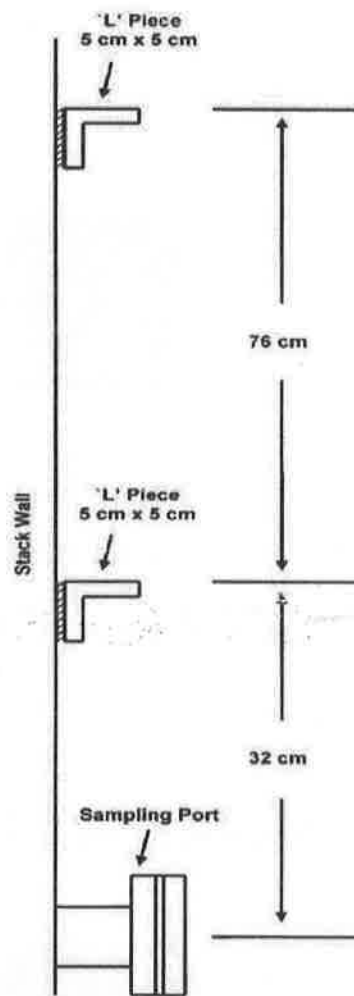
Note: Alternatively, safe access to monitoring platform may be provided with separate scaffolding-cum-staircase arrangement



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 BMW 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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