BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
ORIGIANL APPLICATION NO. 561 OF 2023

IN THE MATTER OF:

RAJIV KUMAR DUBEY ...APPLICANT

VERSUS

UNION OF INDIA AND OTHERS ...RESPONDENTS

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RESPONDENT NO. 5

FILED THROUGH

(MANOJ KUMAR & SHWETA BHARTI, ADVOCATES)
HAMMURABI & SOLOMON PARTNERS
ADVOCATES FOR THE RESPONDENT NO. 5
405 & 405A, Rectangle One, 4th Floor,
Saket District Centre, Saket, New Delhi-110017
Tel.: +91 11 4155 1825, 4155 0586
shweta.bharti@hammurabisolomon.com
anil.tiwari@hammurabisolomon.com

PLACE: New Delhi
DATE: 14.12.2023

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
ORIGIANL APPLICATION NO. 561 OF 2023

IN THE MATTER OF:

RAJIV KUMAR DUBEY ...APPLICANT

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REPLY AFFIDAVIT ON BEHALF OF RESPONDENT NO. 5

I, Mr. Paramjeet Singh Chawla, S/o Darshan Singh Chawla, aged about 57 Years, resident of House No. 2040, Phase 7, Mohali, working as Manager – Business Development with the Respondent No. 5/Project Proponent having corporate office at Dr. P. N. Chhuttani Memorial IMA Complex Sector 35-B, Chandigarh and facility at Plot No. 182/9, Industrial Area-I, Chandigarh, do hereby solemnly affirm as under:

I. That I the Authorized Signatory of the Respondent No. 5/Project Proponent authorized vide Board Resolution dated 09.12.2023 and well conversant with the facts, records and circumstances of the present case and hence competent to swear this Affidavit. A copy of Board Resolution dated 09.12.2023 is annexed herewith as **Annexure-R/1.**

II. At the outset, each and every allegation, contentions and averments made in the captioned Application are denied in totality, save and except what are matters of record and what has been specifically stated and admitted hereunder.

III. That the present Application filed by the Applicant herein before this Hon'ble Tribunal is bereft of any merit and the same has been filed by the Applicant with ulterior motive and as such the same may be dismissed with exemplary cost by this Hon'ble Tribunal. That the Respondent No. 5 i.e. project proponent is fully compliant with the applicable Rules and Regulations and the terms and conditions imposed by the Authorities while granting the Environmental Clearance, Consent to Establish, and Consent to Operate for the

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establishment and operation of the Common Bio Medical Waste Treatment Facility (hereinafter referred to as **"CBWTF"**) to the Respondent No. 5/Project Proponent.

IV. That prior to setting out the preliminary response to the allegations made by the Applicant in the present Application it is necessary to identify, highlight and apprise this Hon'ble Tribunal with an accurate and correct brief of the facts. The correct facts and circumstances relevant to the matter at hand is presented herein below for the ease of reference of this Hon'ble Tribunal:

V. **FACTUAL BACKGROUND**

a) That the Respondent No. 5 i.e. Alliance Envirocare Company Pvt. Ltd. (formerly known as *Alliance Envirocare Company*) is a "Common Bio Medical Waste Treatment Facility" constituted under Companies Act, 1956 (now *Companies Act, 2013*) having its facility at Plot No. 182/9, Industrial Area-I, Chandigarh is engaged in handling, transporting, treating and disposing off the Bio Medical Waste from the various private, government hospitals and other institutions as per the guidelines of Central Pollution Control Board for collection, reception, transportation, treatment and final disposal of incinerable Bio Medical Waste.

b) That the Respondent No. 5/Project Proponent is operational in Chandigarh from the year 2005 and decided to upgrade its already existing facility by installing the eco-friendly incinerator having capacity of 200kg per hour along with APCD Device, ETP, etc. as per the recent CPCB norms in the already existing CBWTF to treat the bio-medical waste from private, semi-government and government health care units within Chandigarh as the existing incinerator installed at PGIMER and at Government Multi-Specialty Hospital Sector-16, Chandigarh is having only 100kg/per hour incineration capacity and is at the fag end of its life cycle and hence facing regular snags/breakdowns. That the said project falls under Category "B" projects of activity 7(da) as per Environment Impact Assessment Notification dated 14.09.2006 and its subsequent amendments dated 17.04.2015 under Bio-Medical Waste Treatment

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Facilities. A copy of the Pre-Feasibility Report for Proposed Common Bio Medical Waste Treatment Facility is annexed herewith as **Annexure- R/2.**

c) That it is submitted that Respondent No. 5/Project Proponent had made a proposal bearing no. SIA/CH/MIS/16449/2016 seeking Environmental Clearance under the EIA Notification dated 14.09.2006 and amendments thereof. That the said proposal was considered by the Expert Appraisal Committee [EAC] in its 34th meeting held on 27.10.2017 and recommendations for the grant of EC was forwarded to U.T. Environment Impact Assessment Authority (SEIAA), Chandigarh on 16.11.2017. Pursuant thereto, the project of Respondent No. 5/Project Proponent was considered by the SEIAA, Chandigarh in its 12th meeting held on 27.11.2017. That after consideration of the documents submitted by Respondent No. 5 Company, State Environment Impact Assessment Authority, and Chandigarh (hereinafter referred to as "**SEIAA**") granted the Environmental Clearance to Respondent No. 5/Project Proponent. A copy of the Environmental Clearance vide Letter No. 3056 dated 06.12.2017 is annexed herewith as **Annexure –R/3.**

d) That it is submitted that Respondent No. 5/Project Proponent is having requisite permission and Consent to Establish vide Consent Letter bearing No. CPCC/RSBWTF/1237/2018/1195 dated 24.08.2018 from Chandigarh Pollution Control Committee (hereinafter referred to as "**CPCC**") as required under Section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 and under Section 21 of Air (Prevention and Control of Pollution) Act, 1981 for establishment of a Bio-Medical Waste Incinerator of 200kg/hour capacity. That it is pertinent to mention herein that the Consent to Establish has been approved by CPCC from pollution angle. That it is further pertinent to highlight herein that the said Consent to Establish explicitly states that the height of stack to be that of minimum 30 meter from the 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. A copy of the Consent to Establish dated 24.08.2018 is annexed herewith as **Annexure-R/4.**

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e) That pursuant thereto, Respondent No. 5/Project Proponent has obtained Consent to Operate bearing no. CPCC/RSBWTF/1237/2019/158/3258 dated 31.01.2019 from CPCC for running a Bio-Medical Waste Treatment Facility for treatment of Incinerable & Non-Incinerable Bio-Medical Waste generated in U.T. Chandigarh. That the said Consent to Operate dated 31.01.2019 was valid upto 30.11.2023. Pursuant thereto, the Respondent No. 5/Project Proponent had applied for renewal of Consent vide Application Form No. 513987 dated 21.11.2023 with the Chandigarh Pollution Control Committee. That it is further pertinent to highlight herein that the said Consent to Operate mentions the height of stack to be that of minimum 30 meter from the ground level. A copy of the Consent to Operate dated 31.01.2019 and application dated 21.11.2023 for renewal of Consent are annexed herewith as **Annexure-R/5 (Colly).**

f) That Respondent No. 5/Project Proponent has also obtained authorization vide Authorization No. CPCC/RSBWTF/1237/2019/130/3258 dated 31.01.2019 from CPCC under Rule 6 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 of Environment Protection Act, 1986 to operate a facility for storage & disposal of hazardous waste on the premises situated at Plot No. 182/9, Industrial Area, Phase-I Chandigarh. That the said Authorization dated 31.01.2019 was valid upto 30.11.2023. That the Respondent No. 5/Project Proponent had applied for grant of renewal of authorization for generation or collection or storage or transport or reception or recycling or recovery or re-processing or co-processing or utilization or treatment or disposal of hazardous and other waste vide Application bearing No. 512142 with the Chandigarh Pollution Control Committee. Copies of the HWM Authorization Letter dated 31.01.2019 and application for renewal of authorization submitted by Respondent No. 5/Project Proponent are annexed herewith as **Annexure –R/6 (Colly).**

g) That it is submitted that the Respondent No. 5/Project Proponent has the requisite Fire Safety Certificate bearing Ref No. CFO-FSC/2021/00246 dated 23.09.2022 from Municipal Corporation Chandigarh, Fire and Rescue Services which states that the Respondent No. 5 Company has complied with the Fire Prevention and Fire Safety requirements of National Building Code of India and is verified by the concerned

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Nominated Authority of Fire & Rescue Services, MC, Chandigarh. That the said Fire Safety Certificate is valid for a period of 03 years from its date of issuance. A copy of the Fire Safety Certificate dated 23.09.2022 is annexed herewith as **Annexure-R/7.**

h) That the Respondent No. 5/Project Proponent has also obtained proper Renewal of Registration and Factory License bearing Registration No. CIFRGFR/2022/00120 dated 19.12.2022 from Labour Department UT Chandigarh to work as a factory. That the said renewed License is valid till 31.12.2023. A copy of the Renewed Factory License dated 19.12.2022 is annexed herewith as **Annexure-R/8.**

i) That the Respondent has obtained requisite authorization vide No. CPCC/BMW/61/2023/10/8005 dated 16.03.2023 from Chandigarh Pollution Control Committee under Rule 10 of Bio-Medical Waste Management Rules, 2016 framed under Environment (Protection) Act, 1986 for operating a facility for collection, reception, treatment, transport and disposal of Bio-Medical Waste. That the said Authorization was valid till 30.11.2023. Respondent No. 5/Project Proponent had applied for renewal for the said authorization vide application id bearing no. 512088 with the Chandigarh Pollution Control Committee. Copies of BMW Authorization Certificate dated 16.03.2023 and application for renewal of the same are annexed herewith as **Annexure-R/9 (Colly).**

VI. That it is manifestly clear from the above submissions that Respondent No. 5/Project Proponent is fully compliant and have all requisite permissions and clearances which are required for its operations. Thus the contentions raised by the present Applicant in the present application are completely false and frivolous and is liable to be dismissed.

VII. That prior to setting out the para-wise response to the allegations made by the Applicant in the present Application, the Respondent No. 5/Project Proponent wishes to submit the following preliminary responses with respect to the three (03) primary allegations made by the Applicant in the present Application pertaining to land requirement criteria, stack height and inadequate green belt:

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A. LAND REQUIREMENT CRITERIA

i. That it is respectfully submitted that Respondent No. 5/Project Proponent has diligently fulfilled all requirements pertaining to the acquisition of consents, certificates and permissions necessary for operating a Common Bio Medical Waste Treatment Facility.

ii. That the Applicant in the present application has alleged that Respondent No. 3 i.e. SEIAA, Chandigarh has issued Environmental Clearance in favour of Respondent No. 5/Project Proponent for Plot area of less than 0.5 acre without having consulted with the Respondent No. 2 i.e. Central Pollution Control Board (hereinafter referred to as "**CPCB**") That in response thereto, it is submitted that CPCB, Ministry of Environment, Forest and Climate Change in its Revised Guidelines for Common Bio-Medical Waste Treatment and Disposal Facilities dated 21.12.2016 (hereinafter referred to as "CPCB Guidelines") has laid down certain provisions with respect to land requirement of Common Bio-Medical Waste Treatment and Disposal Treatment (hereinafter referred to as "**CBWTF**") which stipulates that sufficient land shall be allocated to the CBWTF to provide all requisite systems which include dedicated space for storage of waste, waste treatment equipment, vehicle parking space, ETP, incineration as storage provision, administrative room, space for DG set, etc. That CPCB Guidelines further stipulates the following requirements for land by CBWTF:

> ***"7) Land requirement***
>
> *(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 (both in municipal limits with population more than 25 lakhs or in rural areas), the land area***

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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 CPCB."

A copy of the Revised Guidelines for Common Bio-Medical Waste Treatment and Disposal Facilities dated 21.12.2016 is annexed herewith as **Annexure-R/10.**

iii. That the Respondent No. 5/Project Proponent has duly intimated the Plot size of its facility in question to Respondent No. 3 i.e. SEIAA, Chandigarh and had also given an undertaking to Respondent No. 3 that to comply with the guidelines of CPCB, New Delhi regarding minimum land requirement (0.5 acre), a plot adjacent to the current site (182/10, Industrial Area, Phase I, Chandigarh) has been acquired having address 182/9, Phase-I, Industrial Area, Chandigarh on initial lease of 10 years measuring 2,080 square yards, which is equivalent to 0.5 acre and a new lay out plan of proposed incinerator and other waste treatment technologies in the new plot i.e. 182/9, Phase-I, Industrial Area, Chandigarh was also submitted to Respondent No. 3. That upon due consideration of the relevant documents submitted by Respondent No. 5/Project Proponent, Respondent No. 3 issued Environmental Clearance Certificate to the Respondent No. 5/project proponent and therefore, the allegations of the Applicant with respect to the Respondent No. 5/Project Proponent not meeting adequate land requirement as per the CPCB Guidelines is utterly baseless and unfounded.

B. THE STACK HEIGHT CRITERIA

iv. That the Applicant in the present Application has further alleged that Respondent No. 4 i.e. Chandigarh Pollution Control Committee (hereinafter referred to as "**CPCC**") has allowed Respondent No. 5/Project Proponent to install a stack height

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of 30 meters above ground level which is in contravention of the conditions mentioned under EC by Respondent No. 3. That in response thereto, it is submitted that the said allegation made by the Application is false, concocted and misleading.

v. That it is pertinent to highlight herein that Clause 1 (C) of the Schedule II [Standards for treatment and disposal of Bio-Medical Wastes] of the Bio-Medical Waste Management Rules, 2016 (hereinafter referred to as **"Rules, 2016")** explicitly states that the minimum stack height shall be 30 meters. That the relevant provision is enumerated below herein for the easy reference of this Hon'ble Tribunal:

> *"**C. Stack Height: Minimum stack height shall be 30 meters above the ground** and shall be attached with the necessary monitring 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."*

A copy of the Bio-Medical Waste Management Rules, 2016 is annexed herewith as **Annexure- R/11.**

That it is respectfully submitted that in accordance with the above said Rules 2016, the Respondent No. 4 had issued the Consent to Establish vide Certificate dated 24.08.2018 and Consent to Operate vide Certificate dated 31.01.2019 which mandates that the height of stack to be maintained by Respondent No. 5/Project Proponent is to be that of minimum 30 meter from the 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. It is submitted that the said Consent to Operate has been issued to Respondent No. 5/Project Proponent after proper inspection of the site and after ensuring the conditions mentioned under Consent to Establish. Thus the operation of the site are being carried out by the Respondent No. 5/Project Proponent strictly in accordance

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with the conditions as mentioned under Consent to Establish and Consent to Operate and there is no violation of any of the conditions as mentioned under Consent to Establish and Operate.

vi. That it is further pertinent to note herein that the necessary Air Pollution Control Devices have also been installed on the stack and has been connected to the server of CPCB and CPCC and all the parameters have been found within the permissible notice. That it is further submitted that no notice/direction with respect to exceedance of emission or increasing the stack height has been received by the Respondent No. 5/Project Proponent by any authority till date.

C. 33% GREEN BELT CRITERIA

vii. That the Applicant in the present application has further alleged that the Respondent No. 5/Project Proponent has failed to develop 33% of its plant area as green belt. That the Applicant has relied on Uttar Pradesh States Industrial Area-Land Development and Building Regulations 2018 to substantiate the allegation that a minimum of 33% open area should be developed as green belt by CBWTFs. However, it is respectfully submitted that as per CPCB Guidelines, there is no such requirement of development of 33% of green belt by CBWTF. That the Clause 10(m) of the CPCB Guidelines only states that the *"open area available within the CBWTF shall be developed into green belt"*.

viii. That it is further submitted that Respondent No. 5/Project Proponent herein has developed an adequate green belt area within the facility in compliance with the Environmental Clearance and Consent to Establish conditions.

ix. Thus, it is apparent that all the allegations made by the Applicant in the present application are utterly baseless and unfounded and raises a strong suspicion that the

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Application has been filed with ulterior motives to disrupt the CBWTF maintained by Respondent No. 5/Project Proponent.

PARA-WISE REPLY

That at the outset, the Respondent No. 5/Project Proponent herein denies each and every allegation made by the Applicant herein in the present Application filed. It is submitted that no part of the present application filed may be treated as admitted unless specifically traversed hereinafter.

1. That the contents of Para No. 1 of the present Application are denied for want of knowledge.

2. That the contents of Para No. 2 and 3 of the present Application are a matter of record and hence needs no reply.

3. That the contents of Para No. 4 of the present Application are devoid of any merit and does not raise any substantial question relating to environment and smacks of malice and therefore does not deserve any consideration of this Hon'ble Tribunal:

   a) That the Applicant has raised the contented in Para 4(a) of the Application that whether State Pollution Control Board has power to impose conditions under Consent to Operate issued under the Air (Prevention and Control of Pollution) Act, 1981 which are in contravention of the conditions imposed under Environmental Clearance issued by SEIAA. In response thereto, it is submitted that the authority to grant Consent to Operate under the Air (Prevention and Control of Pollution) Act, 1981 is entrusted on State Pollution Control Board/Pollution Control Committee in respect to States and Union Territories. That in the present case the Consent to Operate has been issued by the Chandigarh Pollution Control Committee to Respondent No. 5/Project Proponent in accordance with the Bio-Medical Waste Management Rules, 2016 and therefore the question of one Authority superseding the conditions imposed by other Authority does not arise at all.

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b) That the Applicant has further contented in the Para No. 4 (b) and (c) that whether the red category industries has the duty to develop the green area by way of planting native tree species within its plant. In response thereto, it is submitted that the Bio-Medical Waste Management Rules, 2016 only imposes the obligation of maintaining the open area as green area and there is no requirement of planting any native trees species in its plant by the CBWTF or with respect to developing minimum 33% green belt area within the facility.

c) That the contents of Para No. 4(d), the Applicant has alleged that Respondent No. 5/Project Proponent is in violation of Item No. 7 of CPCB Guidelines. In response thereto, it is submitted that Item No. 7 of the said Revised Guidelines ities is about the land requirement for establishment of CBWTF. As submitted hereinabove, in para no. A (i) to (iv) of preliminary response, Respondent No. 5/Project Proponent is not in violation of any land requirement criteria as mentioned in the said Guidelines and the requirement of minimum 0.5 acre of land criteria has been duly complied by Respondent No. 5/Project Proponent.

d) That in Para No. 4 (e) of the present Application, the Applicant has alleged that the Respondent No. 5/Project Proponent is in violation of the conditions imposed under Environmental Clearance issued by Respondent No. 3. In response thereto, it is submitted that Respondent No. 5/Project Proponent has not violated any conditions imposed under Environmental Clearance and with respect to the stack height, the Respondent No. 5/Project Proponent is meeting the criteria of 30 meters above the ground level as laid down under Bio-Medical Waste Management Rules, 2016 and the Consent to Establish and Operate issued by CPCC.

e) That in Para No. 4 (f) of the present application, the Applicant has alleged that Respondent No. 5/Project Proponent is in violation of minimum

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requirement of development of 33% green belt area in its Facility. In response thereto, it is submitted that there is no such requirement as mentioned either in the Bio-Medical Waste Management Rules, 2016 or in the CPCB Guidelines for development of 33% green belt area for operation of the CBWTF and it is further submitted that Respondent No. 5/Project Proponent has taken measures to develop adequate green belt it its facility.

4.1. That the contents of Para No. 5 (i) of the present Application are with respect to the activity carried out by the Respondent No. 5/Project Proponent and hence admitted.

4.2. That the contents of Para No. 5 (ii) & (iii) of the present Application are regarding requirement of Environmental Clearance for establishment of CBWTF as per EIA Notification, 2006 (Amendment) dated 17.05.2015 published by MoEF and CC as well as CPCCB Guidelines for common Bio-Medical waste treatment and disposal facilities and therefore does not merit any response from Respondent No. 5/Project Proponent.

4.3. That the contents of Para No. 5 (iv) of the present Application are a matter of record and therefore does not warrant any reply.

4.4. That in Para No. 5 (v) of the present Application, the Applicant has mentioned about certain conditions imposed in the Environment Clearance Certificate dated 06.12.2017 with respect to obtaining Environmental Clearance from Standing Committee of National Board for Wildlife, Fire Safety Certificate from Chief Controller of Explosive, Fire Department, installing of air pollution control devices and maintaining the stack height of minimum 35 meters. In reply thereto it is submitted that the Respondent No. 5/Project Proponent has obtained the required certificate from National Board for Wildlife and Fire Safety Certificate from Chief Controller of Explosive, Fire Department and has installed the Air Pollution Control Devices to ensure compliance of emission

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standards as prescribed in Bio-Medical Waste Management Rules, 2016. It is further submitted that the installation of air pollution control devices has never been questioned by the concerned authorities during inspection and visits to the facility and the copy of fire safety certificate and Environmental Clearance from National Board for Wildlife is annexed herewith for the perusal of this Hon'ble Tribunal and therefore it is humbly submitted that the Respondent No. 5/Project Proponent is fully complaint with all the conditions imposed along with the Environmental Clearance dated 06.12.2017. A copy of the No Objection Certificate issued by Forest Department is annexed herewith as **Annexure-R/12.**

4.5. With respect to the stack height it is submitted even at the cost of repetition that Clause 1 (C) of the Schedule II [Standards for treatment and disposal of Bio-Medical Wastes] of the **Bio-Medical Waste Management Rules, 2016** explicitly states that the minimum stack height shall be 30 meters. That the relevant provision is enumerated below herein for the easy reference of this Hon'ble Tribunal:

> *"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."*

From the above it is crystal clear that the Respondent No.5 /project proponent has not violated any condition imposed by Environmental Clearance dated 06.12.2017.

4.6. That the averments made in Para No. 5 (vi) of the present Application is regarding issuance of consent to operate by CPCC in favor of Respondent No. 5/Project Proponent. In reply thereto it is submitted that the same being matter

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of record does not warrant any reply from the Respondent No. 5/Project Proponent. However, it is further submitted that the Authority for grant of consent to operate under the Air (Prevention and Control) Act, 1981 and the Water (Prevention and Control) Act, 1974 is State Pollution Control Board/Pollution Control Committee in respect to state Union territory. Further again the Respondent No. 5/Project Proponent is in compliance with all the terms and conditions imposed by the Chandigarh Pollution Control Committee in its Consent To Operate dated 31.01.2019.

4.7. That the averments made in Para No. 5 (vii) of the present Application under reply are the allegations against Respondent No. 3 and 4 for ignoring the land requirement criteria, height of stack and minimum green belt while granting the Environmental Clearance and Consent To Operate to Respondent No. 5/Project Proponent. The Respondent No. 5/Project Proponent submits the following with respect to the allegations made in Para 5 (vii) of the present Application:

a) <u>LAND REQUIREMENT CRITERIA:</u>

i. That it is respectfully submitted that Respondent No. 5/Project Proponent has diligently fulfilled all requirements pertaining to the acquisition of consents, certificates and permissions necessary for operating a Common Bio Medical Waste Treatment Facility. That it is further submitted that CPCB in its Guidelines for Common Bio-Medical Waste Management Treatment Facility has laid down provisions about land requirement of CBWTF. That it stipulates that sufficient land shall be allocated to the CBWTF to provide all requisite systems which include dedicated space for storage of waste, waste treatment equipment, vehicle parking space, ETP, incineration as storage provision, administrative room, space for DG set, etc. It further provides that in case of upcoming or new CBWTFs (both in municipal limits with

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population more than 25 lakhs or in rural areas), 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 CPCB.

ii. That Respondent No. 5/Project Proponent has duly intimated the Plot size of its facility in question to Respondent No. 3 i.e. SEIAA, Chandigarh and also given an undertaking to Respondent No. 3 that to comply with the guidelines of CPCB, New Delhi regarding minimum land requirement (0.5 acre), a plot adjacent to the current site (182/10, Industrial Area, Phase I, Chandigarh) has been acquired having address 182/9, Phase-I, Industrial Area, Chandigarh on initial lease of 10 years measuring 2,080 square yards, which is equivalent to 0.5 acre and a new lay out plan of proposed incinerator and other waste treatment technologies in the new plot i.e. 182/9, Phase-I, Industrial Area, Chandigarh was also submitted to Respondent No. 3. That upon due consideration of the relevant documents submitted by Respondent No. 5/Project Proponent, Respondent No. 3 issued Environmental Clearance Certificate to the Respondent No. 5/Project Proponent and therefore, the allegations of the Applicant with respect to the Respondent No. 5/Project Proponent not meeting adequate land requirement as per the CPCB Guidelines is utterly baseless and unfounded.

b) <u>HEIGHT OF STACK HEIGHT</u>

i. That it is pertinent to highlight herein that Clause 1 (C) of the Schedule II [Standards for treatment and disposal of Bio-Medical Wastes] of the Bio-Medical Waste Management Rules, 2016 explicitly states that the minimum stack height shall be 30 meters.

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ii. That it is respectfully submitted that in accordance with the above said Rule 2016, the Respondent No. 4 has issued Consent to Establish vide Certificate dated 24.08.2018 and Consent to Operate vide Certificate dated 31.01.2019 which mandates that the height of stack to be maintained by Respondent No. 5/Project Proponent is to be that of minimum 30 meter from the 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. It is submitted that the said Consent to Operate has been issued to Respondent No. 5/Project Proponent after proper inspection of the site and after ensuring the conditions mentioned under Consent to Establish. Thus the operation of the site are being carried out by the Respondent No. 5/Project Proponent strictly in accordance with the conditions as mentioned under Consent to Establish and Consent to Operate and there is no violation of any of the conditions as mentioned under Consent to Establish and Operate.

c) <u>INADEQUATE GREEN BELT</u>

i. That the Applicant in the Para under reply has further alleged that the Respondent No. 5/Project Proponent has failed to secure 33% of its plant area as green belt. That the Applicant has relied on Uttar Pradesh States Industrial Area-Land Development and Building Regulations 2018 to substantiate the allegation that a minimum of 33% open area should be developed as green belt by CBWTFs. However, it is respectfully submitted that as per CPCB Guidelines, there is no requirement of 33% of green belt. That the Clause 10(m) of the CPCB Guidelines only states that the *"open area available within the CBWTF shall be developed into green belt"*.

NOTARY
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ii. That it is further submitted that Respondent No. 5 herein has developed an adequate green belt area within the facility in compliance with the Environmental Clearance and Consent to Establish conditions.

The applicant in the Para under reply has further relied upon the Environmental Clearance dated 13.07.2022 issued by Uttar Pradesh State Environmental Assessment Authority which is not at all applicable to the present facility operated by the Respondent No. 5/Project Proponent at Chandigarh and therefore has no relevance for the present case. The Applicant in Para under reply has further refereed to the order dated 25.07.2023 passed by this Hon'ble Tribunal in O.A No. 109 of 2023. In this regard it is respectfully submitted that the said order has been passed by this Hon'ble Tribunal with respect to a facility situated in State of Uttar Pradesh and therefore the said order is not relevant for the adjudication of present application.

5. That the contents of Para 6 of the present Application are false and misleading and therefore vehemently denied. It is submitted that as explained hereinabove the Respondent No. 5/Project Proponent has neither violated any conditions provided in consent to operate nor violated the green laws of the land.
6. That the contents of Para 7 of the present Application are denied to the extent that the present application raises any substantial question of law related to environment. The rest of the contents being matter of record does not warrant any reply.

7. That the contents of Para 8 of the present Application is a matter of record and therefore no reply is required from Respondent No. 5/Project Proponent.

8. That the contents of Para 9 of the present Application is denied that the balance of convenience is in favour of the Applicant. It is also denied that the Applicant will suffer injustice if the relief as prayed for is not granted to the Applicant. In response thereto it is submitted that from the tome and tenure of the present

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Application it is apparent that the Application has been filed with a *malafide* intent to cause hindrance to the smooth functioning of Respondent No. 5/Project Proponent and therefore deserves to be dismissed with exemplary cost.

LIMITATION

That the averments with respect to limitation in the present Application are false, misconceived and hence vehemently denied. The application of the Applicant is barred by limitation as there is no recurring or continuous cause of action.

REPLY TO GROUNDS:

A. That the contents of Para A of the grounds under the present application are false and misleading and therefore denied. In reply thereto it is submitted that as explained hereinabove the Respondent No.5/Project Proponent has not failed in land requirement criteria as per the guidelines issued by Respondent No.2.

B. That the contents of Para B of the grounds under the present application are false, misleading and therefore denied. As stated hereinabove the Respondent No.5/Project Proponent is fully complaint with the minimum stack height requirement as mentioned in consent to operate dated 31.01.2019 and the Rules, 2016.

C. That the contents of Para C of the grounds are false and misleading and therefore denied. In response thereto, it is submitted that the Consent to Operate has been issued by the Chandigarh Pollution Control Committee to Respondent No. 5/Project Proponent in accordance with the Bio-Medical Waste Management Rules, 2016 and therefore the question of one Authority superseding the conditions imposed by other Authority does not arise at all.

D. That the contents of Para D of the grounds under the present Application are false and hence vehemently denied. In response thereto, it is reiterated that the Bio-Medical Waste Management Rules, 2016 only imposes the obligation of maintaining the open area as green area and there is no requirement of planting any native trees species in its

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plant by the CBWTF or with respect to developing minimum 33% green belt area within the facility.

E. That the contents of Para E of the grounds under present Application are false and hence vehemently denied. That the Applicant neither have a prima facie case nor is subjected to any irreparable harm and nor has the Applicant demonstrated that the balance of convenience lies in his favour. It is also denied that the Applicant will suffer injustice if the relief as prayed for is not granted to the Applicant. In response thereto it is submitted that from the tome and tenure of the present Application it is apparent that the Application has been filed with a *malafide* intent to cause hindrance to the smooth functioning of Respondent No. 5/Project Proponent and therefore deserves to be dismissed with exemplary cost.

F. That the contents of Para F of the grounds under present Application are denied for want of knowledge.

PRAYER

It is therefore, most humbly and respectfully prayed that this Hon'ble Tribunal may graciously be pleased to:

i. Dismiss the present Original Application bearing No. 561/2023 filed by the Applicant with exemplary costs as the same is bereft of any merit;

ii. Grant any such reliefs and/or pass any such further orders in favour of the Respondent No. 5/Project Proponent and against the Applicant as this Hon'ble Tribunal may deem fit and proper in the present facts and circumstances.

ALLIANCE ENVIROCARE COMPANY PVT. LTD.

DEPONENT

NOTARY
NARESH KUMAR MEHAN
CHANDIGARH
Regd. No. 1391
Expiry On 14-02-2027
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VERIFICATION

I, the above-named deponent, do hereby verify that the contents of paras No.__ to __ of my above Affidavit are true and correct. Nothing material has been concealed therein and no part of it is false.

Verified at Cmd on this 14th day of December, 2023.

ALLIANCE ENVIROCARE COMPANY PVT. LTD.

DEPONENT

Certified that the Affidavit SPA/GPA this document has been read over & Explained to the Deponent/Executant who seemed/directly to understand the same at the time of making & signing the documents

ATTESTED
NARESH KUMAR MEHAN
NOTARY
CHANDIGARH

NOTARY
NARESH KUMAR MEHAN
CHANDIGARH
Regd. No. 1391
Expiry On 14-02-2027
GOVT. OF INDIA

ANNEXURE-R/1

Sustainability

CERTIFIED TRUE COPY OF THE CIRCULAR RESOLUTION PASSED BY THE BOARD OF DIRECTORS OF ALLIANCE ENVIROCARE COMPANY PRIVATE LIMITED PURSUANT TO SECTION 175 OF THE COMPANIES ACT, 2013 ON SATURDAY, THE 09TH DAY OF DECEMBER 2023.

TO AUTHORIZE MR. PARAMJEET SINGH CHAWLA TO FILE VAKALATNAMA AND OTHER NECESSARY DOCUMENTS AND REPRESENT THE COMPANY BEFORE THE NATIONAL GREEN TRIBUNAL, NEW DELHI BENCH OR ANY COMPETENT AUTHORITY:

"**RESOLVED THAT** the consent of the Board be and is hereby accorded to authorize Mr. Paramjeet Singh Chawla, (Aadhar Number: 2428 1468 0788), Authorized Signatory of the Company, to file and submit the Vakalatnama and necessary documents and to represent the Company in the matter of Rajiv Kumar Dubey v/s Union of India & Ors. (bearing Original Application No. 561/2023) before the National Green Tribunal (NGT), New Delhi Bench or any other competent authority.

RESOLVED FURTHER THAT Mr. Paramjeet Singh Chawla, (Aadhar Number: 2428 1468 0788), Authorized Signatory of the Company, be and is hereby authorized to do all or any of the following activities, in relation to the case, for and on behalf of the Company:

(a) Appear, sign, verify, declare, affirm, make, present, submit and before any competent authority, or any other court of law or any tribunal or any quasi-judicial or statutory or administrative authority, as applicable.
(b) File all necessary notices, plaints, petitions, written statements, affidavits, undertakings, vakalatnamas, declarations, Appeals, Revisions, applications, statements, complaints, papers and documents and all proceedings and matters in connection with any suit(s) or proceeding(s) filed by or against the Company before any court of law or any tribunal or any quasi-judicial or statutory or administrative authority;
(c) nominate, appoint and engage advocates (s)/solicitors or other professionals, if necessary, to do all such acts, deeds, matters and things arising out of the above transactions as may be considered expedient and necessary from time to time on behalf of the Company;
(d) Do all such acts, deeds, matters and things which are not specifically mentioned hereinabove but may become necessary at the subsequent stage for the effective disposal of the above mentioned case.

RESOLVED FURTHER THAT the Directors of the Company be and are hereby severally authorized to do all such acts, deeds and things as may be considered necessary to give effect to this resolution.

RESOLVED FURTHER THAT a copy of this Resolution duly certified by any one Director of the Company be given to any person concerned or interested in the matter."

//Certified True Copy//

For Alliance Envirocare Company Private Limited

Name: Sunil Agarwal
Designation: Director
DIN: 06425971

Alliance Envirocare Company Private Limited
CIN No: U90001TG2005PTC178206
Hyderabad Knowledge City, Hitech City Road,
Hyderabad - 500081.
T: 040 24446000
E: cs.reel@resustainability.com

ANNEXURE-R/2

PRE- FEASIBILITY REPORT

FOR

PROPOSED COMMON BIO MEDICAL WASTE TREATMENT FACILITY

At

Plot No 182/10, Phase-I, Industrial Area, Chandigarh

For Alliance Envirocare Company (P) Limited,

(Authorized Signatory)

APPLICANT

M/S ALLIANCE ENVIROCARE COMPANY LIMITED
PLOT NO 182/10, INDUSTRIAL AREA-I,
CHANDIGARH

PRE-FEASIBILITY REPORT

1.0 INTRODUCTION

Earlier, the assessment of the projects was done on Technical feasibility reports and Cost-Benefit-Ratio which mainly considered financial & technical resources. But no consideration was given to the environment protection in this evaluation and these flaws became apparent with continuous deterioration of environment. Thus in order to have more realistic evaluation, and keeping in view the deteriorating conditions, another dimension was added which is now called as "Environmental Impact Assessment" (E.I.A.). This forms an integral part of the project and is taken into account while appraising the project at different stages. Thus in the new comprehensive approach all considerations like, Technical, Financial & Environmental are given due weightage.

M/s. Alliance Envirocare Company (P) Limited already having the setup of **Common Bio Medical Waste Treatment Facility** with network to handle, transport, treat and dispose off the Bio Medical Waste from the various private, Govt. hospitals and other institutions as per the guidelines of Central Pollution Control Board for collection, reception, transportation, treatment and final disposal of incinerable Bio Medical Waste at the incinerator plant at PGIMER Chandigarh and non-incinerable at our facility at 182/10, Industrial Area, Phase – I, Chandigarh.

As per New EIA Notification dated 17/04/2015, the proposed project falls under Category "B" listed as 7(da) Common Bio Medical Waste Treatment Facility, project. In the absence of Union territory Environment Impact Assessment Authority, Chandigarh, the environmental clearance will be given by the Central Govt. MOEF&CC New Delhi.

They have to submit Form-I along with Pre-Feasibility Report and other relevant documents for getting Environmental Clearance for proposed project. This pre-feasibility report has, therefore, been prepared by the consultants to assess the likely impact of the proposed unit on various factors which may be affected with the implementation of the programme and to suggest remedial/precautionary measures, if any.

2.0 PROFILE OF THE COMPANY & PROMOTORS.

The **Alliance Envirocare Company Pvt. Ltd.** is a **"Common Bio Medical Waste Treatment Facility"** constituted under Companies Act, 1956 in April 2005 and was formerly Alliance Envirocare Company duly authorized by Chandigarh Pollution Control Committee, Chandigarh, as required under **section – 8(4)** of the **Bio Medical Waste (Management & Handling) Rules 1998**, for **collection, reception, storage, transportation, treatment & final disposal of bio medical waste** since **2002–03.**

The said CBWTF is operational since past Fourteen years in the city beautiful and providing the services to comply the mandatory requirement of more than 750 Health Care Units, comprising of large, medium, small Nursing Homes, Path Labs, Diagnostic Centres, Blood Banks, Hospitals and institutes of Semi Govt./Govt. like Police Hospital, Air Force Hospital, ESI Hospital, OCF Dispensary, CSIO, Composite Hospital, ITBP Behlana, IMTECH, Govt. Medical College & Hospital, Sector–32, Govt. Dispensaries, Govt. Multi Specialty Hospital Sector–16 and Veterinary Dispensaries/Hospitals under U.T. administration Chandigarh etc. successfully.

The Promoter Director of the company, Mr. S. S. Malhotra is a Mechanical Engineer, pioneer and founder member to explore the services of Common Bio Medical Waste Management among the doctors of Haryana state since 2002–03 for the compliance of Bio Medical (Management & Handling) Rules, 1998 as a Zonal Manager (Haryana) of "India Waste Energy Development Limited, New Delhi".

Further, Mr. Surjit Singh Malhotra has a relevant work experience as a Director (Projects) with Haat Incinerators Pvt. Ltd. Bangalore to install, operate and maintain the Common Bio Medical Waste Treatment Facilities for the Municipal Corporation of Aligarh in the state of Uttar Pradesh during 2003-04 and operate & handle the "Common Bio Medical Waste Treatment Facility" near IGMC hospital under Municipal Corporation, Shimla in the state of Himachal Pradesh during 2004–05.

This would also be worthwhile to mention here that in addition to Mr. S.S. Malhotra, his son Mr. Amanpreet Singh Malhotra a qualified B.Tech. Engineer in Bio-Medical and pursuing MBA in Healthcare also joined the team of the technocrats of the company as a Chief Executive Officer and providing his high-tech support to modernize the system as per present guidelines since 2011.

EXPERIENCE/SIMILAR HANDLED PROJECTS:

Our Company has already been expertise and short listed to handle, operate & maintain the following similar projects are as below:

1. We have also been the successful bidder for setting up of the integrated Common Bio Medical Waste Treatment Facility at Daddu Majra by Health Department U.T. Chandigarh. But U.T. Administration is having some reservations to provide the one acre land for the purpose w.r.t. higher cost of land and PPP model thereof as declared.(Copy of Letter of Intent (LOI) enclosed)
2. We have also been awarded the work to Operate and maintain the incinerator plant of Municipal Corporation near IGMC Shimla along with the facility for collection & transportation of bio medical waste from the health care units of Shimla, Solan, Baddi and Nalagarh in the state of Himachal Pradesh for three years. (Copies of work Order and authorization from HPSPCB Shimla enclosed).

3.0 PROJECT SITE

The Plant site is located at Plot No. 182/10, Industrial Area, Phase-I, Chandigarh. It lies near Long: 76° 47' 48.72" East and Lat: 30° 42'04.80" North and is at an Altitude of about 329 m above mean sea level. It is well connected with Chandigarh bus stand through well maintained metalled roads. It is about 6 K.M. from Chandigarh bus stand. The nearest rail head is Chandigarh, which is at a distance of about 0.7 km from the site. Key Plan, Location Plan & Google Map of the unit is given in **Fig 3.1, 3.2 & 3.3** respectively. Layout Plan of the unit is given in **Fig 3.4.** Salient features of the project is given in **table 3.0**

FIGURE – 3.1
KEY – PLAN

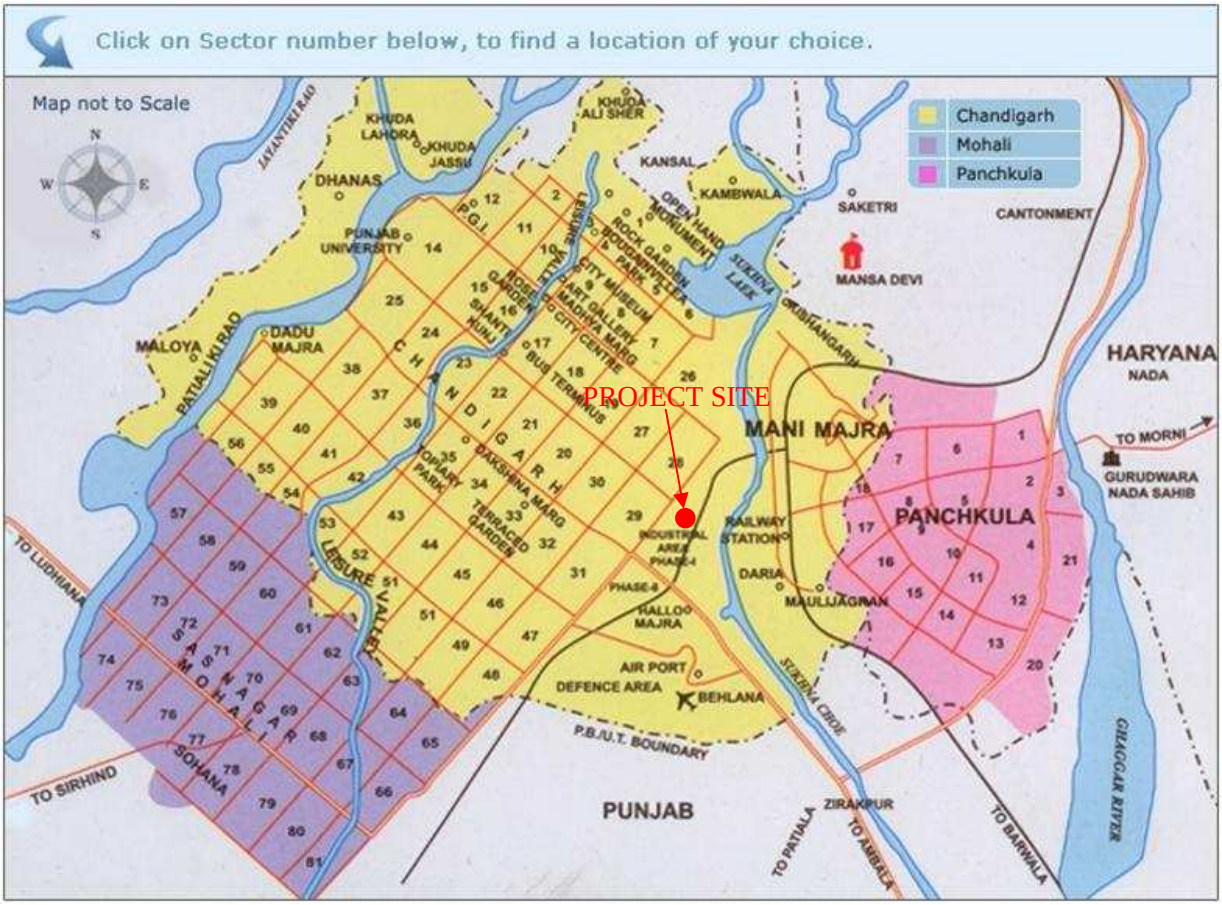


FIGURE – 3.2
LOCATION – PLAN

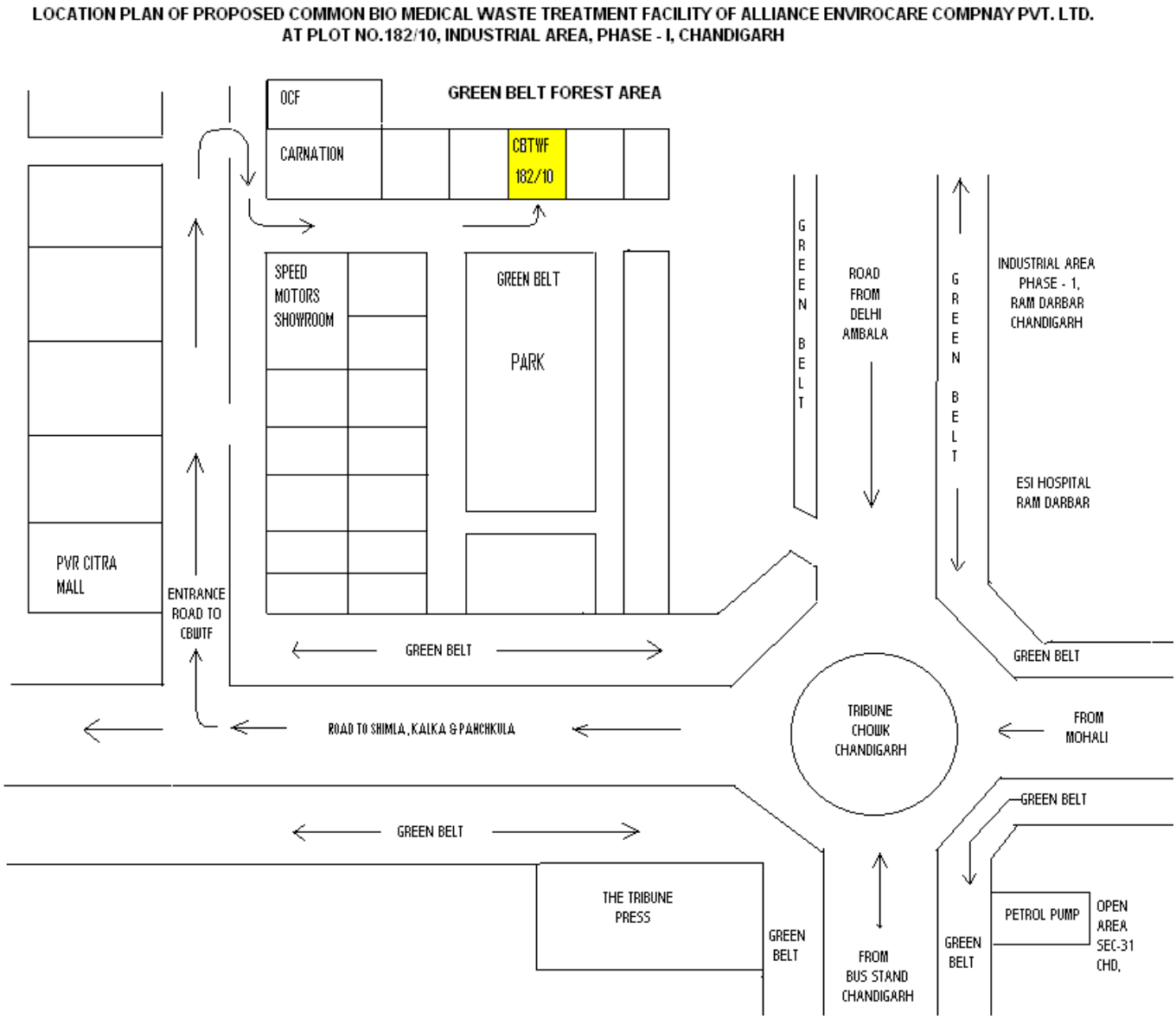


FIGURE – 3.3
GOOGLE IMAGE

FIGURE – 3.4
LAYOUT PLAN

LAY OUT PLAN FOR UPGRADATION OF CBWTF AT 182/10, IND. AREA, PHASE -1, CHANDIGARH

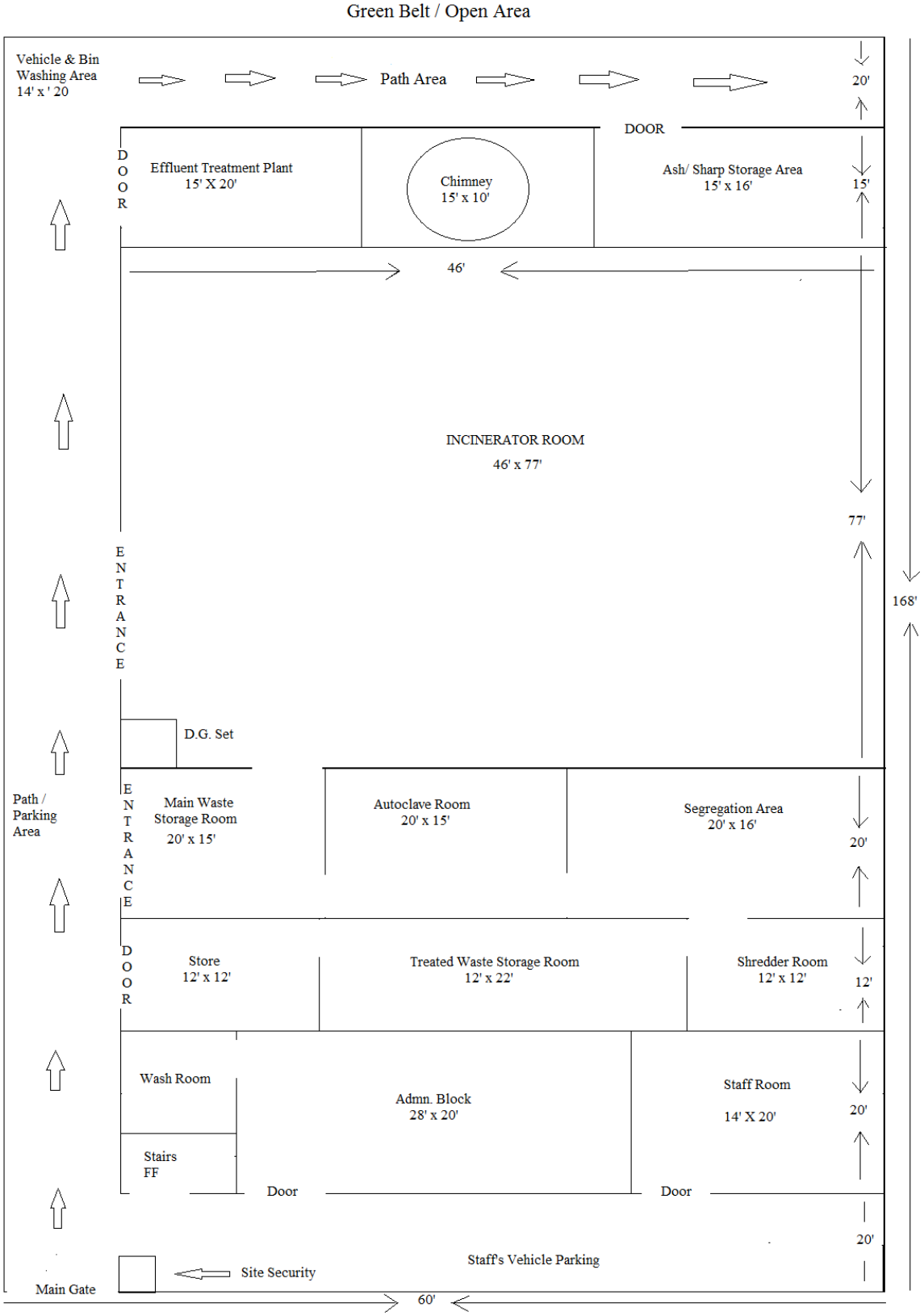


TABLE – 3.0

DETAILS OF THE AREA

S. No.	Particulars	Details
A. Location details		
1.	Location	
	A. Village	Chandigarh (Plot 182/10, Industrial Area-I)
	B. Tehsil	Chandigarh
	C. District	Chandigarh
	D. State	UT
2.	Latitude	30°42'04.80"N
3.	Longitude	76°47'48.72"E
4.	Topo-sheet No.	-
5.	Project Area	650 m^2
C.	**Capacity of Incinerator**	200kg/hr.
D.	**Environmental settings**	
5.	Nearest Village	Village Dariya, approx. 0.6 Km in west direction from the project site.
6.	Nearest City	Chandigarh City, approx. 4 km in North-west direction from the project site
7.	National Highway/State Highway/ Express Highway	NH-21 (Chandigarh-Ambala) is about 500m south west direction.
8.	Nearest Railway Station	Chandigarh Railway Station, approx. 3.5km in east direction.
9.	Nearest Airport	Chandigarh Airport approx. 3 km in south direction from the project site.
10.	National Parks/ Wild Life Sanctuaries/ Biosphere Reserves within 5 km radius	Sukhna wild Life Sanctuaries is 4 km North-east direction from project site
11.	Reserved / Protected Forest within 5 km radius (Boundary to boundary distance)	Dariya Reserved Forests exists within 0.6 km radius.
12.	Nearest water bodies	Nil
13.	Source of Water	MC Chandigarh

14.	Seismic Zone	Seismic Zone – IV
D.	**COST DETAILS**	
15.	Capital Cost of the project	Rs 98.60 Lacs
16.	Total cost for Environmental Management Plan (EMP)	Rs 15.00 lacs

4.0 PROJECT DESCRIPTIONS

4.1 GENERAL:

The plant is located at Plot No. 182/10, Phase-I, Industrial Area, Chandigarh. Proposed project site has been selected keeping in mind the easy availability of Bio-medical waste. Other infrastructural facilities like Land, Water and Transportation & Communication etc. are also well established & available at the selected location. It would also be set up within the existing premises of the Factory where the requisite land is available.

UP-GRADATION OF CBWTF:

As our company already having the setup of **Common Bio Medical Waste Treatment Facility** with network to handle, transport, treat and dispose off the Bio Medical Waste from the various private, Govt. hospitals and other institutions as per the guidelines of Central Pollution Control Board for collection, reception, transportation, treatment and final disposal of incinerable Bio Medical Waste at the incinerator plant at PGIMER Chandigarh and non-incinerable at our facility at 182/10, Industrial Area, Phase – I, Chandigarh.

As the Chandigarh is having only two incinerator plants one installed at PGIMER having installed capacity 200 kg per hour and other is installed at Govt. Multi Specialty Hospital Sector – 16, Chandigarh having capacity 100 kg/ per hour respectively for the incineration of Bio medical waste generated at Chandigarh. But, the incinerator installed at PGIMER has already been overloaded and also completed its life-cycle and facing regular problems. The other incinerator installed at Govt. Multi Specialty Hospital Sec–16, Chandigarh is having only 100 kg/per hour incineration capacity also at the end to complete its life cycle and facing regular snags/breakdowns and unable to cope with the present incinerable waste load, any undue major calamities under breakdowns, repair & maintenance of the equipments for the treatment of bio medial waste within 24 hours under prescribed rules as well as future requirements.

Now keeping in view of the above situation and future requirements, we have decided & proposed to upgrade our existing set up by adding the eco-friendly **Incinerator** having **capacity 200kg/hrs** along with APCD Device, ETP etc. as per the recent CPCB norms in our already existing CBWTF to full fill the treatment and disposal requirement of our collected & Transported Incinerable bio medical waste from Private, Semi–Govt. and Govt. health care units within the U.T. Chandigarh and surplus capacity would always be available to the existing Incinerator Plants at PGIMER and Govt. Multi specialty Hospital Sec–16, Chandigarh as a standby arrangement to meet their time to time calamities or

otherwise for the proper compliance under rules 1998 if required. Hence a Consent to Establish for the purpose have been granted by Chandigarh Pollution Control Committee vide their letter no. CPCC/RSCWTF/1237/2016/1528/8129 Dated 14.03.2016.

PROCESSING CAPACITY OF WASTE:

The capacity of the plant is as under:

S. NO.	PARTICULARS	CAPACITY		
		EXISTING	PROPOSED	TOTAL
1	Incinerable waste **(KG/DAY)**	Nil	3000	3000
2	Non-incinerable waste **(KG/DAY)**	250	500	750

TECHNICAL SPECIFICATIONS FOR INCINERATOR -200 KGS/HR

1.	Type & Model	Oil Fired Incinerator Model BMW-200.
2.	Type of Waste	Medical Waste
3	Burning Capacity	200 kgs/hr
4.	Auxiliary Fuel	Diesel
5.	Type of Burner Operation	Mono-block fully automatic burners
6.	Temperature Primary Chamber Secondary Chamber	 800°C±50°C 1050°C±50°C

INFRASTRUCTURE SETUP:-

The existing infrastructure of the proposed facility would be upgraded according to the guidelines issued by Central Pollution Control Board. The following facilities will be provided in proposed CBWTF.

a) Treatment Equipment Room

b) Main Waste Storage Room

c) Treated Waste Storage Room

d) Weighing Facility

e) Administration Block

f) Fire Fighting Facility

g) Generator Set

h) Site Security

i) First Aid Facility

j) Sign Board

k) Parking

l) Green Belt

m) Washing Room

n) Effluent Treatment Plant

o) Vehicles

a) Treatment Equipment Room: -

A separate space of covered area would be provided for each treatment equipment at the proposed CBWTF such as **incinerator, autoclave, shredder** etc, as applicable. The floor and interior finishing would be such that chances of sticking/harbouring of microorganisms are minimized. This will be attained by providing smooth & fine floor and wall surfaces (to a height of 2 meters from floor) preferably of tiles. The number of joints in such surfaces would be minimal.

The equipment room would also have a separate cabin, to supervise the operation of the equipment and to record the waste handling and equipment operational data. Each equipment room would be accompanied by two waste storage rooms, one for storage of untreated wastes and another for treated wastes. The storage room would have provisions similar to that of equipment room such as well-ventilated walls and easy to wash, smooth and fine surfaces etc.

b) Main Waste Storage Room: -

This would be provided near the Incinerator room of the proposed CBWTF to unload and store all bio-medical wastes that have been transported to the facility by vehicle. The size of the room shall be enough to store all wastes transported to the CBWTF. The front portion of the room would be utilized for unloading the collected wastes from the vehicles and back or side portion would be utilized for shifting the wastes to the respective treatment equipment. In the front of the room where vehicle is parked for unloading, the floor would be made impermeable so that any liquid spilled during unloading does not percolate into ground. The liquid generated during handling of wastes and washing, would be

flushed to the inlet of ETP. A cabin to record the movement and quantity of wastes will also accompany the main storage room.

In the main storage room, wastes would be stacked with clear distinction as per the color coding of the containers. From here, the coloured containers would be sent to the respective treatment equipment. The main storage room too would have provisions similar to that of equipment room such as roofing, well ventilated, easy to wash, smooth and fine surfaces etc.

c) Treated Waste Storage Room: -

This room would be that where the treated/disinfected waste from different treatment room would be stored with distinction in them as per their subsequent disposal options. Other provisions in the room will be similar to the main storage room.

d) Weighing Facility: - Weighing balance would be provided in the facility for weighing of waste.

e) Administration: -

This block would have the number of rooms to accommodate the administration, management and general staff for accounts, billing, record keeping, pantry etc.

f) Fire Fighting Facility: -

Proper fire fighting facilities and emergency alarm would be installed at the proposed CBWTF as per the prescribed fire safety rules to over come any fire mishap/emergency.

g) Generator Set:-

Diesel generator set would be provided 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 requirements under the Environment (Protection) Rules, 1986 and approval will be taken alongwith consent.

h) Site Security: -

High walls, fencing and guarded gates would be provided at the facility to prevent unauthorized access to the site by humans, street dogs and other livestock etc.

i) First Aid Facility: -

The first aid box would be provided and maintained with the required medicines for initial medical aid and the welfare for the staff at the proposed CBWTF.

j) Sign Board:-

An identification board of durable material and finish would be displayed at the entrance of the facility. This will clearly display the name of the facility, the name, address and telephone number of the our CBWTF and the prescribed authority, the hours of operation and the telephone numbers of the personnel to contact in the event of an emergency.

k) Parking: -

Provision would be made within the confines of the site for the parking of enough number of vehicles for staff near the admin. block and separate entry & parking for loading and unloading of the collection vehicles transporting the waste to and from the facility.

l) Green Belt: -

The front and back portion of the site already having the green belt and the open area within the CBWTF would be developed into greenbelt for eco-friendly environment within the premises of the CBWTF.

m) Washing Room: -

The administration and operational staff would be provided with the separate washing rooms near the admin. block as well as main equipment room respectively for eye washing/hand washing/bathing etc. at the proposed CBWTF.

n) Effluent Treatment Plant : -

Effluent Treatment Plant would be provided to treat all the waste water generated in proposed Facility to ensure proper compliance of environmental norms.

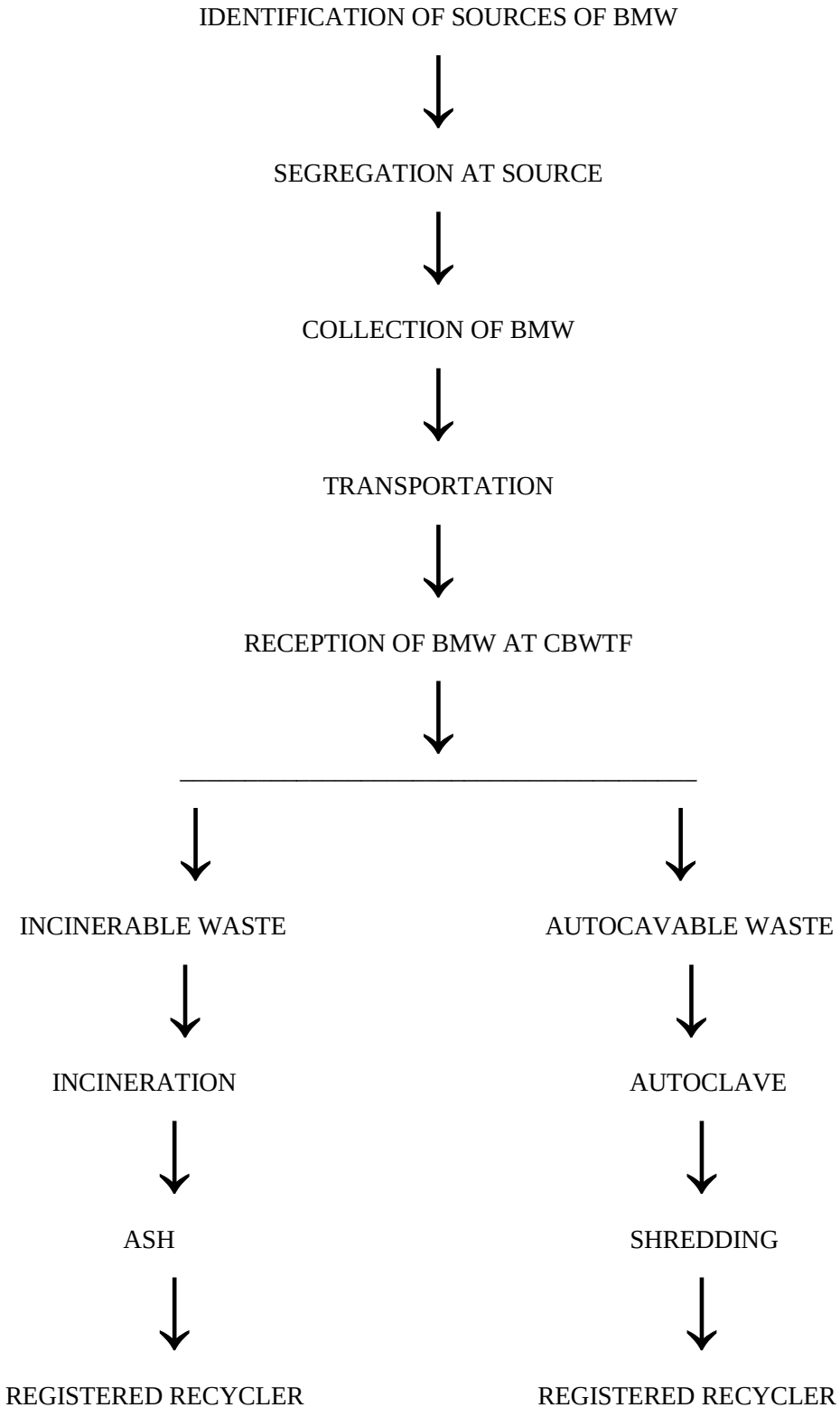
o) Vehicles : -

The company is already having the fleet of six collection vehicles properly designed according to Motor vehicles Rules and Bio-Medical Waste Rules duly authorized by Chandigarh Pollution Control Committee and are being used for transportation of bio-medical waste from health care facilities to CBWTF. The vehicles are leveled as per the schedule of BMW rules.

Besides above, following important provisions would be made in a CBWTF:

- A telephone would be provided and maintained at the facility.
- Proper lighting would be provided at the facility.
- Proper care would be taken to keep the facility and surroundings free from odours.
- Measures would be implemented to control pests and insects at the site.
- Measures would be implemented to control the escape of litter from the site.
- Necessary provision would be made to prevent and control noise generated, if any, due to the activities at the site.
- Necessary protective gear for the waste handlers shall be provided.

PROCESS FLOW CHART



CATEGORIES OF BIO-MEDICAL WASTE

Option	Waste Category	**Treatment & Disposal**
Category No. I	Human Anatomical Waste (human tissues, organs, body parts)	Incineration @/deep burial*
Category No. 2	**Animal Waste** (animal tissues, organs, body parts carcasses, bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals colleges, discharge from hospitals, animal)	Incineration @ / deep burial*
Category No 3	**Microbiology & Biotechnology Waste** (wastes from laboratory cultures, stocks or specimens of micro-organisms live or attenuated vaccines, human and animal cell culture used in research and infectious agents from research and industrial laboratories, wastes from production of biologicals, toxins, dishes and devices used for transfer of cultures)	local autoclaving / micro-waving / incineration@
Category No 4	**Waste sharps** (needles, syringes, scalpels, blades, glass, etc. that may cause puncture and cuts. This includes both used and unused sharps)	disinfection (chemical treatment @ 01/auto claving / micro- waving and mutilation/ shredding"
Category No 5	**Discarded Medicines and Cytotoxic drugs** (wastes comprising of outdated, contaminated and discarded medicines)	Incineration @/destruction and drugs disposal in secured landfills drugs disposal in secured
Category No 6	**Solid Waste** (Items contaminated with blood, and body fluids including cotton dressings, soiled plaster casts, lines, beddings, other material contaminated with blood)	Incineration @ autoclaving / micro-waving

Category No. 7	**Solid Waste** (wastes generated from disposable items other than the waste shaprs such as tubings, catheters, intravenous sets etc).	disinfection by chemical treatment @ @ autoclaving/micro-waving and mutilation/
Category No. 8	**Liquid Waste** (waste generated from laboratory and washing, cleaning, house-keeping and disinfecting activities)	disinfection by chemical treatment@@ and discharge into drains.
Category No. 9	**Incineration Ash** (ash from incineration of any bio-medical waste)	disposal in municipal landfill
Category No. 10	Chemical Waste (chemicals used in production of biologicals, chemicals used in disinfection, as insecticides, etc.)	chemical treatment @@ and discharge into drains for liquids and secured landfill for solids

5.0 DESCRIPTION OF THE ENVIRONMENT

5.1 INTRODUCTION:

The main objectives of describing the environment, which may be potentially affected, are (i) to assess present environmental quality and the environmental impacts and (ii) to identify environmentally significant factors that could preclude project development.

This chapter contains information on existing environmental scenario for the following parameters.

1. Land Environment
2. Meteorology
3. Air Environment
4. Noise Environment
5. Water Environment
6. Soil Environment
7. Biological Environment
8. Socio-economic Environment

5.2 ENVIRONMENTAL BASELINE DATA COLLECTION:

Primary data will be collected by monitoring & surveying of various environmental components/ parameters in the core zone during the study period after issue of TORs, details of which are given in **Table - 5.1.**

TABLE-5.1
PRIMARY DATA

S. NO.	PARAMETERS	DESCRIPTION
1	Meteorology	Meteorological parameters on hourly basis at project site. Parameters: Temperature, Relative humidity, Wind Speed & Wind Direction.
2	Air	Ambient air quality monitoring (24 hourly), twice a week. Parameters are PM_{10}, $PM_{2.5}$, SO_2, NO_2 & CO. No. of Locations: 1 (Project site)
3	Noise	Noise level monitoring (Day & Night time), once in a season. No. of Locations: 8 locations in core and buffer zone.
4	Water	Ground water sampling, once in a season. No. of Locations: 8 locations in core and buffer zone. Tested for physical and chemical parameters.
5	Soil	Soil sampling, once in a season. No. of Locations: 6 locations in core and buffer zone.
6	Biological Factors	Biodiversity survey, once in a season. Location: Core and buffer zone.
7	Socio-economic Environment	Socio-economic survey, once in a season. Location: Core and buffer zone.

5.2.1 METEOROLOGY:

Meteorology plays a vital role in affecting the dispersion of pollutants, once discharged into the atmosphere. The principal variables include horizontal convective transport (average wind speed and direction), vertical convective transport (atmospheric stability) and topography of the area.

Meteorological characteristics of an area are very much important in assessing possible environmental impacts and in preparing environmental management plan. The climate of the district can be classified as tropical steppe, semi-arid and hot which is mainly characterized by general dryness except for a short period during southwest monsoon season, intensely hot summers and cold winters. There are four seasons in a year namely the cold season from November to March, hot season from April to June, south west monsoon season from the last week of June to the middle of September and the post monsoon season from September till the beginning of November. During cold season, a series of western disturbances affect the climate of the district. During the summer months i.e. from April to June, weather is very hot, dry and uncomfortable. The weather becomes humid and cloudy during July to September due to penetration of moist air of oceanic origin into the atmosphere.

The normal annual rainfall of the district is 545 mm, which is unevenly distributed over the area in 30days. The south west monsoon which contributes 74%, sets in last week of June and withdrawn in middle of September. July and August are the rainiest months. Rest 26% of annual rainfall occurs in the non-monsoon months in the wake of western disturbances and thunder storms. The micro-meteorology of the project site is given in **Table 5.2**

TABLE-5.2
MICRO-METEOROLOGY OF SITE

Period	TEMPERATURE (^{o}C)		RELATIVE HUMIDITY (%)	WIND SPEED (km/h)	RAIN FALL (mm)
	Max.	Min.			
2014	44.5	4.5	62	4.4	545

6.0 ENVIRONMENTAL MANAGEMENT PLAN

6.0 Summary

Bio-Medical Waste Management plant is an environmentally friendly project and the project itself is an environmental management plan for the effective management of bio-medical wastes for the project area. However, the emissions from the project also need to be considered and addressed and this chapter addresses these issues in brief.

6.1 Air Environment

Air environment in the project can broadly be divided into two, firstly the odour emanating from the wastes and secondly the emissions from the incinerator.

Bio-Medical Wastes are very putriscible and have the potential to degrade very fast and in the process generate odour nuisance if they are not managed properly. To address the issue effectively, MoEF has issued rules whereby the wastes will have to be collected, transported, treated and disposed off effectively. Alliance Enviro-care abides to adopt this to ensure that odour nuisance is eliminated. In addition to the above, Alliance undertakes to collect wastes on a daily basis

The other impact on air environment from the air emissions from the incinerator stack. However, the impacts are minimal. To minimize the air impacts from the incinerator the flue gases from the secondary chamber shall be run through a water quenching and ventury scrubber, where in the high temperature gases shall be rapidly cooled in the water quenching and ventury scrubber and then the gases shall be run-into a counter current packed bed alkaline scrubber wherein the gases shall be completely cleaned and then ejected into the atmosphere through a 30-m high chimney with the aid of an ID fan (10 HP)

AIR POLLUTION CONTROL DEVICE - Venturi Scrubber

The flue gases from the Secondary chamber would be then sent to venturi scrubber. Venturi Scrubber would be a high-energy device fabricated out of Stainless Steel –316L Grade where particulate matter as well as acidic pollutants would be scrubbed. Here the acidic gases would removed by absorption with caustic soda and the particulates by the inertial impaction energy. A high-pressure drop across the venturi scrubber, imparts sufficiently high energy, which would be help in atomizing the scrubbing liquid and thus trapping the particulates. 5% caustic solution would be used as scrubbing liquid to neutralize the SO_2 present in flue gases. The temperature of the flue gas at the outlet of the venturi scrubber would be approx. 70-800 C to ensure the saturation of the flue gas. The scrubbing medium would be circulated @ 2-2.5 ltrs/m^3 of saturated flue gas at venturi outlet. This would be done using a pump & piping made of Stainless Steel –316 grades.

Droplet Separator cum Re-circulation Tank

The flue gases then enter tangentially into the droplet separator, which would be of cyclonic type. By the action of centrifugal force, the larger droplets present in flue gases settle down. The droplet separator would be manufactured out of Mild Steel rubber lined.

I.D. Fan

The Induced Draft Fan maintains the balance draft and draws out the clean gases into the atmosphere through a 30 Meters high stack. The I. D. Fan would be dynamically balanced, belt driven and connected to an electric motor.

Forced Draft Fan

A forced draft fan would be provided to supply air inside the primary and secondary chambers. The F. D. Fan would be dynamically balanced and will connect to the electric motor.

Fuel Oil Tank & Piping

Fuel oil tank of suitable capacity fabricated out of mild steel would be provided. The fuel tank will have all connections for supply, return, drain and visual checking of the quantity of fuel present in the tank. Complete fuel oil piping from the fuel tank to both burners would be provided along with the return line.

Stack

Stack of 30 mtrs height would be provided as per IS –6533-1989. The chimney would be lined from inside with minimum 3mm thick natural hard rubber. Port hole with sampling platform would be provided for monitoring of flue gases as per the norms of pollution control board.

The cleaned gases shall be well within the limits specified under the Bio-Medical Wastes (Management and Handling) Rule. The expected emissions from the incinerator shall be in the order of:

Parameter	**Expected Emission**	**Limits**
SPM	< 70mg/NM^3	100mg/NM^3
Oxides of Nitrogen	<200mg/NM^3	400mg/NM^3
HCl	<15mg/NM^3	50mg/NM^3
Total Dioxins & Furans	<0.1ngTEQ/NM^3	<0.1ngTEQ/NM3 (at 11%O_2)

HG & its compounds <0.05mg/NM^3 <0.05mg/NM^3

6.2 Water Environment

The fresh water requirement of proposed project will be 7.0KLD, which include 2.0 KLD for domestic purposes and 5.0KLD for floor washing. The waste water generated from floor washing will be treated through ETP and domestic waste water will be treated through septic tank. The treated waste water will be re-used in ventury scrubber attached with Incinerator. The entire system shall be a zero discharge system in terms of wastewater discharge from the process as the entire wastewater is re circulated back into ventury scrubber followed by a flooded scrubber with water quenching arrangement and most of the water used is in terms of make-up water. The water discharged once in six month by the process of blow down from ventury and scrubber shall be collected in a separate tank of capacity 4 KL (2M X 2M X 1M) for evaporation. This water also shall meet the wastewater discharge standards for sewage system

(a) <u>WATER USE & WASTEWATER DISCHARGE</u>

During the process water is used at following points:

1.	Washing	4500Lt./day
2.	Venturi Scrubber (makeup water)	500Lt./day
3.	Domestic use	2000Lt./day
5.	Others	Nil
		7000Lt./day

The wastewater generation is from two points:

1.	Floor & vehicle washing	4000 Lt./day
2.	Venturi Scrubber	200 Lt./day
3.	Domestic use	1500 Lt./day
		5700 Lt./day

Water for Venturi Scrubber will be re-circulated after passing through the cooling tower & oil & grease trap to remove the ash contents of scrubbing process.

The process of collection, handling and processing does not involve any direct water usages of discharge of waste water, but some water is used for cleaning and washing of flue gas which forms the waste water discharge steam, for the unit requiring treatment and control facilities. Another source of waste water generation within the complex is the vehicle washing. The company maintains a fleet of vehicles to collect the wastes from these hospitals. All the vehicles are washed and disinfected daily at the site which generates sufficient quantity of waste water. In addition the storage areas as well as the other waste handling areas are also washed with water daily. All these wash stream from the major effluent discharge from the unit. The occasionally, once a week when a small part of the scrubber circulation water is discharged as bleed off from the system to maintain the quality of scrubber water within the desired specifications.

EXPECTED CHARACTERISTICS OF RAW EFFLUENT SAMPLE

PARAMETERS	**STANDARDS**
Flow Rate	7000 Lt./d
Colour	grayish
pH	7-8
Oil & Grease	8-9mg/l
Total Suspended Solids	350-500mg/l
Total Dissolved Solids	1200-1800mg/l
BOD^3 @ 27°	200-350mg/l
COD	300-600mg/l

EXPECTED CHARACTERISTICS OF TREATED RAW EFFLUENT SAMPLE

Parameters	**Value**
Colour	Colourless
pH	6-8.5
Oil & Grease	<10mg/l
Total Suspended Solid	<100 mg/l
Total Dissolved Solids	<2100 mg/l
BOD^3@27° C	<30 mg/l
COD	<250 mg/l
Free Chlorine	<1.0 mg/l

Bio Assay Test 90 % surviving after 96 hours

An equalization cum holding tank with a total effective volume of about 8000 it capacity and having the capacity to hold all waste water discharged in a day is constructed underground to maintain gravity flow.

The effluent is pumped to a reaction cum setting tank where lime and poly-electrolyte is added. The liquid content in the tank is mixed by means of electric mixer. The suspended solids settle down in this conical hopper type chamber and the clear treated water overflows s and used for horticulture within the plant area. Part of the stored and waste is also used as make up water for the scrubber system for washing of flue gas from the incinerator. The treated effluent quality complies with the requirements of Pollution Control Board.

The sludge generated is taken off the reaction tank from the bottom and pumped to the sludge filter to make the semi dry cake form. The filtrate of the sludge thickener will be again collected in the equalization tank.

DETAILS OF EFFLUENT TREATMENT PLANT:

The effluent treatment plants consist of the following units:

Equalization Tank

Number	:	One
Capacity	:	8000 Lt.
MOC	:	Brick masonry with smooth surface

Aeration Tank:

Number	:	One
Capacity	:	3000Lt.
MOC	:	Brick work/ RCC

Clarifier

Number	:	One
Capacity	:	3000Lt.
MOC	:	HDPE (with conical bottom)

Sludge Drying Bed

Number	:	One
Capacity	:	500 Lt.
MOC	:	Brick Masonry

Filter Press

Number	:	One
Capacity	:	16 Plates of 18 x 18 inches.
MOC	:	Cast Iron

Feeding Pump:

Capacity	:	2000 Lt./hr
MOC	:	SS
H.P.	:	1 H.P.

Dosing Tanks

Number	:	Three
Capacity	:	50 Lt. each.

Dual Media Filter

Domestic Wastewater shall be treated in a septic tank and shall be collected in separate tank from where it shall be pumped for irrigation of green belt in the facility premises.

6.3 Occupational Health and safety

The projects key focus area shall be in terms of occupational safety and health as the employees dealing with infectious wastes with potential for cross contamination and/or infection. Alliance Envirocare shall take the following steps to ensure that the occupational health is protected:

- While Transportation, the collection boys shall wear gloves, masks, rubber gum boots
- While unloading the same PPE shall be used.
- While loading the wastes into incinerators, the staff shall wear helmet, goggles, masks, asbestos temperature resistant gloves, and boots.
- While segregation, they shall ensure protection from needle pricking and shall use hard gloves.
- Any needle stick injury shall be attended to immediately; they shall thoroughly wash the injured area using soap/ detergent and then apply disinfectant to the area. Further to this they shall get checked up for infections.
- Health check-up and vaccination will be done as per standard prescribed by health department.

6.4 Project Schedule and Cost Estimates

The project will start only after obtaining Environmental Clearance and all other required clearance and will complete within one year.

The Capital Cost of the project -Rs 98.60 lacs.
Cost of EMP -Rs 18 Lacs

EMP IMPACT & MEASURES

CONSTRUCTION PHASE:

TYPE	SOURCE/IMPACT	MEASURES
Water Environment	Waste water during construction	➢ Toilets with septic tank will be provided at site for labour. ➢ Portable water to labour for drinking purpose.
Air Environment	Air pollution due to emissions from construction machinery and movement of vehicles.	➢ Vehicles transporting construction materials prone to fugitive dust emissions should be covered with tarpaulin. ➢ Idling of delivery trucks or other equipment should not be permitted during loading and unloading. ➢ All vehicles should comply with air emission standards valid PUC and be maintained properly.
Noise Environment	Noise pollution due to operation of construction machinery at the site.	➢ D.G sets will be provided with acoustic to control the noise level within the prescribed limit. ➢ A high standard of maintenance will be practiced for vehicles, which helps to avert potential noise problems. ➢ Personal Protective Equipment like earplugs and earmuffs will be provided to the workers exposed to high noise level. ➢ Regular monitoring of noise level will be carried out
Solid waste management	Debris, Earth work and Hazardous waste	➢ Debris shall be used for filling of low lying area ➢ Soil/earth shall be stacked at appropriate point and used for land filling. ➢ Hazardous waste will be disposed of as per rules.

OPERATIONAL PHASE:

TYPE	SOURCE/IMPACT	MEASURES
Water Environment	Waste water generation	➢ Septic tank will be installed for treatment of domestic waste water. ➢ Effluent treatment Plant will be installed for treatment of waste water generated from washing of floors. ➢ Treated waste water will be re-used in ventury scrubber.

Air Environment	Incinerator, DG sets and vehicles movement.	➢ Ventury Scrubber (Alkali) will be installed on Incinerator as APCD. ➢ DG sets provided appropriate stack heights as per norms of CPCB/SPCB/MOEF&CC. ➢ Green belt development all around the project.
Noise Environment	DG sets	➢ D.G sets will be provided with acoustic to control the noise level within the prescribed limit. ➢ Personal Protective Equipment like earplugs and earmuffs will be provided to the workers exposed to high noise level. ➢ Regular monitoring of noise level will be carried out
Solid/hazardous waste management	Incinerator ash, E-waste and used oil	➢ Incinerator ash will be send to TSDF site for final disposal. ➢ E-waste will be stored ad disposed off as per E-waste rule 2011. ➢ Hazardous waste (used oil) will be Sold to authorize recyclers

COST FOR EMP

CONSTRUCTION PHASE:

SR. NO.	PARTICULARS	APPROX. CAPITAL COST (LAC)	APPROX. RECURRING COST (LAC)	ITEMS COVERED
1.	Toilets for workers	0.5	0.1	Toilets with septic tank
2.	Wind breaking curtains	0.5	0.1	Wind breaking walls at vulnerable areas
3.	Sprinklers for suppression of dust	0.5	0.2	Sprinklers, Pipeline

OPERATIONAL PHASE:

SR. NO.	PARTICULARS	APPROX. CAPITAL COST (LAC)	APPROX. RECURRING COST (LAC)
1.	APCD (Ventury Scrubber)	6.00	1.5

2.	Effluent Treatment Plant	10.00	1.0
3.	Green Belt	1.00	0.50

ENVIRONMENT MANAGEMENT CELL

To implement the EMP, a structured Environment Management Cell (EMC) interwoven with the existing management system will be created. The Environment Management Cell over see all the programmes & will include:

- Representative of management (head of environment cell).
- Process incharge.
- Incharge maintenance department.
- A representative of Environmental Consultants.

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, CHANDIGARH
Ministry of Environment, Forest & Climate Change, Government of India
O/O Deptt. of Environment, 3rd Floor, Paryavaran Bhawan
Sector 19 B, Chandigarh

TEL. 0172-2700065

No. 3056 Dated: 6/12/17.

To

M/S Alliance Envirocare Co. Pvt. Ltd.
Plot No. 182/9, Phase-I
Industrial Area, Chandigarh

Subject: **Environmental Clearance (EC) to Alliance Envirocare Co. Pvt. Ltd., for the installation of Incinerator in the Biomedical Waste Treatment Facility, at Plot No. 182/9, Industrial Area, Phase 1, Chandigarh**

This has reference to your proposal No. SIA/CH/MIS/16449/2016 seeking prior environmental clearance under the EIA Notification dated 14.09.2006 and amendments thereof. The proposal was considered by the Expert Appraisal Committee (EAC) in its 34th meeting held on 27th Oct 2017 and recommendations for the grant EC was forwarded to U.T., Environment Impact Assessment Authority (SEIAA), Chandigarh dated 16th Nov 2017. The project was considered by the SEIAA, Chandigarh in its 12th meeting held on 27th Nov 2017 and the details of the project as per the documents submitted and presented during the aforesaid meetings are as under:

The proposed project is the upgradation of existing Biomedical Waste Treatment Facility by installation of a new Incinerator & Baby boiler having capacity 200kg/hrs each along with APCD device and proposed capital cost of the project is 98.60 Lacs. The project falls under Category "B" projects of activity 7(da) as per EIA Notification dated 14th Sept 2006 and its subsequent amendments dated 17th April 2015, under Bio-Medical Waste Treatment Facilities. The site proposed for the installation of incinerator at Plot No. 182/9, Industrial Area, Phase-I, Chandigarh, lies near Long: 76° 47' 48.72" East and Lat: 30° 42'04.80" North and is at an Altitude of about 329 m above mean sea level. The project is located within notified industrial area. Other details are as follows:

Water Requirement: The fresh water requirement of proposed project will be 7.0 KLD, which include 2.0 KLD for domestic purposes and 5.0 KLD for floor & vehicle washing. The waste water generated from floor & vehicle washing will be treated through ETP and domestic waste water will be discharged to public sewer. The treated waste water from ETP will be re-used in venturi scrubber attached with Incinerator.

Waste Water Generation: The entire system shall be a zero discharge system in terms of wastewater discharge from the process as the entire wastewater is re-circulated back into venturi scrubber followed by a flooded scrubber with water quenching arrangement and most of the water used is in terms of make-up water. The water discharged regularly within suitable period of time by the process of blow down from venturi and scrubber, shall be treated in the ETP. This water also shall meet the wastewater discharge standards for sewage system.

Air Emission & Air Pollution Control Measures: The air emission from the proposed facility would be SPM, SO_2, NO_X and HCl from Incinerator stack. To control air emission Venturi scrubber as a pollution control system with adequate stack height will be installed. The project proponent will install alkali scrubber as air pollution control device on incinerator. A silent DG set having 80 KVA capacity will also install, in case of non-availability of power.

Solid Waste Generation & Disposal: Incineration ash, used oil and ETP sludge will be generated from proposed facility. Used oil will be re-used as a lubricant in the machineries within the premises only. Incineration ash and ETP sludge will be sent to the authorized Secure Land Fill.

Power Requirement: The power requirement of the plant will be 90 KW. Diesel generator set would be provided 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 requirements under the Environment (Protection) Rules, 1986.

During appraisal of the project, the SEAC, Chandigarh in its 33rd meeting dated 11th Sept 2017 asked the project proponent to update the name of project as per the issued TOR by SEIAA, Chandigarh dated 8th Aug 2017 and to submit justification regarding the requirement of lesser land (as required in the latest guidelines issued by CPCB, New Delhi) for the project alongwith an undertaking regarding compliance of all the conditions mentioned in Bio-Medical Waste management Rules, 2016.

The project proponent had submitted the required undertaking vide letter No. AECPL/CHD/090/2017-18 dated 3rd Oct 2017 and intimated that to comply with the guidelines of CPCB, New Delhi regarding minimum land requirement (0.5 acre), a plot adjacent to the current site (182/10, Industrial Area, Phase I, Chandigarh) has been acquired having address 182/9, Phase-I, Industrial Area, Chandigarh on initial lease of 10 years measuring 2,080 square yards, which is equivalent to 0.5 acre. Accordingly, a new lay out plan of purposed incinerator and other waste treatment technologies in the new plot i.e. 182/9, Phase-I, Industrial Area, Chandigarh has also been submitted.

The SEAC, Chandigarh after due consideration of the relevant documents submitted by the project proponent and additional clarification furnished in response to its

observations had recommended the grant of environmental clearance to the above mentioned project at the new site i.e. Plot No. 182/9, Industrial Area, Phase-I, Chandigarh; subject to compliance with the EMP and other stipulated conditions. Accordingly, the SEIAA, Chandigarh (UT) hereby accords necessary environmental clearance to Alliance Envirocare Co. Pvt. Ltd. for the installation of Incinerator in the Biomedical Waste Management Facility, at Plot No. 182/9, industrial Area, Phase 1, Chandigarh, under category 7(da) of EIA Notification, 2006 subject to the strict compliance with the specific and general conditions mentioned below:-

Part A. General Conditions:

That this environmental clearance is subject to obtaining prior clearance from forestry and wildlife angle including clearance from the Standing committee of National Board for Wildlife, as applicable and if required under Eco Sensitive Zone Notification (Chandigarh). It is categorically stated that grant of environmental clearance would not necessarily imply that forestry and wildlife clearance shall be granted to the project and that their proposals for forestry and wildlife clearance shall be considered by the respective authority on merit and decision taken. The investment made in the project, if any, based on environmental clearance so granted, in anticipation of the clearance from forestry and wildlife angle, shall be entirely at the cost and risk of the project proponent and SEAC/SEIAA shall not be responsible in this regard, in any manner.

I. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report & Environment Management Plan by project proponent and details mentioned above from page 1 to 3, approved by SEAC, must be ensured.

II. All parameters listed in Environmental Monitoring Plan approved by SEAC must be monitored at approved locations and frequencies.

III. A proper record showing compliance of all the conditions of environmental clearance shall be maintained and made available at site at all the times.

IV. Consent for Establishment shall be obtained from the CPCC, Chandigarh under the Air and Water Act for the new site i.e. 182/9, Industrial Area, Phase I, Chandigarh and a copy shall be furnished to the SEIAA, Chandigarh before taking up any activity at the site.

V. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest (Conservation) Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, by project proponents from the competent authorities and from other statutory bodies, as applicable

VI. The Air Pollution Control Devices should be put in place to ensure compliance of emission standards as prescribed in Bio-Medical Waste Management Rules, 2016. Stack height shall be 35 m above the ground level.

VII. Biomedical Waste shall be collected from various health Care Facilities segregated in color coded containers as per Biomedical Waste (management and Handling) rules, 2016 and the collected waste shall be transported in specially designed closed vehicle for treatment and disposal.

VIII. Double containment system shall be provided for all waste transport vehicles to avoid spillage. The spillage shall be cleared immediately. Vehicles should prominently display complaint numbers for use of public as well as antidotes to any toxic waste.

IX. The containers should be covered during transportation in order to prevent exposure of public to odors and contamination.

X. Transportation and handling of Bio-Medical Wastes shall be as per the Bio-Medical Waste Management Rules, 2016 including the section 129 to 137 of Central Motor vehicle Rules, 1989.

XI. The leachate, if any, from the facility shall be collected and treated in the Effluent Treatment Plant to meet the prescribed standards before disposal.

XII. Applicant should ensure installation of photovoltaic cells (solar energy) for lighting in common areas alongwith LED light fixtures, and other energy efficient plant machineries and equipments.

XIII. Applicant should have two storage rooms separately for treated and untreated waste.

XIV. Ash from Incineration and Sludge from Effluent Treatment Plant shall be disposed off in nearest TSDF through authorized vendor/ recyclers. Used oil will be properly stored and would be sold as per Hazardous Waste (management, handling & Trans-boundary Movement) Rules 2016.

XV. 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.

XVI. Process effluent/any waste water should not be allowed to mix with storm water.

XVII. Suitable masking agents, Ecosorb (organic and biodegradable chemical) and alumina shall be used around odor generation areas at regular intervals for dilution of odorant by odor counteraction or neutralize.

XVIII. Applicant will ensure to use only non chlorinated bags for handling and storing bio medical waste. In any case, Applicant is not allowed to use poly and plastic bags.

XIX. All safety measures will be strictly followed by workers for handling of Bio medical waste bags during storage and feeding at incinerator to prevent health hazards.

XX. Applicant shall ensure to conduct quarterly health check up of workers working in the plant.

XXI. Incinerator should be properly interlocked with venture scrubber to control air pollution.

XXII. Applicant will install continuous online monitoring system to monitor the emissions from the stack. Periodical air quality monitoring in and around the site shall be carried out. The parameters shall include Dioxin and furan.

XXIII. Proper Parking facility should be provided for employees & transport sued for collection & disposal of waste materials.

XXIV. Necessary provision shall be made for fire-fighting facilities within the complex.

XXV. Incineration plants shall be operated (combustion chambers) strictly within such temperature, retention time and turbulence, as per the conditions mentioned in Bio-Medical Waste Management Rules, 2016 and prescribed by Chandigarh Pollution Control Committee.

XXVI. The project proponent will set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of Senior Executive.

Part B. Specific Conditions:

I. The project authorities should comply with the provisions made in the Bio-medical waste management Rules-2016, Revised Guidelines-2016 issued by CPCB New Delhi, Hazardous Waste (management, handling & Trans-boundary Movement) Rules 2016, Manufacture, Storage and Import of Hazardous Chemicals rules 1989, as amended and the Public Liability Insurance Act for handling of hazardous chemicals etc.

II. Any appeal against this environmental clearance 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.

III. The applicant will take necessary measures for prevention, control and mitigation of Air Pollution, Water Pollution, Noise Pollution and Land Pollution including solid waste management as mentioned by him in Form-I, Final EIA reports and Environment Management Plan (EMP) in compliance with the prescribed statutory norms and standards.

IV. Ambient noise level should not exceed the permissible limit. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. The ambient noise levels should confirm to the standards prescribed under EPA rules, 1989 & its amendments.

V. Adequate measures shall be adopted to ensure industrial safety. Proper fire detection & protection systems shall be provided to control fire and explosion hazards. The implementation and monitoring of Environmental Management Plan and Disaster Management Plan should be carried out by diverting at-least Rs. 15 Lacs, as submitted in the EIA report.

VI. Venturi scrubber (alkaline) should be provided with the incinerator with stack of adequate height (minimum 35 meters) to control particular emission within 50mg/Nm^3. Continuous Online Stack Monitoring System should be installed and data connectivity must be provided to CPCC's server.

VII. Log-books shall be maintained for disposal of all type hazardous wastes and shall be submitted with the compliance report.

VIII. Waste water generated from the facility shall be treated in the ETP and treated waste water shall be reused in the APCD connected to the incinerator. The water quality of treated effluent shall meet the norms prescribed by CPCB.

IX. Untreated domestic effluent should not be discharged into open drain. The domestic effluent should be treated in a well designed septic tank with soak pit. As soon as the sewerage system is made operational the domestic effluent from the project should be discharged only into the sewerage system for treatment in STP.

X. Applicant should also install Internet Protocol PTZ camera with night vision facility along with minimum 05X zoom.

XI. Project Proponent has to strictly follow the direction/guidelines issued by MoEF, CPCB and other Govt. Agencies from time to time.

XII. Project proponent should carryout periodical ground water/soil monitoring in and around the site to check the contamination including TCLP test for heavy metals.

XIII. Treated flue gas emissions discharge through stack to atmosphere shall always be less than or equal to the parameters specify emission standards notified by CPCB.

XIV. Occupational health surveillance program shall be undertaken as regular exercise for all the employees. The first aid facilities in the occupational health centre shall also be provided and the regular medical test records of each employee shall be maintained separately.

XV. It is recommended that project proponent may explore the possibility of using waste stubble/agricultural waste/biomass briquettes for preheating of boiler. Also, the project proponent may improve the energy efficiency of the setup by utilizing the heat of flu gas for preheating of autoclave.

XVI. The Project Proponent shall publish at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance

letter is available with the State Pollution Control Board and also at web site of the State Level Environment Impact Assessment Authority (SEIAA) and a copy of the same shall be forwarded to the Regional office, MoEF&CC GoI, Chandigarh.

XVII. The Project Proponent has to upload only soft copy of half yearly compliance report of the stipulated prior environmental clearance terms and conditions including results of monitored data on 1st June and 1st December of each calendar year on MoEF&CC web portal – http://www.environmentalclearance.nic.in.

XVIII. It shall simultaneously be sent to the Regional office of MoEF&CC, the respective Zonal office of CPCB and the SPCB.

XIX. Full cooperation should be extended to the Officers and staff from the Ministry and its Regional Office at Chandigarh/ the CPCB/ the CPCC during monitoring of the project.

XX. The SEIAA of Chandigarh reserves the right to add additional safeguard measures subsequently, if found necessary and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986 to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.

XXI. These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and control of Pollution) Act 1981, the Environment (Protection) Act, 1986 the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.

XXII. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

XXIII. The validity of the EC shall be as per the provisions of EIA Notification, 2006 and its amendments time to time, subject to the following: Expansion or modernization in the project, entailing capacity addition with the change in process and or technology and any change in product-mix in proposed mining unit shall require a fresh Environment Clearance.

6/12/17

(SANTOSH KUMAR, IFS)
Member Secretary,
SEIAA, Chandigarh

Endst. No. SA-ED Dated:-

A copy is forwarded to the following for information and necessary action:-

1. The Director (EIA Division), Ministry of Environment, Forest & Climate Change, New Delhi
2. The Additional Principal Chief Conservator of Forest, Regional Office, Ministry of Environment, Forest & Climate Change, Chandigarh
3. The Director (EIA), Northern Region Office, Ministry of Environment, Forest & Climate Change, Chandigarh
4. The Secretary Environment, Chandigarh Administration
5. The Conservator of Forests, U.T., Chandigarh
6. The Member Secretary, Chandigarh Pollution Control Committee, U.T., Chandigarh
7. The Chief Architect, U.T., Chandigarh
8. Member Secretary, SEAC, U.T., Chandigarh
9. Circular File

(SANTOSH KUMAR, IFS)
Member Secretary,
SEIAA, Chandigarh

Chandigarh Pollution Control Committee

Ground Floor, Paryavaran Bhawan, Madhya Marg,
Sector 19-B, Chandigarh

Consent No.CPCC/RSBWTF/1237/2018/1195 **Dated:** 24/08/18

Consent to Establish under Section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and under Section 21 of Air (Prevention and Control of Pollution) Act, 1981, as amended (to be referred as Water Act and Air Act respectively).

Consent is granted to **M/s Alliance Envirocare Company Pvt. Ltd., Plot No. 182/9, Industrial Area, Phase-I, Chandigarh** located in the area declared under the provisions of the Water Act/Air Act subject to provisions of the Act and the orders that may be framed and subject to the following terms and conditions:-

1. **The Consent to establish is valid upto one year from the date of issue of this consent order or till the date of start of operation whichever is earlier.**
2. The Consent is valid for **establishment of a Bio-Medical Waste Incinerator of 200 kg/hour capacity** with proposed gross capital investment of **Rs. 315.0 Lacs** only.
3. Unit shall follow the conditions of Environment Clearance issued by SEIAA.
4. The Consent to Establish has been approved by CPCC from pollution angle and the industry shall obtain all other formal consents from other concerned departments like Electricity Department, Food & Safety Department, Estate Office and Fire Department etc. (if needed).
5. The authorized person of the unit shall intimate the CPCC before closing of the unit.
6. **Conditions under the Water Act:** As per consent order No. CPCC/RSCBWTF/1237/2014/382/3680 dated 05.12.2014
7. **Conditions under the Air Act:**

(i) The applicant shall provide the chimney/stack of the following specification:-

Chimney/stack attached to	Height of stack	Location
01 No. Incinerator (200 Kg/hour)	Min. 30 meter from the ground level	M/s Alliance Envirocare Company Pvt. Ltd., Plot No. 182/9, Industrial Area, Phase-I, Chandigarh
DG Set (62.5 KVA capacity)	2.0 meter from roof top	-do-

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 CPCB Guidelines of Emission Regulation Part-III.

(ii) The applicant shall operate and maintain the same continuously so as to achieve the level of pollutants to the following standards:-

Air Standards:-

S.No.	Stack attached to	Parameter	Permissible Limits
1.	DG Set	Particulate Matter (PM)	150 mg/Nm^3

Noise Standards (manufactured on or after the 1st January, 2015) :-

The maximum permissible sound pressure level for new diesel generator (DG) sets with rated capacity upto 1000 KVA, manufactured on or after the 1st January, 2015 shall be **75 dB(A) at 1 meter from the enclosure surface**.

Incinerator 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:-

$$C.E.= \frac{\%CO_2}{\%CO_2 + \%CO} \times 100$$

3. The temperature of the primary chamber shall be 800^0 C and the secondary chamber shall be minimum of 1050^0 C+ or - 50^0 C.
4. The secondary chamber gas residence time shall be at least two seconds.

B. Emission Standards:

	Parameters	**Concentration**
1.	Particulate Matter (PM)	50 mg/Nm^3
2.	Nitrogen Oxides NO and NO_2 expressed as NO_2	400 mg/Nm^3
3.	HCL	50 mg/Nm^3
4.	Total Dioxins & Furans	0.1 ngTEQ/NM^3 (at 11% O_2)
5.	Hg and its compounds	0.05 mg/Nm^3

- 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 & Other Wastes (Management and Transboundary Movement) Rules, 2016 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 shall of a 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 Environment Protection Act, 1986 and a 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 bio-medical waste treatment facility shall install Continuous Emission Monitoring System (CEMS) for the parameters as stipulated by CPCB in authorization and transmit the data real time to the servers at Chandigarh Pollution Control Committee 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 Bio medical Waste Treatment Facility incinerator shall use combustion gas analyzer to measure CO_2, CO and O_2.

7. **Unit will comply with the revised draft guidelines for Bio-medical Waste Incinerator issued by Central Pollution Control Board, Delhi.**
8. The applicant shall take adequate measures for control of noise from its own sources so as to comply with the standards laid down under relevant Acts/Rules.

8. Unit shall comply with the provisions of Bio-medical Waste Management Rules, 2016.

9. **The unit will not be treated as Common Bio-medical Waste Treatment Facility**

10. **By granting consent to establish, CPCC is not making any commitment regarding providing bio-medical waste of any/all health care facilities to the unit i.e. M/s Alliance Envirocare Company Pvt. Ltd.**

11. **Bio-medical Waste Treatment Facility may have agreement with any Health Care Facility of Chandigarh as per rates mutually agreed by both parties.**

12. **In case of any dispute with respect to rates charged or any other matter, matter will be referred to District Level Task Force (Constituted by the Chandigarh Administration vide no. SA/ED/2011/146-155 dated 04.02.2011) for implementation and monitoring of Bio-medical Waste Rules in Chandigarh for final decision on the same. Decision will be binding on Bio-medical Waste Treatment Facility**

13. The Unit shall apply for renewal of consent for establishment in the prescribed form at least 30 days before the date of expiry of this consent order or shall submit an application for consent to operate at least 90 days before the date of commissioning, whichever is earlier.

GENERAL CONDITIONS FOR CONSENT TO DISCHARGE - EFFLUENT/ EMISSIONS/ HAZARDOUS WASTE

a) Any upset conditions in operations/process in the premises, which may cause increased effluent or result in violation of standards prescribed in the Consent Order be reported to the Chandigarh Pollution Control Committee at the first instance.

b) The applicant shall practice good housekeeping. All pipes/valves/drains/ conduits/sewers shall be kept leak proof. Floor washings from operation/ process area shall not be allowed to find their way in storm-water drains or open areas. The unit shall not throw any solid waste in open inside/outside its premises to the nuisance of the public or to be deterrent to the environment in any manner.

c) The applicant shall go in for recycling/reuse of water as far as practicable to minimize the discharge of wastes into the environment and shall work to adopt clean technology to reduce the generation of environmental pollutants.

d) The unit shall take necessary steps to ensure that noise pollution is not caused from its operations to the nuisance of the public or workers. The unit shall not burn any material on the road side and/or inside/outside its premises to the nuisance of the public or to be deterrent to the environment in any manner.

e) **This consent stands cancelled if there will be any encroachment of Government land by the unit i.e. M/s Alliance Envirocare Company Pvt. Ltd..**

f) The unit i.e. **M/s Alliance Envirocare Company Pvt. Ltd., Plot No. 182/9, Industrial Area, Phase-I, Chandigarh** shall comply with the provisions of the Environment (Protection) Act, 1986 and the rules made thereunder.

T.C. Nautiyal, IFS
Member Secretary

Chandigarh Pollution Control Committee

Ground Floor, Paryavaran Bhawan, Madhya Marg,
Sector 19-B, Chandigarh

Consent No.CPCC/RSBWTF/1237/2019/ 158/3258 **Dated:** 31/01/19

Consent to operate under Section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and under Section 21 of Air (Prevention and Control of Pollution) Act, 1981, as amended (to be referred as Water Act and Air Act respectively).

Consent is granted to **M/s Alliance Envirocare Company Pvt. Ltd., Plot No. 182/9, Industrial Area, Phase-I, Chandigarh** located in the area declared under the provisions of the Water Act/Air Act subject to the following terms and conditions:-

1. **The Consent to operate is valid upto 30.11.2023.**
2. The Consent is valid for running a **Bio-Medical Waste Treatment Facility for treatment of Incinerable & Non-Incinerable Bio-medical Waste generated in U.T. Chandigarh** with proposed gross capital investment of **Rs. 200.5 Lacs** only.

Components	Maximum Quantity
Incinerable Bio-medical Waste	3000 Kg/day
Non-Incinerable Bio medical Waste	3000 Kg/day

3. The Consent to operate has been approved by CPCC from pollution angle and the unit shall obtain all other formal consents from other concerned departments like Electricity Department, Food & Safety Department, Estate Office and Fire Department etc. (if needed).
4. The unit shall comply with the condition imposed by SEIAA in the Environmental Clearance is required under EIA Notification.
5. The unit shall obtain prior permission from CPCC before expansion/modification/up-gradation of the process/plant/machinery
6. The authorized person of the unit shall intimate the CPCC before closing of the unit.
7. **Conditions under the Water Act:**

(i) The daily quantity of trade effluent from the unit shall not exceed **1.8 KLD**

(ii) The daily quantity of sewage from the unit shall not exceed **1.2 KLD**

(iii) The daily quantity of water consumption shall not exceed **3.0 KLD**

(iv) **Sewage/Effluent Treatment:**

The applicant shall maintain comprehensive treatment system as per the submitted drawings and shall treat trade effluent with reference to influent quality and operate and maintain the same continuously so as to achieve the quality of the treated effluent to the following standards before disposal:

Parameters	Permissible Limits
pH	Between 6.5 and 9.0
Suspended Solids	100 mg/l
BOD	30 mg/l
COD	250 mg/l
Oil & Grease	10 mg/l
Bio-assay test	90% survival of fish after 96 hours in 100% effluent

The effluent should meet the general standards as laid down in the Environmental Protection Rules, 1986, before disposal into the sewerage system

8. **Conditions under the Air Act:**

(i) The applicant shall provide the chimney/stack of the following specification:-

Chimney/stack attached to	Height of stack	Location
01 No. Incinerator (200 Kg/hour)	30 meter from the ground level	M/s Alliance Envirocare Company Pvt. Ltd., Plot No. 182/9, Industrial Area, Phase-I, Chandigarh
DG Set (160 KVA capacity)	2.0 meter from roof top	-do-
01 No. Baby Boiler (200 Kg. capacity)	11 meter from the ground level.	-do-

(ii) The applicant shall operate and maintain the same continuously so as to achieve the level of pollutants to the following standards:-

Air Standards:-

S.No.	Stack attached to	Parameter	Permissible Limits
1.	DG Set	Particulate Matter (PM)	150 mg/Nm^3

Noise Standards (manufactured on or after the 1st January, 2015) :-

The maximum permissible sound pressure level for new diesel generator (DG) sets with rated capacity upto 1000 KVA, manufactured on or after the 1st January, 2015 shall be **75 dB(A) at 1 meter from the enclosure surface**.

Incinerator 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:-

$$C.E. = \frac{\%CO_2}{\%CO_2 + \%CO} \times 100$$

3. The temperature of the primary chamber shall be 800^0 C and the secondary chamber shall be minimum of 1050^0 C+ or - 50^0 C.
4. The secondary chamber gas residence time shall be at least two seconds.

B. Emission Standards:

Parameters	Concentration
1. Particulate Matter (PM)	50 mg/Nm^3
2. Nitrogen Oxides NO and NO_2 expressed as NO_2	400 mg/Nm^3
3. HCL	50 mg/Nm^3
4. Total Dioxins & Furans	0.1 ngTEQ/NM^3 (at 11% O_2)
5. Hg and its compounds	0.05 mg/Nm^3

- 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 & Other Wastes (Management and Transboundary Movement) Rules, 2016 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 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 Environment Protection Act, 1986 and a record of such analysis results shall be maintained and submitted to the prescribed authority i.e. CPCC. In case of dioxins and furans, monitoring should be done once in a year.**
- **The occupier or operator of the bio-medical waste treatment facility shall install Continuous Emission Monitoring System (CEMS) for the parameters as stipulated by CPCB in authorization and transmit the data real time to the servers at Chandigarh Pollution Control Committee 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 Bio medical Waste Treatment Facility incinerator shall use combustion gas analyzer to measure CO_2, CO and O_2.

C. **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 Geobacillusstearothermophilus spores using vials or spore Strips; with at least 1X106 spores. Under no circumstances will an autoclave have minimum operating parameters less than a residence time of 30 minutes, a temperature less than 121o 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.

D) 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 off. A shredder to be used for shredding bio-medical waste shall confirm to the following minimum requirements:

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

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

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

(iv) The shredder blade should be highly resistant and should be able to shred waste sharps, syringes, scalpels, blades, plastics, catheters, intravenous sets/ bottles,

blood bags, gloves, bandages etc. It should be able to handle/ shred wet waste, especially after microwave/ autoclave/hydroclave;

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

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

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

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

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

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

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

(xii) The shredder should have low rotational speed (maximum 50 rpm). This will ensure better gripping and cutting of the bio-medical waste; Revised Guidelines for Common Bio-medical Waste Treatment Facilities 13

(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.

9. **Unit shall comply with the revised guidelines for Bio-medical Waste Incinerator issued by Central Pollution Control Board, Delhi.**

10. The applicant shall take adequate measures for control of noise from its own sources so as to comply with the standards laid down under relevant Acts/Rules.

11. Unit shall comply with the provisions of Bio-medical Waste Management Rules, 2016.

12. **By granting consent to operate, CPCC is not making any commitment regarding providing bio-medical waste of any/all health care facilities to the unit i.e. M/s Alliance Envirocare Company Pvt. Ltd.**

13. Unit shall make standby arrangement for treatment of incinerable/non-incinerable bio-medical waste in case of any failure of machinery/equipment.

14. **Bio-medical Waste Treatment Facility may have agreement with any Health Care Facility of Chandigarh as per rates mutually agreed by both parties.**

15. **In case of any dispute with respect to rates charged or any other matter, matter will be referred to District Level Task Force (Constituted by the Chandigarh Administration vide no. SA/ED/2011/146-155 dated 04.02.2011) for implementation and monitoring of Bio-medical Waste Rules in Chandigarh for final decision on the same. Decision will be binding on Bio-medical Waste Treatment Facility.**

16. Applicant shall further get the samples of waste water/noise/emissions analyzed quarterly from the laboratory recognized by the CPCC/SPCB/CPCB/MoEF&CC under intimation to this office. Test report shall be sent to CPCC.

17. The unit shall regularly submit the environmental statement in the prescribed form-V for the previous financial year not later than 30th of September every year to CPCC.

18. This consent to operate is issued from pollution angle only, and does not absolve the project proponent from the other statutory obligations prescribed under any other law or any other instrument in 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 unit/project proponent.

19. That, notwithstanding anything provided here in above, Chandigarh Pollution Control Committee shall have power and reserves its right, as contained under section 27(2) of the Water Act and under section 21(6) of the Air Act to review anyone or all the conditions imposed here in above and make such variation as it deemed fit for the purpose of Air Act and Water Act.

20. Unit will install the CCTV camera (PTZ camera) at the appropriate location in the premises which should be connected with the server of Chandigarh Pollution Control Committee and Central Pollution Control Board.

21. The achievement of the adequacy and efficiency of the effluent treatment plant/pollution control devices/re-circulation system installed shall be the entire responsibilities of the unit.

22. The unit shall submit a yearly certificate to the effect that no addition/upgradation/modification/modernization has been carried out during the previous year otherwise the unit shall apply for the varied consent.

23. Any amendments/revisions made by MoEFF&CC and CPCB in the permissible limits for discharges shall be applicable to the unit from the date of such amendments/revisions.

24. Any upset conditions in the plant/plants of the unit, which is likely to result in increased effluent and/or results in violation of the standards lay down by the Board shall be reported to the CPCC immediately failing which any stoppage and upset conditions that come to the notice of CPCC and its officers, will be deemed to intentional violation of the conditions of consent.

25. The authorised outlet and mode of disposal shall not be changed without prior written permission of the Committee.

26. The unit shall provide the electromagnetic flow meters at the source of water supply, at inlet/outlet of effluent treatment plant within one month and shall maintain the record of daily reading and submit the same to CPCC by 5th of the following month.

27. The diversion or bye pass of any discharge from facilities utilized by the applicant to maintain compliance with the terms and conditions of this consent is prohibited except:

    (i) Where unavoidable to prevent loss of life or some property damage or

    (ii) Where excessive storm drainage or run off would damage facilities necessary for compliance with terms and conditions of this consent. The applicant shall immediately notify the consent issuing authority in writing of each such diversion or bye-pass.

28. Solids, Sludge, Filter backwash or other pollutant removed from or resulting from treatment or control of waste waters shall be disposed off in such a manner to prevent any pollutants from such materials from entering into natural water.

29. The unit shall make necessary and adequate arrangements to hold back the effluent in case of failure of re-circulation system/effluent treatment plant.

30. The unit shall ensure that its treatment capacity and quantity of bio-medical waste do not exceed the quantity mentioned in the consent and shall not carry out any expansion without the prior permission/NOC of the Committee.

31. Unit shall apply for renewal of consent in the prescribed form atleast 90 days before the date of expiry of this consent order.

32. The unit shall provide separate energy meter and water meter and maintain a proper record of its running electricity consumption, date and time of operation, break down if any and other related activities etc. in Logbook as per format enclosed at annexure-'A'.

GENERAL CONDITIONS FOR CONSENT TO DISCHARGE - EFFLUENT/ EMISSIONS/ HAZARDOUS WASTE

a) Any upset conditions in operations/process in the premises, which may cause increased effluent or result in violation of standards prescribed in the Consent Order be reported to the Chandigarh Pollution Control Committee at the first instance.

Consent No.CPCC/RSBWTF/1237/2019/ 758/3258 **Dated:** 31.01.19

b) The applicant shall practice good housekeeping. All pipes/valves/drains/ conduits/sewers shall be kept leak proof. Floor washings from operation/ process area shall not be allowed to find their way in storm-water drains or open areas. The unit shall not throw any solid waste in open inside/outside its premises to the nuisance of the public or to be deterrent to the environment in any manner.

c) The applicant shall go in for recycling/reuse of water as far as practicable to minimize the discharge of wastes into the environment and shall work to adopt clean technology to reduce the generation of environmental pollutants.

d) The unit shall take necessary steps to ensure that noise pollution is not caused from its operations to the nuisance of the public or workers. The unit shall not burn any material on the road side and/or inside/outside its premises to the nuisance of the public or to be deterrent to the environment in any manner.

e) **This consent stands cancelled if there will be any encroachment of Government land by the unit i.e. M/s Alliance Envirocare Company Pvt. Ltd..**

f) The unit i.e. **M/s Alliance Envirocare Company Pvt. Ltd., Plot No. 182/9, Industrial Area, Phase-I, Chandigarh** shall comply with the provisions of the Environment (Protection) Act, 1986 and the rules made thereunder.

T.C. Nautiyal, IFS
Member Secretary

Endst. No.CPCC/RSBWTF/1237/2019/ **Dated :**

A copy is forwarded to the Estate Officer, U.T., Chandigarh with the information that consent to the unit **(M/s Alliance Envirocare Company Pvt. Ltd., Plot No. 182/9, Industrial Area, Phase-I, Chandigarh)** has been granted from pollution angle only and you may check use/misuse and other aspects related to your department at your end and take action accordingly (if required).

-sd/-
T.C. Nautiyal, IFS
Member Secretary

CHANDIGARH POLLUTION CONTROL COMMITTEE
Application form for Consent/Authorization

From:

M/s.Alliance Envirocare company Pvt Ltd
182/9, Industrial Area, phase-I, Chandigarh
Industrial Area 1
Chandigarh
160002

Applicant ID	R17IND159368
Application Form No	513987
Application Submission Date	21/11/2023
Type Of Industry	Bio-medical Waste Treatment Facility
Process (In Brief)	Common Bio-Medical Waste treatment Facility
Category	RED
Application For	Renew
GST Number	04AAFCA4730R2ZG
Aadhar Number	242814680788
Application for	CTO(Re-New)
Applied for number of years	5
Fee Deposited(in Rupees)	131250.0

To

The Member Secretary,
Chandigarh Pollution Control Committee,
Paryavaran Bhawan, Sector 19-B
Chandigarh.

Sir,

I/We hereby apply for *

i) Consent to ~~Establish /Operate~~ /Renewal of consent under section 25 and 26 of the Water(Prevention and Control of Pollution)Act,1974 as amended

ii) Consent to ~~Establish /Operate~~ /Renewal consent under section 21 of the Air(Prevention and Control of Pollution)Act,1981 as amended

iii) Authorization/renewal of authorization under Rule 6 of the Hazardous and Other Wastes(Management and Transboundary Movement) Rules, 2016, in connection with my/ our existing/ proposed/ altered/ additional manufacturing/ processing activity from the premises as per details given below

PART A: GENERAL

1. Name : Paramjeet Singh Chawla

Designation : Manager

	Office Address	:	Paramjeet Singh H.no.2040, Phase-7, SAS Nagar, Mohali (M) 9216594568 email: alliance_envirocare@yahoo.com
	Telephone fax number	:	0172-5017402 0172-5017402
	Mobile No.	:	9216594568
	Email of the Applicant	:	alliance_envirocare@yahoo.com
2.	(a) Name and location of the Industrial Unit/Premises for which the application is made.(Give revenue, Survey Number/Plot Number, name of Taulka and District,also telephone and fax number.)	:	Alliance Envirocare company Pvt Ltd 182/9, Industrial Area, phase-I, Chandigarh 0172-5017402 0172-5017402 Industrial Area 1 Chandigarh
	(b) Details of Planning Permission obtained from the local body/Town and Country planning authority/Metropolitan Development authority/designated authority.	:	N/A
	(c) Name of the local body under whose jurisdiction the unit is located and name of the license issuing authority.	:	MC Chandigarh
3.	Names Address telephone and Fax number of the Managing Director/Managing Partner and officer responsible for matters connected with Pollution Control and / or Hazardous Waste Disposal.	:	Paramjeet Singh Chawla Manager H.no.3602, Sector-71, SAS Nagar Mohali
4.	a) Are you registered as a small-scale industrial unit?.	:	Yes
	b) If yes, give the number and date of registration.	:	CH01A0002577 09/12/2017
5.	Gross Capital Investment of the unit without depreciation till the date of application(cost of building,land,plant and machinery).	:	286.49(in Lakhs)

6. If the site is located near sea-shore/river bank/other water bodies; indicate the distance and the name of the water body,if any

Sr. No.	Surrounding of site	Distance(in meters)	Description
1	River	8000	Sukhna Lake

7.	Does the location satisfy the requirements under relevant Central/State Government.Notifications such as Coastal Regulation Zone, notification on Ecologically Fragile Area, Industrial location Policy etc.	:	YES
	If so,Give details.	:	Chandigarh Administration
8.	If the site is situated in notified industrial estate	:	YES
	Whether effluent collection,treatment and disposal system has been provided by the authority	:	YES
	will the applicant utilize the system,if provided	:	YES
	if not provided, details of proposed arrangments for the treatment of effluents	:	

9.	Total Plot Area,Built up Area and Area available for the use of treated sewage/trade effluent.	:	Total Plot Area : 2080-Square Yards Built-up Area : 12500-Square Feet
10.	Month and year of proposed commissioning of the unit.	:	Feb/2018
11.	Number of workers and office staff.	:	37
12.	(a) Do you have a residential colony within the premises in respect of which the present application is made?	:	No
	(b) If yes,please state the population staying (c) Indicate its location and distance with reference to plant site	:	Location: distance: (in meters)
	(d) If not located in industrial Area then give identification of nearest residential Areas(such as village, town, sector))	:	

13. List of products and by-products manufactured in tones/Month,Kl/Month or Number/Month(Give figure corresponding to maximum installed production capacity).

Sr. No.	Name of the Product produced/to be produced	Unit	Avg. Actual Production (for which consent is sought)
1	Treatment of BMW (Incinerable & Non-Incinerable)	kg/day	9800

Sr. No.	Name of the By-Products produced/to be produced	Unit	Avg. Actual Production (for which consent is sought)
1	N/A	Metric Tonnes/Day	

14. List of raw-material and process Chemicals with Annual consumption corresponding to above stated Production Figures, in tones/month or kl/month numbers/month.

S.No.	Name of the Raw-material/Chemicals used/to be used	Quantity of the Raw-material/Chemicals used/being used	Unit
1	Untreated non-incinerable Biomedical Waste	5000	kg/day
2	Untreated Incinerable Biomedical Waste	4800	kg/day

15.	Description of Process of manufacture of each of the product showing input,output,quality and quantity of solid,liquid and gaseous wastes,if any,from each unit process.(To be supported by flow sheet and/or material balance and water balances sheet).	:	See Enclosures

PART B: WASTE WATER ASPECTS

16. Water consumption for different uses (m3/day).

Sr. No.	Water Consumed For	Quantity(KLD)
1	Process and wash	1.5
2	Others Bioler	1.0
3	Domestic	2.5

17. Source of water supply.Name of authority granting permission if applicable and quantity permitted.

Sr. No.	Source Type	Source Name	Name of the authority	Quantity (KLD)
1	Municipal Supply	Municipal Supply	MCC	5.0

18. Quantity of waste water(Effluent) generated (m3/day).

Sr. No.	Wastewater Generated	Quantity(KLD)
1	Domestic	3.0
2	Process and wash	2.0

19. Water budget calculations accounting for difference between water consumption and effluent genereated. :

20. Present treatment of sewage/canteen effluent(Give sizes/capacities of treatment units): : See Enclosures

21. Present treatment of trade effluent(Give size/ capacities of treatment units). (A schematic diagram of the treatment scheme with inlet/outlet characteristics of each unit operations/process is to be provided. Include details of residue management system (ETP sludges): **: See Enclosures**

22. (a)Are sewage and trade effluent mixed together? : YES

(b)If yes, state at which stage-whether before, intermittently or after treatment. : After treatment

23. Capacity of treated effluent sump, Guard Pond, if any :

24. Mode of disposal of treated effluents, with respective quantity, m3/day

S.No	Type of Effluent	Maximum Generation Quantity of Effluent(KLD)	Effluent to be Recycle(KLD)	Effluent Disposal/Discharge Quantity (KLD)	Mode of disposal
1	Domestic Effluent	3.0	0.5	2.5	Municipal Sewerage System
2	Washings	2.0	0.0	2.0	Municipal Sewerage System

25. a)Quantity of untreated/treated effluent(specify pH and concentration of suspended solids(SS),BOD,COD and specific pollutants relevant to the industry.Total Dissolved Solids (TDS) to be reported for disposal on land or into stream/river.

b)Enclose a copy of the latest report of analysis from the laboratory approved by State Board/Committee/Central Board/Central Government in the Ministry of Environment and Forests. For proposed unit furnish expected characteristics of untreated/treated effluent.

Sr. No.	Type of Effluent	Parameters	Conc. of Pollutant		Unit	Date of report	Report analysis no.	Name of Laboratory
			Untreated	Treated				
1	Domestic Effluent	pH		7.51	mg/l	30/09/2023	NEFL300923NA012	ECO PARYAVARAN LABORATORIES & CONSULTANTS PVT LTD
2	Domestic Effluent	Bio assay test		93	%	30/09/2023	NEFL300923NA012	ECO PARYAVARAN LABORATORIES & CONSULTANTS PVT LTD
3	Domestic Effluent	Suspended Solids		32	mg/l	30/09/2023	NEFL300923NA012	ECO PARYAVARAN LABORATORIES & CONSULTANTS PVT LTD
4	Domestic Effluent	BOD		20	mg/l	30/09/2023	NEFL300923NA012	ECO PARYAVARAN LABORATORIES & CONSULTANTS PVT LTD
5	Domestic Effluent	COD		120	mg/l	30/09/2023	NEFL300923NA012	ECO PARYAVARAN LABORATORIES & CONSULTANTS PVT LTD

6	Domestic Effluent	Oil and Grease		6.3	mg/l	30/09/2023	NEFL300923NA012	ECO PARYAVARAN LABORATORIES & CONSULTANTS PVT LTD

PART C: AIR EMISSION ASPECTS.

DG Set Details :-										
Sr. No.	**Name of the Unit**	**Address**	**No.of DG Set**	**Cost of DG Set**	**Capacity of DG Set (In KVA)**	**Whether Acoustic Enclosure provided(Yes/No)**	**Quantity of Used Oil Generated(Litres/year)**	Sukhna Lake	**Type of unit where DG Set Installed**	**Date of Manufacturing of DG Set**
1	Alliance Envirocare Company Pvt Ltd	182/9, Industrial Area, Phase-1, Chandigarh	1	7.5 lacs	160	Yes	50	Ground floor	BM WTF	2018

Details of Other(s) except DG Set :-				
Sr. No.	**Equipment / Devices**	**Capacity (also mention unit)**	**Fuel**	**Stack Height from ground level (in meters)**

26. Fuel Consumption :

Fuel Name	**Daily Comsumption**	**Unit**	**Calorific value**	**Ash content %**	**Sulphur content %**	**Other (Specify)**
LDO (LIGHT DIESEL OIL)	300	Litres/Day				NA

27(a) (i) Details of Stack(Process & fuel stacks)

Stacks Name :	**Attach to:**	**Capacity:**	**Fuel type:**	**Fuel Quantity:**	**Material of construction:**	**Shape(Round/Rectangular):**
Incinerator	Incinerator	200 kg/hr	LDO	300	MS	Round
DG SET	DG SET	160 KVA	LDO	20	SS	Round
BABY BOILER	BABY BOILER	200 KG	LDO	25	MS	Round

(ii)

Height,m(above ground level):	Diameters/Size in meters	Control equipment preceding the stack:
30	1	[Bag Filter]
10	0.07	[Acoustic Enclosure]
11	0.1	[Not Applicable]

27(b). Whether any release of odoriferous compounds such as mercaptans, phorate etc. are coming out. : No

28. Do you have adequate facility for collection of samples of emissions in the form of port holes, platfor, ladder etc., as per the Central Board Publication 'Emissions Regulations Part - 3' (December1985) : Yes

29. Quality of treated flue gas emissions and process emissions.(Specify concentration of criteria pollutants and industry/process specific pollutants stack-wise.
Enclose a copy of the latest report of analysis from the approved laboratory by the State Board/Central Board/ Central Government in the Ministry of Environment and Forest. For proposed units, furnish the expected characteristics for the emission.

Fuel Gas Emission quality parameter details:

Sr. No.	Stack	Quality Parameter	Result	Unit
1	Incinerator	Particualte matter	40	mg/Nm3
2	Incinerator	Carbon Monoxide	77	mg/Nm3
3	Incinerator	Mercury	0.01	mg/Nm3
4	Incinerator	HYdrochloric Acid Vapour & Mist	6.3	mg/Nm3
5	DG SET	Particualte matter	56	mg/Nm3
6	BABY BIOLER	Particualte matter	81	mg/Nm3

Process Emission quality parameter details:

Sr. No.	Process	Quality Parameter	Untreated	Treated	Unit
----------NIL----------					

PART D: HAZARDOUS WASTE ASPECTS

30. Authorization reqiured for : Storage,Disposal,
(i) Collection
(ii) Reception
(iii) Treatment
(iv) Transport
(v) Storage
(vi)Disposal of the Hazardous Waste

31. (a) Whether the unit is generating hazardous waste as defined in the Hazardous and Other Waste(Management And Transboundary Movement) Rules, 2016 :
(b)If so,the category No.

32. Quantity of Hazardous Waste generated(kg/day)or(mt/month) :

Sr. No.	Source of Generation of Hazardous Waste	Name and Category of Hazardous Waste	Quantity of Hazardous Waste generate/to be generated per day(kg/day)
1	35. Purification and treatment of exhaust air/gases, water and waste water from the processes in this schedule and common industrial effluent treatment plants (CETP's)	35.3-Chemical sludge from waste water treatment	150
2	37. Hazardous waste treatment processes e.g. pre-processing, incineration and concentration	37.2-Ash from incinerator and flue gas cleaning residue	260000
3	5. Industrial operations using mineral or synthetic oil as lubricant in hydraulic systems or other applications	5.1-Used or spent oil	50

33. Characteristics of the hazardous waste (s)Specify concentration of relevant pollutants .Enclose a copy of the latest report of analysis from the laboratory approved by the State Board/Central Board/Central Government in the ministry of Environment and Forests.For proposed units furnish expected charactertics. :

34. Mode of Strorage(intermediate or final)(describe area, location and methodology) :

Sr. No.	Name and Category of the Hazardous Waste generated/to be ganerated	Size of the Room/shed(in sqmts.)	Storage Capacity(in terms of months)
1	35.3-Chemical sludge from waste water treatment	1.3	0.02
2	37.2-Ash from incinerator and flue gas cleaning residue	17	13
3	5.1-Used or spent oil	6	50

35. Present treatment of Hazardous waste,if any (give type and capacity of treatment units) :

36. Quality of Hazardous waste disposed :
1)Within the factory
2)Outside the factory(specify location and enclose copies of agreement)
3)Through sale (Enclose documentary proof and copies of agreement)
4)Outside State/Union Territory,if yes Particulars of (1)&(3)above
5)Other(specify)

Sr. No.	Name and Category of the Hazardous Waste generated/to be generated	Nature of Hazardous Waste(recyclable/incinerable/storagable)	Total Quantity of Hazardous Waste generated/to be generated(in tones/annum)	Mode of Disposal			
				Quantity of hazardous waste shifted/to be shifted to common TSDF	Quantity of hazardous waste given/to be given to regd. Recycler	Quantity of hazardous waste given to in-house incineration	Quantity of hazardous waste being/to be managed in the premises
1	35.3-Chemical sludge from waste water treatment	Landfill	0.081	0.081	0.081		0.081
2	37.2-Ash from incinerator and flue gas cleaning residue	Landfill	142.59	142.59	142.59		142.59
3	5.1-Used or spent oil	Recyclable	0		0		50

PART E: ADDITIONAL INFORMATION

37. (a) Do you have any proposals to upgrade the present system for treatment and disposal of effluent/emission and hazardous waste. : YES

(b)If yes,give details with time-schedule for the implementation and approximate expenditure to be incurred on it. :

38. Capacity of DG set : 160

39. Installation of ETP/STP : : Yes

40. Type of Treatment Plant Installed : : Trade Effluent

41. Capacity of the treatment plant : : 8 KLD

42. Capital and Recurring (Operations and Maintenance) expenditure on the various aspects of environment protection such as effluent emission HW solid waste tree plantation monitoring data acquisition etc. : 1000000

42. To which of the pollution Control equipment separate meters for recording consumption of electric energy are installed? : APCD & ETP

43.	Which of the pollution Control items are connected to Diesel Generator set (captive power source) to ensure their running in the event of normal power failure?.	:	APCD & ETP
44.	Nature, quantity and method of disposal of non-hazardous solid waste generated separately from the process of manufacture and waste treatment(give details of area/ capacity available in applicant's land).	:	Plastic & Other Metal Scrap
45.	Hazardous chemicals - Give detail of chemicals and quantities handled and stored.		
(i)	Is the unit a Major Accident Hazard unit as per MSIHC Rules	:	NO
(ii)	Is the unit an isolated storage as defined under the MSIHC Rules.	:	NO
(iii)	Indicate status of compliance of Rules 5,7,10,11,12,13 and 18 of the MSIHC Rules.	:	NA
(iv)	Has approval of site been obtained from the concerned authority?	:	NA
(v)	Has the unit prepared on Off-site Emergency Plan?Is it updated?	:	YES-YES
(vi)	Has information on imports of chemicals been provided to the concerned authority	:	NA
(vii)	Does the unit possess a policy under the PLI Act	:	NO
46.	Brief details of tree plantation/ green belt development within applicant's premises(in hectares).	:	At the edge / Boundry Wall
47.	Information of schemes for waste minimization, resource recovery and recycling - implemented and to be implemented, separately.	:	Partially Effluent water is used for gardening purposes
48.	(a)The applicant shall indicate whether industry comes under Public Hearing,if so,the relevant documents such as EIA,EMP,Risk Analysis etc.shall be submitted,if so,the relevant documents enclosed shall be indicated accordingly.	:	NO
	(b)Any other Additional Information that the applicant desires to give.	:	EC Obtained

49. I/We furthur declares that the information furnished above is correct and true to the best of my/our knowledge.

50. I/We hereby submit that in case of any change from what is stated in this application in respect of raw-materials, products, process of manufacture & treatment and/or disposal of effluent,emissions, hazardous wastes etc. in quality & quantity; a fresh application for consent/authorization shall be made & until the grant of fresh consent/ authorization, no change shall be made.

51. I/We undertakes to furnish any other information within on month of its being called by the Board/Committee.

52. I/We agree to submit to the Committe an application for renewal of consent/autorization in two months in advance before the date of expiry of the consent/authorization validity period.

Fee Details

Category	RED
Capital Investment	286.49
Number Of Years	5
Original Fee	90000.0
Expiry Date of Consent to Operate	2023-11-30
Date of Application Applied	21/11/2023
Days left for expiry of CTO	16
Additional Fee for applying late	56250.0
Have you submitted the test report / manifest of Hazardous Waste / Annual Report on timely	Yes
Additional Fee for non submission of the test report / manifest of Hazardous Waste / Annual Report on timely	0.0
FEE APPLICABLE	146250.0

Yours faithfully,
Signature

Name Paramjeet Singh Chawla
Designation Manager

DOCUMENTS ENCLOSED:

1. ID Proof - PAN Card
2. ID Proof - Adhaar Card
3. Hazardous Waste Take off Agreement
4. GST Certificate
5. BMW Authorization
6. Stack Emission Report - DG
7. Stack Emission Report-Incinerator
8. Air Emissions Test Reports
9. Waste Water Reports
10. Consent to Operate
11. Consent to Establishment
12. List of Machinery
13. lay out plan
14. FEE Demand Draft
15. Addendum to Lease agreement
16. Lease Agreement
17. CA Certificate
18. MOA
19. Board Resolution
20. Copy of Registration Certificate with the deptt of industry GM DIC Sectt for Industrial Approval Any other in case not submitted at the time of obtaining consent to establish NOC
21. List of Directors Partners of the industry project alongwith copy of Memorandum and Articles of Association Partnership Deed
22. Layout plans of location ETP APCD and all outlets and various channels Pipes sewers having color codes Fresh water line-blue Trade effluent line-Red Recirculation of water wastewater line green Domestic waster water line

Dotted black Strom water line orange

23. Manufacturing process Details alongwith the process flow chart
24. Site Location plan of the industry project
25. LabAnalysisReport
26. Id Proof

**** Signature is Required ****

Chandigarh Pollution Control Committee

Ground Floor, Paryavaran Bhawan, Madhya Marg,
Sector 19-B, Chandigarh

Authorization No.CPCC/RSBWTF/1237/2019/ 130/3258 **Dated:** 31.01.19

1. **M/s Alliance Envirocare Company Pvt. Ltd.** is hereby granted an authorization under Rule 6 of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 of Environmental Protection Act, 1986 to operate a facility for storage & disposal of hazardous waste on the premises situated at **Plot No. 182/9, Industrial Area, Phase-I, Chandigarh.**
2. The authorization is granted to operate a facility for storage & disposal of hazardous waste.
3. **The authorization is valid upto 30.11.2023**
4. The authorization is subject to the conditions stated below and to such conditions as may be specified in the rules for the time being in force under the Environment (Protection) Act, 1986.

Terms and Conditions of Authorization

i) The authorization shall comply with the provision of the Environment (Protection) Act, 1986, and the rules made thereunder.

ii) The applicant shall handle hazardous wastes as specified below:

Category of Hazardous Waste	Authorized mode of disposal or recycling	Type of Wastes	Quantity Disposal
35.3 of Schedule-I	**Through TSDF**	**Chemical Sludge from waste water**	**30 Kg/year**
37.2 of Schedule-I	**-----do-----**	**Ash Incinerator**	**100 kg/day**
5.1 of Schedule-I	**Through authorized recycler**	**Used Oil**	**50 Ltr/year**

iii) Treatment: **NIL**

iv) This authorization does not allow any import of hazardous or recyclable waste unless separate permission is obtained from the Board/Committee.

v) **The occupier shall maintain records of hazardous and other wastes generated and their disposal in Form 3 and shall send return to Chandigarh Pollution Control Committee in form 4 by 30th June of every year for the preceding period April to March.**

vi) **Handling, Storage & Labelling** : Proper hazardous waste handling & storage area should be constructed with the following specifications:-

a) The hazardous waste must be stored in an environmentally sound manner. The storage area should be fenced properly and a sign board indicating "DANGER" and "HAZARDOUS WASTE" sign and nature of the waste shall be placed at storage site.

b) On site storage of hazardous waste/spent oil in sealed drums placed on impervious floor under covered shed is permitted for a maximum period of 90 days unless otherwise specially permitted.

c) The occupier generating hazardous waste shall provide the required safety mask, goggles, hand gloves, gum boots etc. to the workers handling the hazardous waste. The

occupier shall impart training to the personnel/workers for handling and storage of hazardous waste.

d) The storage facility should have an appropriate containment system as per the "Spill Prevention, Control and Counter Measures Plan" approved by the SPCB/PCC.

e) Each container holding hazardous wastes shall be marked "HAZARDOUS WASTE" and "HANDLE WITH CARE" to be prominent and written in red colour, in English, Hindi and in Vernacular language (s) with background colour of label - fluorescent yellow.The Label should be of non-washable material and weather proof.

f) The occupier shall be responsible for any damage of life/or property during storage of his waste.

vii) **Transportation & Disposal:**

a) The occupier shall not rent, lend, dispose, transfer or otherwise transport the hazardous waste without obtaining prior permission of Committee.

b) An occupier who transports or offers for transportation, hazardous wastes for off-site treatment, storage or disposal, must prepare a manifest, in seven copies, and must designate on the manifest one facility, which is permitted to handle the waste described on the manifest:-

(1) The sender of the waste shall prepare seven copies of the manifest in **Form 10** comprising of colour code indicated below and all seven copies shall be signed by the sender.

Copy number with colour code	**Purpose**
Copy 1 (White)	To be forwarded by the sender to the State Pollution Control Board or Committee after signing all the seven copies.
Copy 2 (Yellow)	To be retained by the sender after taking signature on it from the transporter and the rest of the five signed copies to be carried by the transporter.
Copy 3 (Pink)	To be retained by the receiver (actual user or treatment storage and disposal facility operator) after receiving the waste and the remaining four copies duly signed by the receiver.
Copy 4 (Orange)	To be handed over to the transporter by the receiver after accepting waste.
Copy 5 (Green)	To be sent by the receiver to the State Pollution Control Board after treatment and disposal of hazardous waste.
Copy 6 (Blue)	To be sent by the receiver to the sender after treatment and disposal of hazardous waste..
Copy 7 (Grey)	To be sent by the receiver to the State Pollution Control Board of the sender in case the sender is in another State after treatment and disposal of hazardous waste..

(2) The sender shall forward copy 1 (white) to the State Pollution Control Board and in case the hazardous or other wastes is likely to be transported through any transit State, the sender shall prepare an additional copy each for intimation to such State and forward the same to the concerned State Pollution Control Board before he hands over the hazardous wastes to the transporter.

(3) No transporter shall accept hazardous wastes from an sender for transport unless it is accompanied by copies 3 to 7 of the manifest.

(4) The transporter shall submit copies 3 to 7 of the manifest duly signed with date to the receiver of the facility along with the waste consignment.

(5) The receiver after acceptance of the waste shall hand over copy 4 (orange) to the transporter and send copy 5 (green) to his State Pollution Control Board and send copy 6 (blue) to the sender and the copy 3 (Pink) shall be retained by the receiver.

(6) The copy 7 (Grey) shall only be sent to the State Pollution Control Board of the sender, if the sender is in another state.

c) The unit shall sell the recyclable Hazardous Waste to only those parties having valid registration as Recycler/Reprocessor with environmentally sound management facilities. The unit shall submit the compliance report to the committee.

Authorization No.CPCC/RSBWTF/1237/2019/130/3258 Dated: 31.01.19

d) The packing, labeling and transportation of Hazardous Waste shall be in accordance with the provisions of the rules made by the Central Government, under the Motor Vehicle Act, 1988 and other guidelines issued from time to time and in accordance with the provisions of Hazardous Wastes (Management and Transboundary Movement) Rules, 2016.

e) **An occupier shall not offer for transport of hazardous wastes to a transporter who has not received an authorization, for transportation of hazardous wastes, from the CPCC.**

viii) **Other Conditions:**

a) The authorization shall comply with the provisions of the Environment (Protection) Act, 1986 and the rules made thereunder.

b) This authorization does not allow any import of hazardous or recyclable waste unless separate permission is obtained from the Board/Committee.

c) It is the duty of the authorized person to take prior permission of the Chandigarh Pollution Control Committee before closing down the facility.

d) The authorization or its renewal shall be produced for inspection at the request of an officer authorized by the Chandigarh Pollution Control Committee.

e) The occupier shall take steps wherever feasible, for reduction in hazardous waste generated.

f) The unit shall not rent, lend, dispose, transfer or otherwise transport the hazardous waste without obtaining prior permission of Chandigarh Pollution Control Committee.

g) Any unauthorized change in personnel, equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of the authorization.

h) An application for the renewal of an authorization shall be made in Form-I before its expiry.

i) The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site specific possible scenarios as spillages, leakages, fire, etc. and their possible impact and also carry out mock drill in this regard at regular interval of time.

j) The person authorized shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty"

k) The imported hazardous and other waste shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.

l) The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilization of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorization.

m) The record of consumption and fate of the imported hazardous and other wastes shall be maintained.

n) The importer or exporter shall bear the cost of import or export and mitigation of damages if any.

o) Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.

T.C. Nautiyal, IFS
Member Secretary

Chandigarh Pollution Control Committee

[Paryavaran Bhawan Sector 19B,Madhya Marg, Chandigarh, 160019]

Application required for grant/renewal of authorisation for generation or collection or storage or transport or reception or recycling or recovery or re-processing or co-processing or utilisation or treatment or disposal of hazardous and other waste.

User ID	:	R17IND159368
Application No.	:	512142
Indutry Type	:	Bio-medical Waste Treatment Facility
Category	:	RED
Authorization Applied For	:	Renew
Previous Auth No	:	CPCC/RSBWTF/1237/2019/130/3258
Previous Auth Valid UpTo	:	11/30/2023

To

The Member Secretary,
Chandigarh Pollution Control Committee
Paryavaran Bhawan Sector 19B,Madhya Marg,
Chandigarh

Sir,

I/We hereby apply for authorization/renewal of authorization under Sub-rule(1) of Rule 6 of the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016.

Part A :General (to be filled by all)

1. (a) Name and Address of the unit and location of facility	:	Alliance Envirocare company Pvt Ltd 182/9, Industrial Area, phase-I, Chandigarh Industrial Area 1 Chandigarh

(b) Name of the occupier of the facility or operator of disposal facility with designation,tel,Fax and e-mail	:	Paramjeet Singh Manager 0172-5017402 9216594568 0172-5017402 alliance_envirocare@yahoo.com
(c) Aadhar Number	:	242814680788
(d) Authorisation required for (Please tick mark appropriate activity or activities)	:	

Generation	✓	Collection	
Storage	✓	Transportation	✓
Reception		Reuse	
Recycling		Recovery	
Pre-Processing		Co-Processing	
Utilisation		Treatment	
Disposal	✓	Incineration	

(e) Agreement made with Authorized Recycler for disposal of Hazardeous-Waste	:	No Not Attatched

2 (a) Nature and quantity of waste handled per annum (in metric tonne or kilo litre)

Name of Process	Name of Hazardous Waste (Category No)	Quantity	Waste Type	Waste Storage	Waste Disposal	Source of generation of waste	Physical status	Quantity stored at any time	Quantity accumulated as on 31st March
35. Purification and treatment of exhaust air/gases, water and waste water from the processes in this schedule and common industrial effluent treatment plants (CETP's)	35.3-Chemical sludge from waste water treatment	150 Kilograms/Annum	Landfillable	Concrete Tanks	ETP Sludge	Effluent Treatment Plant	Solid	10	0 Kilograms
37. Hazardous waste treatment processes e.g. pre-processing, incineration and concentration	37.2-Ash from incinerator and flue gas cleaning residue	255500 Kilograms/Annum	Landfillable	HDPE Bags	Ash from Incinerator	Ash generation from disposal of bio medical waste	Solid	10000	357 Kilograms

2 (B) Hazardous Waste Generation Details For DG Set Only

Number of D.G. Set: 1

Category of Hazardous Waste	Capacity of D.G. set (in KVA)	Date of Manufacturing of DG Set	Quantity of Hazardous Waste Generated	Unit	Waste Type
Schedule I 5.1 Used Oil	160	2018	50	Litres/Annum	Recyclable

3. (a) Year of commissioning and commencement of production	:	2018
(b) Wheather the industry works	:	One Shift [ ] Two Shift [ ] Round the clock [✓]
4. Provide copy of the Emergency Response Plan (ERP) which should address procedures for dealing with emergency situations (viz. Spillage or release or fire) as specified in the guidelines of Central Pollution Control Board. Such ERP shall comprise the following, but not limited to: • Containing and controlling incidents so as to minimise the effects and to limit danger to the persons, environment and property; • Implementing the measures necessary to protect persons and the environment; • Description of the actions which should be taken to control the conditions at events and to limit their consequences, including a description of the safety equipment and resources available; • Arrangements for training staff in the duties which they are expected to perform; • Arrangements for informing concerned authorities and emergency services; and • Arrangements for providing assistance with off-site mitigatory action. (To be attached separately)	:	Attatched
5. Provide undertaking or declaration to comply with all provisons including the scope of submited bank guarantee in the event of spillage or fire while handling the hazardous and other waste	:	Attatched

Part B :To be filled by hazardous waste generators

(a) Process description including process flow sheet indicating inputs and outputs (raw materials,chemicals,products,by-prducts,waste,emissions,water waste etc.)Please attatch sheet	:	Not Attatched
(b) Characteristics (waste-wise) and Quantity of waste generationtion per annum		

Schedule	Name of Process	Name of Hazardous Waste (Category No)	Quantity	Characterisitics of each waste	The details of utilization with in the plants such as Reuse/ Recycling/ Recovery/Reprocessing etc	If not utilised within the plant, provide details of what is done with this waste	Details of arrangements for transportation to actual users/ TSDF	Details of the environmental safeguards and environmental facilities provided for safe handling
Schedule I	35. Purification and treatment of exhaust air/gases, water and waste water from the processes in this schedule and common industrial effluent treatment plants (CETP's)	35.3-Chemical sludge from waste water treatment	150 Kilograms/Annum	ETP Sludge	NA	Landfill at TSDF	Transport by TSDF	
Schedule I	37. Hazardous waste treatment processes e.g. pre-processing, incineration and concentration	37.2-Ash from incinerator and flue gas cleaning residue	255500 Kilograms/Annum	incineration Ash	NA	Landfill at TSDF	Transport by TSDF	

2. Hazardous and other wastes generated as per these rules from storage of hazardous chemicals as defined under the Manufacture ,Storage and import of Hazardous Chemicals Rules,1989	:	Incineration Ash from disposal of BMW, ETP Sludge and Used oil generated from DG Set

Part C :To be filled by Treatment,Storage and disposal facility operators

1. Location of site with layoutmap	:	0
2. Safe storage of the waste and storage capacity	:	
3. The treatment processes and their capacities	:	
4. Secured Landfills	:	
5. Incineration, if any	:	
6. Leachate Collection and Treatment System	:	
7. Fire Fighting Systems	:	

8. Environmental management plan including monitoring	:	
9. Arrangement for transportation of waste from generators	:	

Part D :To be filled by recyclers or pre-processors or users of hazardous or other wastes

1. Nature and quantity of different commonly recyclable hazardous wastes in Schedule-IV procured per annum from domestic sources or imported or both	:	**Hazardous Wastes Type** / **Quantity** / **Source (Domestic/Imported)**
2. Installed capacity as per registration issued by district Industries Center or any Other authorised Goverment agency .Provide copy	:	Not Attatched
3. Provide detail of secured storage of waste including the storage capacity	:	
4. Process description including process flow sheet indicating equipment details ,inputs and outputs (input wastes, chemicals, products, by-products, waste generated, emissions, waste, water, etc).Attach separate sheets	:	Not Attatched
5. Provide details of end users of products or by-products	:	
6. Provide detail of pollution control system such as effluent treatment Plant , scrubbers etc.Including mode of disposal of waste	:	
7. Provide details of occupational health and safety measure	:	
8. Has the facility been setup as per Central Pollution Control Board guidelines ? if yes provide a report on the compliance with the guidelines	:	
9. Arrangements for transportation of waste to the facility	:	

Date : 10/10/2023 **Signature of the Applicant.....**

Place : **Name and Designation.....**

Enclosures :

1. Site Plan of the industry showing the location of hazardous waste storage area room (Attached)
2. Manufacturing process Details alongwith process flow Chart (Attached)
3. Copy of agreement signed with Common Hazardous Waste Treatment Facility regarding disposal of hazardous waste (Attached)
4. Annual return in form IV as prescribed in the Hazardous Waste Managment Handling and trans Boundary Movements Rules (Attached)
5. Board Resolution (Attached)
6. MOA (Attached)
7. Lease Agreement (Attached)
8. Addendum to Lease agreement (Attached)
9. Consent to Operate (Attached)
10. Earlier HWM Authorization (Attached)

11. GST Certificate (Attached)
12. ID Proof - Adhaar Card (Attached)
13. ID Proof - PAN Card (Attached)
14. undertaking or Declaration (Attached)

MUNICIPAL CORPORATION CHANDIGARH
FIRE AND RESCUE SERVICES

FIRE SAFETY CERTIFICATE

Ref. No. CFO-FSC/2021/00248 **Date:23/09/2022**

FSC TYPE: Renewal

Certified that **M S ALLIANCE ENVIROCARE COMPANY PVT LTD** situated/located at **PLOT NO 182 9 , INDUSTRIAL AREA , PHASE 1** comprised of **0** (Basements)**,** and **3** (Upper Floors) owned by Mr./Ms./M/s **SHRI KISHORE BANSAL** and occupied by Mr./Ms./M/s **ALLIANCE ENVIROCARE COMPANY PVT LTD** have complied with the Fire Prevention and Fire Safety requirements of National Building Code of India and verified by the concerned Nominated Authority of Fire & Rescue Services, MC, Chandigarh and the **ALL FLOORS** of building/premises is found fit at the time of inspection in accordance with National Building Code of India under **INDUSTRIAL, INDUSTRIAL BUILDINGS [MODERATE HAZARD], [MODERATE HAZARD] COVERED AREA MORE THAN 500 m2 AND UP TO 1000 m2 {FOR BUILDING HEIGHT UP TO 15 METER}** (Occupancy Use). This Fire Safety certificate is valid for a period of 03 years from its date of issuance unless withdrawal sooner due to inadequacy/malfunctioning of Fire-fighting and Safety equipments. This Certificate is further subject to following conditions:-

1. The installed Firefighting and Safety arrangements/equipments should be kept in working order round the clock.
2. Periodical maintenance and testing of installed Firefighting and Safety equipments/arrangements should be done and a proper record of the same should be maintained and shown to the Fire Officer as and when demanded.
3. If any addition/alteration is proposed to be made in the building/occupancy use, the same should be done under intimation to the office of the Chief Fire Officer, MC, Chandigarh.
4. The Owner/Occupants should have trained staff to operate the Fire Safety System provided therein.
5. Nominated Authority (Station Fire Officer) can check the arrangements of Fire Safety at any time as per norms laid down in the Fire Prevention and Safety Act as applicable to UT, Chandigarh. This certificate will be treated as withdrawn without any further notice, if any deficiency/inadequacy/non-functioning of Firefighting and Safety arrangements/ equipments is noticed by the Nominated Authority and the action as deemed fit will be initiated under the Fire Prevention and Safety Act as applicable to UT, Chandigarh accordingly.
6. Occupants/owner should apply for renewal of Fire Safety Certificate at least three months prior to expiry of this Certificate.

Note:-

1. This certificate must be displayed in front/near entrance of the building.
2. This certificate can't be used as an Ownership Proof, regularization of any Violation/Misuse or any other purpose etc.
3. Holder of this certificate shall not be entitled for any sort of Compensation/Claim from Fire and Rescue Services, MC, Chandigarh, in case of loss of life/property during any mishap.
4. This is a digitally signed certificate, hence no physical signature is needed.

Digitally Signed by CFO MC Chandigarh

This Certificate will expire on 22/09/2025

ANNEXURE-R/8

LABOUR DEPARTMENT UT CHANDIGARH

RENEWAL OF REGISTRATION AND LICENCE TO WORK A FACTORY

Registration No. CIFRGFR/2022/00120 **Dated** 19/12/2022

Fee paid Rs:1000

Licence to work a factory granted to **AMANPREET SINGH MALHOTRA** of **M/S ALLIANCE ENVIROCARE COMPANY PVT LTD PLOT NO.182 - 9 INDUSTRIAL AREA CHANDIGARH** vide Registration No. **CIFRGFR/2020/00083** y for the premises described herein for use as a factory employing not more than **50** persons on any one day during the year and using motive power not exceeding **185** H.P. is hereby renewed subject to the provision of the Factories Act, 1948, and the rules made thereunder.

This renewed licence shall be valid from **01/01/2023** to **31/12/2023** and its NIC 2008 number is **325.**

Date:19/12/2022
Place: Chandigarh

Additional Cheif Inspector of Factories
(under the Factories Act, 1948)
Union Territory, Chandigarh

CHANDIGARH

Chandigarh Pollution Control Committee
Ground Floor, Paryavaran Bhawan, Madhya Marg
Sector 19-B, Chandigarh - 160 019

No. : CPCC/BMW/61/2023/ 10/8005
Registration ID: R17IND159368

Date: 16/03/2023
Application No.: 458794

ANNEXURE-R/9 (COLLY)

To

Sh. Paramjeet Singh
M/s Alliance Envirocare company Pvt. Ltd.
Plot no. 182/9, Industrial Area,
Phase-I, Chandigarh.

Subject: Authorization under Rule 10 of Bio-Medical Waste Management Rules, 2016 framed under Environment (Protection) Act, 1986 for operating a facility for Collection, Reception, Treatment, Transport and Disposal of Bio-Medical Waste.

With reference to your application for obtaining Authorization under Rule 10 of Bio-Medical Waste Management Rules, 2016 framed under Environment (Protection) Act, 1986; you are hereby authorized to operate a facility for collection, reception, transportation treatment and disposal of Bio-Medical Wastes from different Hospitals, Nursing Homes, Clinics, Dispensaries, Veterinary Institution, Animal Houses, Pathological Laboratories, Blood Banks of Chandigarh (by whatever name they called) for treatment of incinerable and non incinerable bio medical waste at Plot No. 182/9, Industrial Area, Phase-I, Chandigarh.

1. Particulars of Applicant (Occupier/Operator)

Name of Applicant (Occupier/Operator)	*Sh. Paramjeet Singh*
Designation	*Manager*
Correspondence Address	*M/s Alliance Envirocare company Pvt. Ltd., Plot no. 182/9, Industrial Area, Phase-I, Chandigarh*
Mobile Number	*+91- 9417043017*
Email-ID	*alliance_envirocare@yahoo.com*
Type	*Bio-medical Waste Treatment & Disposal Facility*
No. of Vehicles used for Collection & Transportation of Bio-medical Waste *(in U.T. of Chandigarh)*	*13* ***(Details are mentioned at Page no. 2)***

2. Particulars of Authorization

Authorization Type	*Renewal*
Date of Expiry	*30.11.2023*
Activities authorized	*Collection, Transportation & Disposal of Bio-medical Waste*

3. The Authorization is subject to the Terms and Conditions as specified in this Authorization and also to such conditions as may be specified in the rules for the time being in force under the Environment (Protection) Act, 1986.

Arulrajan P., IFS
Member Secretary

TERMS AND CONDITIONS

GENERAL CONDITIONS

i) The applicant shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made thereunder.

ii) The authorization or its renewal shall be produced for inspection at the request of an officer authorized by the prescribed authority.

iii) The Bio-medical waste collected in coloured containers shall be transported in only a fully covered following authorized vehicles.

S.No.	Regd. No.
1	CH01-TA-9903
2	CH01-TA-8052
3	CH01-TA-1237
4	CH01-TA-6500
5	CH04-K-5747
6	CH04-L-5670
7	CH01-TA-6327
8	CH01-TA-5711
9	CH01-TB-8591
10	CH01-TA-9366
11	CH01-TB-3411
12	CH01-TB-7431
13	CH01-TB-1816

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

v) Any unauthorized change in personnel, equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of this authorization and this authorization shall deemed to have been cancelled.

vi) It is the duty of the authorized person to take prior permission of the prescribed authority to close down the facility.

vii) If a container is transported from the premises where Bio-Medical waste is generated to any waste treatment facility outside the premises, the container shall apart from the label prescribed in the Bio-medical Waste Management Rules, 2016 and also carry information prescribed in Schedule IV attached to the rules.

viii) Notwithstanding anything contained in the Motor Vehicle Act, 1988 or rules there under, untreated bio-medical waste shall be transported only in such vehicle as may be authorized for the purpose by the Committee. The vehicle shall not be used for any other purpose except transportation of Bio-medical Waste.

ix) No untreated Bio-medical waste shall be kept stored beyond a period of 48 hours. Provided that if for any reason it becomes necessary to store the waste beyond such period, the authorized person must take prior permission of the prescribed authority and take measures to ensure that the waste does not adversely affect human health and the environment.

x) The authorized person shall maintain records of category wise quantity of wastes collected from individual institutions and also to submit the same to Chandigarh Pollution Control Committee on monthly basis to reach by 5th of subsequent month.

xi) The applicant shall also comply with all other terms and conditions as specified in Bio-Medical Waste Management Rules, 2016 as amended from time to time.

xii) It is the duty of the authorized person to submit an annual report to the Chandigarh Pollution Control Committee in Form-II by 30th June every year to include information about the categories and quantities of Bio-medical waste handled during the preceding year.

xiii) The Bio-medical waste collected in coloured containers shall be transported in a fully covered vehicle. Such vehicle shall be dedicated for transportation of Bio-medical waste only the vehicle must possess the following:

a) Separate cabins shall be provided for driver/staff and the Bio-medical waste containers.

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

c) The waste cabin may be designed for storing waste containers in tiers.

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

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

f) 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.

g) The vehicle shall be labeled with the Bio-medical waste symbol (as per the Schedule-IV of the Rules) and should display the name, address and telephone number of the your unit.

xiv) The authorized person should provide autoclave/microwave/hydroclave for the disinfection of Bio-medical Waste.

xv) Shredder should confirm to the following minimum requirements:

a) The shredder for Bio-medical Waste shall be of robust design with minimum maintenance requirement.

b) The shredder should be properly designed and covered to avoid spillage and dust generation. It should be designed such that is has minimum manual handling.

c) The hopper and cutting chamber of the shredder should be so designed to accommodate the waste bag full of Bio-medical Waste.

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

e) The shredder blade shall be of non-corrosive and hardened steel.

f) The shredder should be so designed and mounted so as not to generate high noise & vibration.

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

h) 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.

i) In case of overload or jamming, the shredder should have mechanism of reverse motion of shaft to avoid any emergency accident.

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

k) The unit shall be suitably designed for operator safety, mechanical as well as electrical.

l) The shredder should have low rotational speed (maximum 50 rpm). This will ensure better gripping and cutting of the Bio-medical Waste.

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

n) 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, 2016.

xvi) There should be facility for bin washing, floor washing & vehicle washing.

xvii) A sharp pit or a facility for sharp encapsulation shall be provided for treated sharps. An option may also be worked out for recovery of metal from sharps in a factory.

xviii) The facility should have the provisions for treatment equipment room, main waste storage room, treated waste storage room, administrative room, generator set, site security, parking, sign board, green belt and washing room.

xix) The facility should also have provisions for:

a) A telephone shall be provided and maintained at the facility.

b) A First Aid Box shall be provided and maintained at the your unit.

c) Proper lighting shall be provided at the facility.

d) Proper care shall be taken to keep the facility and surroundings free from odours.

e) Proper fire fighting facilities and emergency alarm shall be installed.

f) Measures shall be implemented to control pests and insects at the site.

g) Measures shall be implemented to control the escape of litter from the site.

h) Necessary provision shall be made to prevent and control noise generated, if any due to the activities at the site,

i) Necessary protective gear for the waste handlers shall be provided.

xx) The treated Bio-medical Waste shall be disposed as per the following table:

Sr. No.	Waste Category	Disposal Method
1.	Plastic wastes after disinfection and shredding.	To be sold to Authorized Recycler
2.	Disinfected Sharps (except syringes)	To be sold to Authorized foundry.
3.	Incineration ash	Secured landfill
4.	Other treated solid wastes	Municipal landfill
5.	Oil & grease	Incineration
6.	Treated waste water	Sewer/drain or recycling

xxi) Waste water discharged from the unit shall meet with the standards as specified in Bio-medical waste rules.

xxii) The authorized person should submit the quarterly report of the effluent being discharged from the facility for the parameters as specified under the Bio-medical Waste Rules from the approved laboratory.

xxiii) The authorized person shall apply for the renewal of authorization. In the prescribed form at least 30 days before the date of expiry of this authorization letter.

xxiv) This authorization shall deemed to have been cancelled if any of the condition of authorization is violated.

xxv) Mercury is hazardous waste and should either be disposed off at hazardous waste facility or given to a Mercury equipment manufacturer.

xxvi) Unit shall follow the conditions of consent issued under Water Act 1974, Air Act 1981, and Authorization under Environment (Protection) Act, 1986 for Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

SPECIAL CONDITIONS

The authorised person has to perform the following duties for the management and compliance of Biomedical Waste Management Rules, 2016.

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.

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 immunize 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 biomedical waste and the remedial action taken and the records relevant thereto, (including nil report) in Form I to Chandigarh Pollution Control Committee (CPCC) 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 Chandigarh Pollution Control Committee or from the respective Pollution Control Board/Committee.

n) Supply non-chlorinated plastic coloured bags to the occupier on chargeable basis, if required.

o) Ensure collection of biomedical waste on holidays also.

p) Maintain all record for operation of incineration, hydro or autoclaving for a period of five years.

q) Unit has to install Continuous Emission Monitoring System for the measurement of the parameters as prescribed by the Central Pollution Control Board in their Guidelines for Common Biomedical Waste Treatment Facilities and for Continuous Emission Monitoring Systems and transmit of online data so generated simultaneously to Chandigarh Pollution Control Committee and Central Pollution Control Board as well.

r) Unit has to comply with the standards mentioned in Schedule II of Biomedical Waste Management Rules, 2016 w.r.t. treatment and disposal of bio-medical wastes.

Arulrajan P., IFS
Member Secretary

CHANDIGARH POLLUTION CONTROL COMMITTEE

Ground Floor, Paryavaran Bhawan, Sector 19-B, Madhya Marg,

Chandigarh- 160019

APPLICATION FOR AUTHORIZATION OR RENEWEL OF AUTHORISATION

(To be submitted by occupier of Health Care Facility or Common Bio-Medical Waste Treatment Facility)

User Id- R17IND159368

Application Id- 512088

To

The Member Secretary,

Chandigarh Pollution Control Committee,Chandigarh

1	**Particulars of the applicant:**		
i)	Name of the applicant	:	Paramjeet Singh
	Designation	:	Manager
ii)	Name of the Institution	:	Alliance Envirocare company Pvt Ltd
	Address for correspondence	:	182/9, Industrial Area, phase-I, Chandigarh Industrial Area 1 Chandigarh
	Landline phone No	:	0172-5017402
	Mobile No.	:	9216594568
	E-mail Id	:	alliance_envirocare@yahoo.com
	Aadhar Number	:	242814680788
2	**Activity for which authorisation is sought:**		
	Generation, segregation,Collection,Storage,Reception,Transportation,Treatment or processing or conversion,Disposal or destruction use		
3 i)	**Authorization now Applied For :**	:	Renewal
3 ii)	**Previous Authorization Details :**		

Date of Application for BMWA	BMWA Type	Authorisation No	Issued date	Valid date

iii)	**Status of CTE/CTO-latest consent type, issued date and validity date**	:	CPCC/RSBWTF/1237/2019/158/3258 Dated 31/01/2019 Valid till 30/11/2023
iv)	**GPS Coordinates- Lat/Lon of the location of applicant facility(In decimal degress with 6 decimals)**		Latitude: 30.701638 (N Decimal degrees)
			Longitude: 30.701638 (E Decimal degrees)
4 i)	**BMW Facility Type**	:	CBMWTF
ii)	**BMW Facility Status**	:	CBMWTF-Common Facility
iii)	Address of the location of Health Care Facility or CBMWTF	:	182/9, Industrial Area, phase-I, Chandigarh

iv)	CBMWTF-Office and location address of treatment and disposal	:	Alliance Envirocare Company Pvt. Ltd. IMA Memorial Complex, Sector 35-B, Chandigarh / Alliance Envirocare Company (P) Ltd. 182/9, Industrial Area, Phase-I, Chandigarh
5)	Details of CBMWTF:		
i)	No of HCFs covered by the CBMWTF	:	955
ii)	No of beds covered by the CBMWTF	:	4782
iii)	Installed treatment and disposal capacity of CBMWTF	:	9800 Kg/day
iv)	Quantity of BMW treated or disposed by CBMWTF	:	6406 Kg/day
v)	Jurisdictional area and distance covered by the CBMWTF	:	Total Area of Chandigarh
vi)	Contingency (future upgradation) plan of CBMWTF	:	No
vii)	**Quantity of BMW handled, treated or disposed:**		

Category	**Type of Waste**	**Quantity Generated or collected in Kg/day**	**Method of Treatment and Disposal as per Schedule-I**
Yellow	a) Human Anatomical Waste	3920	Incineration
	b) Animal Anatomical Waste	1	Incineration
	c) Soiled Waste	0	Incineration
	d)Expired or Discarded Medicines	3	Incineration
	e)Chemical Solid Waste	0	Incineration
	f) Chemical Liquid Waste	0	Onsite ETP to treat and conform to the discharge standards
	g)Discarded linen, mattresses, beddings contaminated with blood or body fluid	0	Disinfection followed by Incineration
	h) Microbiology, Biotechnology and other clinical laboratory waste	0	Sterilisation followed by Incineration
Red	Contaminated waste (Recyclable)	2030	Autoclaving followed by shredding. Treated waste to be sent to Authorised recyclers or for energy recovery or plastic to Diesel or fuel oil or for road making
White(Translucent)	Waste sharps including Metals	17	Autoclaving followed by shredding. Treated waste to be sent to Iron foundries or sanitary landfill or designated concrete waste sharp pit.

	Blue	Glassware	435	Disinfection or Autoclaving or microwaving or hydroclaving and then sent for recycling
		Metallic Body Implants	0	
		Total	6406 Kg/Day	

6i)	**Mode of Transportation of BMW**	:	Common Facility Vehicle
ii)	**Details of Treatment equipments available for treatment of BMW:**		

Sl No	**Treatment equipment**	**No of units**	**Type and capacity of each unit**
1	Incinerators	1	200 kg per hour along with APCD and Stand by PCC 1 & 2
2	Plasma Pyrolysis		
3	Autoclaves	2	One autoclave having 200 kg per batch and another having 160 kg per batch capacity
4	Microwave		
5	Hydroclave		
5	Hydroclave		
6	Shredders	2	12000 kg per day
7	Needle tip cutter or destroyer	2	10 kg per day
8	Sharp encapsulation or Concrete pit		
9	Deep burial pits		
10	Chemical disinfection		
11	Any other treatment equipment		

7	**Details of directions or notices or legal actions if any during the period of earlier authorisation**	:	
8	**Declaration**		

I do hereby declare that the statements made and information given above is 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 fulfil any conditions stipulated by the prescribed Authority.

Date: 10/10/2023

Signature of the applicant

Name and Designation

Enclosures:

1. Board Resolution
2. MOA
3. Consent to Operate

4. ID Proof - Adhaar Card
5. ID Proof - PAN Card
6. Letter for machinery & vehicle details

ANNEXURE-R/10

Revised 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

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Abbreviations

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

CONTENT

1) Introduction

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

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

The Bio-medical Waste Management Rules, 2016 (hereafter referred as 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* is not only addresses such problems but also prevents proliferation of treatment technologies in a particular town or city. 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 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 restricts 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 2014 submitted by the SPCBs/PCCs), there are 192 no. of CBWTFs in operation and 33 no. of CBWTFs are under construction. Also, the Bio-medical Waste Management Rules, 2016 mandates that the operator of a CBWTF authorised by the prescribed authority is required to take all necessary steps to ensure that the bio-medical waste collected from the occupier is transported, handled, stored, treated and disposed of, without any adverse effect to the human health and the environment, in accordance with the BMWM Rules and the guidelines issued by the Central Government or the Central Pollution Control Board (CPCB) from time to time. Therefore, these guidelines have been prepared with an aim to have uniformity in ensuring site selection, allowing and establishment of a state-of-the-art CBWTF, operation as well as verification of compliance to the BMWM Rules, 2016 throughout the country. However, any other aspects which are not been covered under these guidelines and needs attention, in such a case, the prescribed authority may take suitable action in the interest of protection of the environment in consultation with MoEF & CC/CPCB. Also, it is pertinent to mention here that these guidelines are mandatory henceforth under the Bio-medical Waste Management Rules, 2016

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

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

a) Prescribed authority under the BMWM Rules, 2016 [i.e., State Pollution Control Board (SPCB) in the respective State or Pollution Control Committee (PCC) in the respective

Union Territory Administration] is required to prepare an inventory or review with regard to the bio-medical waste generation at least once in five years in the coverage areas of the existing bio-medical waste treatment and disposal facility. The prescribed authority is also required to extrapolate the coverage-area wise bio-medical waste generation for the next ten years.

b) SPCB/PCC is required to conduct gap analysis w.r.to coverage area of the bio-medical waste generation and also projected 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.**

All the SPCBs and PCCs shall conduct the gap analysis and based on the gap analysis, action plan for development of new CBWTFs is required to be prepared and submitted to MoEF & CC & CPCB within six months' time. In case of States/UTs, where no CBWTF is available, in such a case, SPCB/PCC being prescribed authority under the BMWM Rules is required to submit the detailed proposal to MoEF & CC/MoH & FW through the respective State Government or UT Administration. Also, the option of forming association by the group of heath care facilities (HCFs) to develop their own CBWTF also be encouraged following these guideline. 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 without interfering the coverage area of the existing CBWTF and beds covered by 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 develope its own CBWTF in line with these guidelines or to have captive treatment facilities for ensuring treatment and disposal of generated bio-medical waste as stipulated under the BMWM Rules, 2016.

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 atleast 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**.

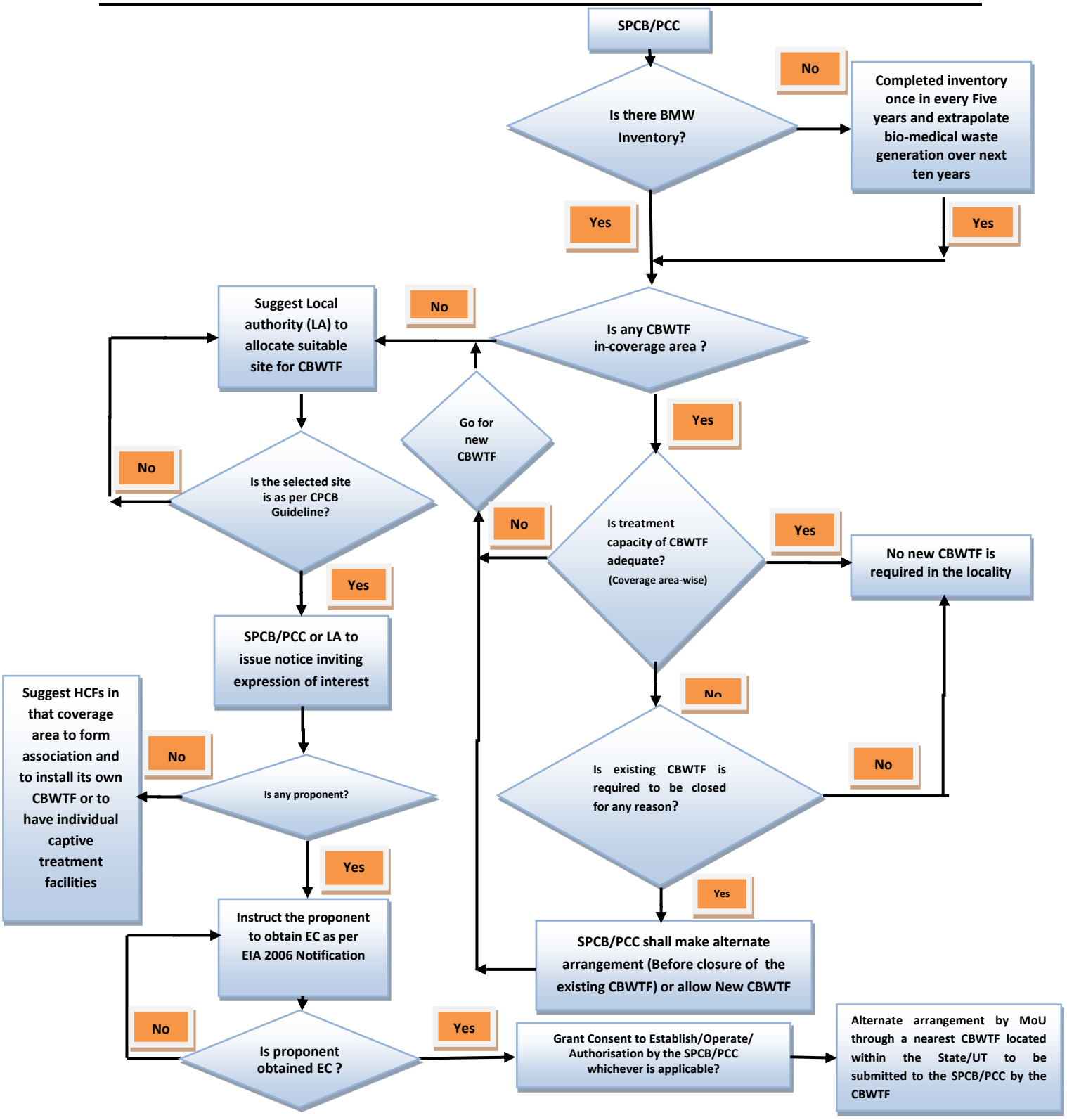

Figure 1. Criteria for Development of a CBWTF in a coverage area

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. Also, all the existing CBWTFs shall also complete augmentation of the existing incineration facility so as to comply w.r.to the residence time as well as emission norms including for Dioxins and Furans prescribed under BMWM Rules, 2016 within two years from the date of notification of the BMWM Rules, 2016 (i.e., prior to 27.03.2018). 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.

Prior to commencement of a new CBWTF as well as all the existing CBWTF Operators are required to submit action plan, to the respective SPCB/PCC, for imposing suitable condition while granting authorisation under the BMWM Rules, 2016. The action plan should also include:

(a) a MoU made with the nearest CBWTF located within the respective State/UT, as alternate arrangement. 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

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

4) Applicability of these guidelines

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

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

(or)

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

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

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

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

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

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

5.3 Environmental Clearance under EIA Notification 2006

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

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

b) Expansion and modernization with additional treatment capacity of existing bio-medical waste treatment facility (excluding augmentation of incineration facility

for compliance to the residence time as well as Dioxins and Furans without enhancing the existing treatment capacity).

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

6) Location criteria

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

(i) potential for spread of infection from wastes stored in the premises.
(ii) applicable standards for pollution control and the relative efficiency of the existing incinerators and emission control systems,
(iii) potential of fugitive dust emission from incinerators,
(iv) potential for discharge of wastewater
(v) the potential for odour production,
(vi) the potential for noise pollution,
(vii) the risk posed to human health and safety 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). 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. If SPCB/PCC is not in a position to resolve the issue relating to buffer zone while selecting the site for CBWTFs, in such a case, SPCBs/PCCs may refer the matter to CPCB.

(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 (both in municipal limits with population more than 25 lakhs or in rural areas), 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 CPCB.

8) Coverage area of CBWTF

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

a) A CBWTF located within the respective State/UT shall be allowed to cater healthcare units situated at a radial distance of 75 KM. However, in a coverage area where 10,000 beds are not available within a radial distance of 75 KM, existing CBWTF in the locality (located within the respective State/UT) may be allowed to cater the healthcare units situated upto 150 KM radius w.r.to its location provided the bio-medical waste generated is collected, treated and disposed of within 48 hours as stipulated under the BMWM Rules.

b) In case, number of beds is exceeding >10,000 beds in a locality (i.e. coverage area of the CBWTF under reference) and the existing treatment capacity is not adequate, in such a case, a new CBWTF may be allowed in such a locality in compliance to various provisions notified under the Environment (Protection) Act, 1986, to cater services only to such additional bed strength of the HCFs located.

c) In case of hilly areas, considering the geography, only one CBWTF with adequate treatment capacity may be developed covering atleast 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

(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.

c) 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.

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

e) Dry heat sterilization: This is the additional option for treatment of waste sharps as stipulated under the BMWM Rules. In this method, waste sharps are treated using

dry heat (hot air) at a temperature not less than 185^{0}C, at least for a residence period of 150 minutes in each cycle (with sterilization period of 90 minutes).

f) ***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 off. A shredder to be used for shredding bio-medical waste shall confirm to the following minimum requirements:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

h) ***Deep burial:*** Any SPCB/PCC should not allow the 'deep burial' of bio-medical waste as a part of CBWTF. Any existing CBWTF having disposal of bio-medical waste by deep burial should have the requisite treatment equipment as stipulated under the BMWM Rules, *within six months* from the date of finalization of these guidelines.

i) ***Non-burn technology:*** Non-incineration technologies for disposal of bio-medical waste are adopted in some of the developed countries. Non-incineration technology comprises of shredding and disinfection by autoclaving/microwaving or chemical treatment. The treated waste can be disposed along with municipal solid waste in sanitary landfills or through waste to energy plants. Such option can also be adopted in places where the sanitary landfill or waste to energy plant for disposal of municipal

solid waste is available. Such technology is permitted only after prior approval of MoEF & CC and only after obtaining authorization under the BMWM Rules from the respective SPCB/PCC for the purpose of carrying out trial runs for assessment of efficacy of the treatment equipment.

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

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

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

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

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

(iv) Provision of 'press filter' to reduce the moisture content of the ETP Sludge or it may be dried in 'sludge drying bed'. After removal of moisture content or drying, same need to be disposed off in an environmentally sound manner depending upon the hazardous constituents present in it as per Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016.

In case, ETP sludge contains metal contents within the prescribed limits as per Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016, such ETP sludge shall be given to CBWTF for incineration or to hazardous waste treatment, storage and disposal facility (TSDF) for disposal in secured landfill.

Note:

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

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

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

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

(10) Infrastructure set up

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

a) Treatment Equipment Room

A separate housing may be provided for each treatment equipment at the CBWTF such as incinerator room, autoclave room, microwave room etc., as applicable. Each room shall have well-designed roof and walls. Such room shall be well ventilated and easy to wash. The floor and interior finishing of the room shall be such that chances of sticking/harbouring of microorganisms are minimized. This can be attained by

providing smooth & fine floor and wall surfaces (to a height of 2 meter from floor) preferably of tiles. The number of joints in such surfaces shall be minimal. The equipment room shall also have a separate cabin, to supervise the operation of the equipment and to record the waste handling and equipment operational data attached to each equipment room. There shall be two waste storage rooms, one for storage of untreated waste and another for treated waste and may be located at a distance from each other. The storage room shall have provisions similar to that of equipment room being well-ventilated with easy to wash floors & walls, smooth and fine surfaces etc. All the treatment equipment rooms and waste storage rooms should be provided with 'fly catcher/killing device'. The room shall be washed and cleaned with a suitable disinfectant every day.

b) Main waste storage space

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

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

mercury bearing waste shall be collected by the CBWTF from the respective member HCF.

c) Treated waste storage room

Separate space should be provided to store the wastes treated in different treatment units. The wastes shall be stored in separate group as per the disposal options. Other provisions in the room shall be similar to the main storage room. Waste such as incineration ash/vitrified ash generated in the process of incineration/plasma pyrolysis respectively shall be stored safely in a separate area under the shed so as to avoid entry of rain water during the monsoon and for easy collection. In case, incineration ash/ vitrified ash is found to be hazardous waste in nature same should be disposed of through any authorized TSDF operator located nearby following the manifest as per Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016. In case of a State/UT where TSDF is not available, all the CBWTF operators have to store incineration ash safely as per these guidelines.

d) Administrative Room

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

e) Generator set

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

f) Continuous emission monitoring system (CEMS)

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

monitoring data is also required to be transmitted to the servers of the respective SPCB/PCC as well as CPCB, by all the existing CBWTF operators

g) Vehicle Parking

Provision for parking shall be made within the confines of the site for parking of required number of vehicles, loading and unloading of the vehicles meant for transporting waste to and from the facility, etc.. In case of a CBWTF with space constraints, multy-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: (newly added as per BMWM Rules, 2016)

All the existing CBWTFs shall develope own website by 27.03.2017 whereas the upcoming CBWTF shall develope the website prior to the commencement of the facility. The website should be uploaded with relevant information periodically (on monthly basis) especially as detailed below:

(i) A copy of the Environmental Clearance obtained;
(ii) Copies of the Consents under the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 as well as the Authorisation under the BMWM Rules obtained from the SPCB/PCC;
(iii) List of all the member Health Care Facilities with complete address, bedded or non-bedded HCFs, no. of beds, bar code, category-wise average bio-medical waste generation in kg/annum;
(iv) Charges levied on the member Health Care Facilities (HCFs) for treatment and disposal of bio-medical waste;
(v) Vehicles connected with a provision of GPS as per BMWM Rules and Vehicle-wise route chart for collection, transportation of bio-medical waste from the member HCFs;
(vi) Real time continuous online stack emission monitoring data;
(vii) Daily bio-medical waste collected, received and treated (Member HCF-wise);
(viii) 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;
(ix) A copy of the annual report submitted to the respective SPCB/PCC;
(x) Monitoring results of the stack emissions, treated wastewater and incineration ash, as per the frequency stipulated under the BMWM Rules;
(xi) 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;
(xii) Contact person, contact telephone number and e-mail addresses of the facility; and.

(xiii) Provision to have access to the SPCB/PCC/CPCB/MoEF & CC/MoH & FW especially on GPS, online monitoring system and the data.

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

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

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

11) Record keeping

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

a) Records of waste movements

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

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

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

b) Logbook for the treatment equipment

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

(i) The weight of each batch.
(ii) The categories of waste as per the Rules.
(iii) The time, date and duration of each treatment cycle and total hours of operations.
(iv) The complete details of all operational parameters during each cycle.

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

c) Monitoring and reporting of operations in the CBWTF:

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

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

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

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

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

Records concerning the above parameters need to be maintained and checked periodically for taking remedial measures during the operation of the incinerator or plasma pyrolysis or autoclave. In case of other treatment processes, the operational conditions as well as the efficacy tests to be complied with as per the standards prescrined 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 which came after 28.03.2016, 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). In case of the incinerators (existing prior to the notification of BMWM Rules, 2016), new incinerators standards are required to be complied within two years i.e., by 27.03.2018.

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

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

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

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

d) Site Records:

Site records shall include the following:

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

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

12) Collection and transportation of bio-medical waste

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

a) Collection of bio-medical waste:

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

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

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

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

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

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

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

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

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

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

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

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

(x) 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 after disinfection and shredding	Plastic waste should not be sent to landfill sites. Treated plastic waste to be (i) sent to registered or authorized recyclers **(or)** (ii) for energy recovery **(or)** (iii) for diesel or fuel oil recovery **(or)** (iv) for road making, whichever is possible.
2.	Disinfected Sharps (including needles and syringes) (i.e., Treatment by Autoclaving or Dry Heat Sterilization followed by shredding or mutilation combination of shredding cum autoclaving)	Encapsulation in metal container or cements concrete; (or) sent for final disposal to iron foundries (having consent to operate from the SPCBs/PCCs (or) sanitary landfill or designated concrete waste sharp pit.
3.	Incineration ash	Incineration ash (ash from incineration of any bio-medical waste) shall be disposed through hazardous waste treatment, storage and disposal facility (TSDF), if toxic or hazardous constituents are present beyond the prescribed limits as given in Schedule –II of the Hazardous and Other Waste Management & Transboundary Movement Rules or as revised from time to time.
4.	Other treated solid wastes like Glass waste	Disinfection (by soaking the washed glass waste after cleaning with detergent and Sodium Hypochlorite treatment) or through autoclaving or microwaving or hydroplaning and then sent for recycling.
5.	Oil & Grease	By Incineration
6.	ETP Sludge	After drying in sludge drying beds or removal of moisture content using 'Filter Press' and such ETP 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 Centres, dispensary, pathological laboratory, blood banks, and other non-bedded hospitals irrespective of their system of medicine including ayush hospitals.

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

Note:

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

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

15) Check list for development of CBWTF

The criteria for development of CBWTDF have been discussed in detail in the

Previous sections. However, to have at a glance check in developing CBWTF, checklist is reproduced for convenience and is annexed **(Annexure-IV).**

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

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

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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 :

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

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

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

Note: Fill the details whichever is applicable

Log Book for Operating the Autoclave/Hydroclave

Date	Time of operation of the Autoclave or Hydroclave		Batch number	Quantity of waste feeding per batch in Kg (Total waste treated by autoclaving/ hydroclave in Kg)	Temperature and Pressure ~~in every ten minutes~~		Strip test result (pl. paste the strip test for each batch with a proof)	Consumption of electricity (indicate electricity meter reading)		Net Quantity of waste received in Kg	Net Quantity of Waste left over in Kg
	Start	End			Temperature in ^{O}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

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

(i) If so, indicate reason:.....

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

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

10. Segregation

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

11. Collection

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

12. Transport Vehicle

(I) Dedicated vehicles for collection of Bio-medical waste : Yes □ No □
(II) Separate cabins shall be provided for driver/staff and the bio-medical waste containers : Yes □ No □

(III) The base of the waste cabin shall be leak proof to avoid pilferage of liquid during transportation : Yes □ No □

(I) The waste cabin may be designed for storing waste containers in tiers : Yes □ No □

(V) The waste cabin shall be so designed that it is easy to wash and disinfect. : Yes □ No □

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

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

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

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

13. Storage

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

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

14. Record Keeping

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

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

15. Proposed Treated Waste Disposal method:

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

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

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

(iv). Treated wastewater –Discharge into sewer/drain or recycling in APCD

: Yes □ No □

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

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

16. Estimated energy consumption and fuel consumption per month :

(i) Estimated energy consumption per month

(a)	General lighting in the facility	:
(b)	Incinerator	:
(c)	Autolcave/microwave	:
(d)	Shredder	:
(e)	ETP	:
(f)	Any other	:

(ii) Estimated fuel consumption:

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

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

(i) If yes, attach details

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

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

19. Whether the proposal recommended for issuing consent to establish

: Yes □ No □

(Signature of the official verified with date)

Annexure – V

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

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

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

S.No.	Details		Particulars
14.	Daily operation schedule (timings)	:	(i) Collection: ...AM to .... PM. (ii) Incineration:....AM to ....PM (iii) Whether waste from member HCFs collected in holidays: □ Yes □ No
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	Others (please specify waste type-wise)	:	.....%
17.	**Staff involvement in CBWTF operation (number of persons):**		
17.1	Managerial / Administration	:	
17.2	Equipment operations	:	
17.3	Transportation of BMW	:	No. of Drivers: No. of Helpers:
17.4	Sanitation and others	:	
17.5	Total persons excluding managers	:	
18.0	**Collection and Transportation of bio-medical waste from member HCFs :**		
18.1	No. of Vehicles used for collection of waste from member HCFs	:	(i) Four Wheelers: .....Nos and Vehicle Numbers: ..... (ii) Two Wheelers :.....Nos and Vehicle Numbers:.....
18.2	Vehicles are labeled as per BMWM Rules, 2016	:	□ Satisfactory □ No satisfactory
18.3	Vehicles used are as per CPCB Guidelines	:	□ Satisfactory □ No satisfactory
18.4	Vehicles attached with the GPS provision as per BMWM Rules 2016		□ Satisfactory □ No satisfactory
18.5	Whether waste collected from member HCFs adopted Bar coding system ?		□ Yes □ No

S.No.	Details		Particulars
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 CBWTDF**		
21.1	Incinerator/plasma pyrolysis capacity and make	:	(i) No. of Incinerators including standby: (ii) Incineration capacity: ..... kg /hr .....Kg/day.
21.2	Daily Operation schedule of the incinerator /plasma pyrolysis (timings)	:	.....AM to .....PM (or) .....PM to .....AM Whether bio-medical waste collected from member HCFs is treated during holidays: Yes □ No □
21.3	Consumption of auxiliary fuels	:	**S. No** / **Type of Fuel** / **Consumption Quantity in liters per day** / **Bill numbers of purchase of fuel** a) b)
21.4	Stack attached with the incinerator /plasma pyrolysis	:	**(i)** Stack Diameter: m **(ii)** Stack Height : m above Ground Level
21.5	Monitoring provision attached with the stack	:	□ Platform □ Porthole □ access to the platform (Steps/Monkey Ladder/any other.....)
21.6	Is stack monitoring provision satisfactory and as per CPCB guidelines	:	□ Yes □No
21.7	air pollution control systems attached with the incinerator/plasma pyrolysis	:	(i) Quenching : □ Yes □ No (ii) Venturi scrubber : □ Yes □ No (iii) Droplet separator : □ Yes □ No (iv) Mist eliminator : □ Yes □ No (v) Filters : □ Yes □ No (vi) Lime and Activated Carbon injection: : □ Yes □ No

S.No.	Details		Particulars
			(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) : ……^{O} C (iii) Temperature maintained in Secondary Chamber (range):……^{O} C (iv) Negative draft in Primacy Chamber : ……mm of water column **(v)** Pressure drop in the Venturi: …… mm of water column
21.11	Is continuous on-line monitoring system/Flue gas analyser attached with the incinerator/plasma pyrolysis for flue gas analysis (i.e CO, O_2 and CO_2)	:	(i) Is continuous online monitoring system (COMS) attached with incinerator: □ Yes □ No (ii) Observed values of flue gas parameters: CO_2:……%, O_2: …… % and CO: …… % (iii) Observed Combustion Efficiency: ……% (iv) Observed values of stack emissions as per COMS ……
21.12	Emergency and Fire safety measures adopted within the facility is adequate	:	Is Emergency stack attached with the incinerator: □ Yes □ No Whether fire safety measures adopted (Fire Extinguishers, Sand buckets etc.): □ Yes □ No
21.13	Log book for incinerator/ plasma pyrolysis is maintained and satisfactory	:	Log Book Maintained: □ Yes □ No Log Book Maintained is satisfactory : □ Yes □ No

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

<table>
<tr><th>S.No.</th><th>Details</th><th></th><th>Particulars</th></tr>
<tr><td></td><td></td><td></td><td>Magnetic water flow meter readings as per record (for last month):
1 St Day of Month :
Last day of month :
Magnetic Flow meter as observed during the visit:
<table>
<tr><th rowspan="2">S. No</th><th rowspan="2">Month</th><th colspan="2">Magnetic flow meter reading</th></tr>
<tr><td>Initial</td><td>Final</td></tr>
<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>
</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</td></tr>
<tr><td>25.2</td><td>Break up of water usage (such as washing, scrubbing etc.)</td><td>:</td><td>Scrubber – KL/hr or KLD
Washing – KLD
Disinfections – KLD
Gardening – KLD
Domestic – KLD</td></tr>
<tr><td>26.0</td><td>Total wastewater effluent generated per day</td><td>:</td><td>About .....KLD generated
Quantity of treated water reused/recycled in %:
Any other mode of disposal:</td></tr>
<tr><td>27.</td><td colspan="3">Effluent treatment plant details</td></tr>
<tr><td>27.1</td><td>ETP Capacity</td><td>:</td><td>..... KL/Cycle</td></tr>
<tr><td>27.2</td><td>Flow Chart of ETP</td><td>:</td><td>ETP comprising of:
..... Unit operations</td></tr>
<tr><td>27.3</td><td>Intake and Discharge of ETP</td><td>:</td><td>(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</td></tr>
</table>

S.No.	Details		Particulars
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
	(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:.....

S.No.	Details		Particulars
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	File alarm system provided in the facility		□ Yes □ No
29.	**Record maintenance and record keeping details (Pl. indicate 'Yes / No' whichever is applicable)**		
29.1	Waste Movement /Manifest record	:	□ Yes □ No
29.2	Log book for treatment equipment	:	□ Yes □ No
29.3	Site records	:	□ Yes □ No
29.4	Incineration ash generation and final disposal records	:	□ Yes □ No
29.5	Treated plastic waste generation and its sale to the registered recycler	:	□ Yes □ No
29.6	Syringes treated and its final disposal record	:	□ Yes □ No

S.No.	Details		Particulars
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
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	:	□ Yes □ No

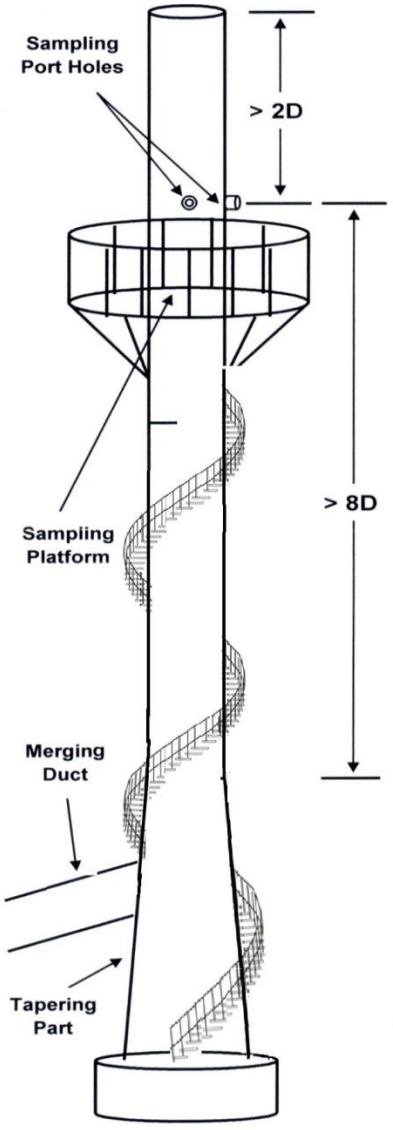
S.No.	Details		Particulars
	holidays?		
30.7	Whether waste treatment criterion of 48 hours is complied?		□ Yes □ No
31.	**Disposal of treated waste:**		
31.1	Plastic waste after treatment	:	Plastic waste Sold to: M/s. ..... and approved by .....SPCB/PCC
31.2	Treated sharps	:	Treated syringes disposal by:..... or through M/s.....and approved by .....SPCB/PCC
31.3	Incineration ash	:	Incineration ash disposal by: Disposal in Sanitary Landfill:□ Yes □ No Disposal through TSDF:□ Yes □ No Any other mode :.....
31.4	Other treated solid wastes	:	
31.5	Oil & grease	:	
31.6	Treated wastewater	:	
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 .....

<table>
<tr><th>S.No.</th><th>Details</th><th></th><th>Particulars</th></tr>
<tr><td>33.</td><td colspan="3">Monitoring Results :</td></tr>
<tr><td>33.1</td><td>Incinerator stack emission (parameters stipulated in the Rules, temperature attainment in the chambers, residence time in the secondary chamber etc.)</td><td>:</td><td>
<table>
<tr><th>Parameter</th><th>PM</th><th>HCl</th><th>NOx</th><th>Hg & com-pounds</th><th>Dioxins and Furans</th><th>C.E.</th></tr>
<tr><td>Date</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>LIMIT</td><td>50</td><td>50</td><td>400</td><td>0.05</td><td>0.1 ng TEQ per Nm^3</td><td>99.00%</td></tr>
</table>
Date of monitoring:
Note: All values are in mg/Nm^3, except CE</td></tr>
<tr><td>33.2</td><td>Whether Stack emission norms are complied with by the CBWTF</td><td></td><td>□ Yes □ No</td></tr>
<tr><td>33.3</td><td>Incineration ash characteristics</td><td>:</td><td>Characteristics as per Schedule –II of HOW (M& TM) Rules,2016 (Annexure-----)
Is it hazardous waste as per HOWM&TM Rules, 2016: □ Yes □No</td></tr>
<tr><td>33.4</td><td>ETP inlet/outlet characteristics</td><td>:</td><td>All values are in mg/l except pH
<table>
<tr><th>Parameter</th><th>pH</th><th>TSS</th><th>COD</th><th>BOD</th><th>O&G</th></tr>
<tr><td>ETP Inlet Result</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>ETP Outlet Result</td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>33.5</td><td>Whether liquid effluent discharge norms are complying by the CBWTF</td><td>:</td><td>□ Yes □ No</td></tr>
<tr><td>33.6</td><td>Whether CBWTF is submitting the annual report within the due date for the preceding year</td><td>:</td><td>□ Yes □ No
If Yes, annual report submitted vide letter No..... dated.....</td></tr>
<tr><td>34.</td><td>Any other relevant observations</td><td>:</td><td>(pl. enclose as annexure)</td></tr>
<tr><td>35.</td><td>Name of the officials with designation inspected /monitored the CBWTF and the signature</td><td>:</td><td></td></tr>
</table>

Annexure-VI

STATIONARY SOURCE EMISSION MONITORING

MODIFICATIONS TO BE MADE TO SAMPLING PLATFORM AND SAMPLING PORT HOLE



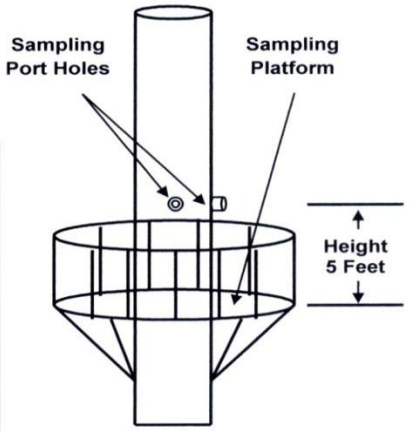
Number of Port Holes : Minimum two numbers of Port Holes at 90° apart from each other at a horizontal plane.

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

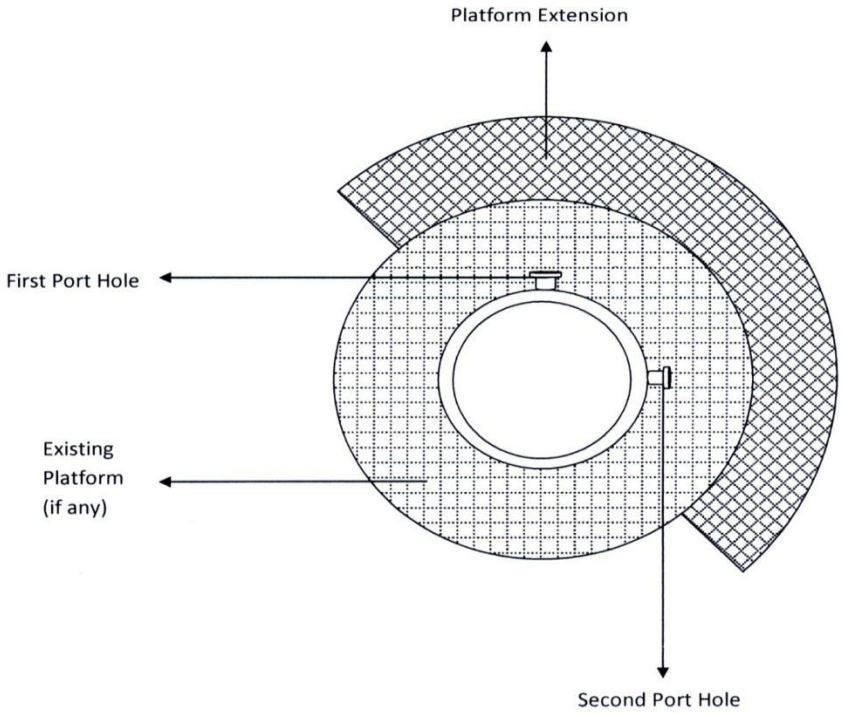
Location of Sampling Platform : 5 feet upstream (downward direction of stack) from the Port Hole as determined above.

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

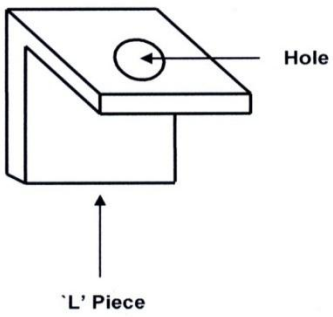
Sampling Platform Modification : A semi-circular extension of the existing platform (width extending outward by 6 feet from outside wall of the stack and covering at least one third of the circumference) may be provided for access to both the Port Holes. This area can be extended from the existing Platform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



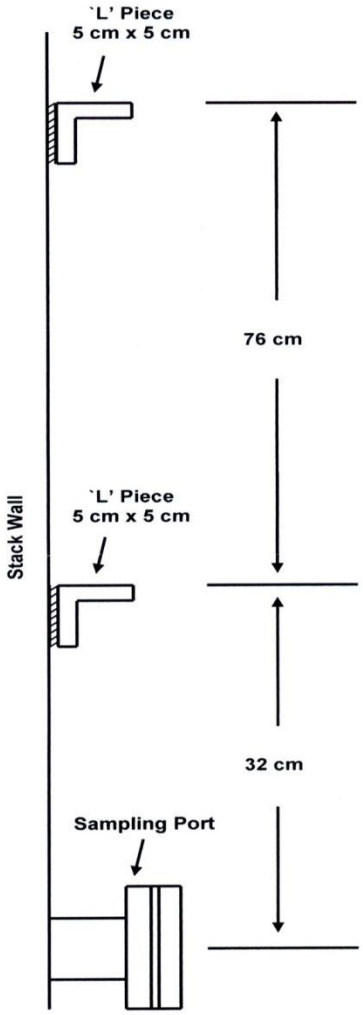
Note: Alternatively, safe access to monitoring platform may be provided with seperate scaffolding-cum-staircase arrangement



Sampling Platform Modification / Extension



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



Fixing of `L' Pieces on the Stack Wall

REFERENCES

1. Bio-medical Waste Management Rules, 2016.
2. CPCB Guidelines for CBWTFs (2003).
3. CPCB Guidelines for BMW Incinerators (2003).
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 2014 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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ANNEXURE-R/11

[Published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i)]

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 28th March, 2016

G.S.R. 343(E).-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 Municipal Solid Waste (Management and Handling) Rules, 2000 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 Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 made under the Act;

(f) waste covered under the e-Waste (Management and Handling) Rules, 2011 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) or National AIDs Control Organisation (NACO) guidelines and then sent to the common bio-medical waste treatment facility for final disposal;

(d) phase out use of chlorinated plastic bags, gloves and blood bags within two years from the date of notification of these rules;

(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 place for any purpose within one year from the date of the notification of these rules;

(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;

(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;

(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;

(p) make available the annual report on its web-site and all the health care facilities shall make own website within two years from the date of notification of these rules;

(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 within one year;

(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;

(i) 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 non-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, 2011.

(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 advice 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 Central Pollution Control Board on or 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		Incineration or Plasma Pyrolysis or deep burial* In absence of above facilities, autoclaving or micro-waving/

	bags containing residual or discarded blood and blood components.		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 ^{0}C or to common bio-medical waste treatment facility or hazardous waste treatment, storage and disposal facility for incineration at >1200^{0}C Or Encapsulation or Plasma Pyrolysis at >1200^{0}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**,** liquid from laboratories and floor washings, cleaning, house-keeping and disinfecting activities etc.	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.
	(g) Discarded linen, mattresses, beddings contaminated with blood or body fluid.	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 micro-organisms, 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.	Autoclave safe plastic bags or containers	Pre-treat to sterilize with non-chlorinated chemicals on-site as per National AIDS Control Organisation or World Health Organisation guidelines thereafter 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.	Cardboard boxes 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	Cardboard boxes with blue colored marking	

[*]**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 Schedule-III. 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 10% Sodium Hypochlorite having 30% residual chlorine for twenty minutesor any other equivalent chemical reagent that should demonstrate $Log_{10}4$ 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 pyrolys is at temperature >1200 ^{0}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-MEDICALWASTES

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:

$$C.E. = \frac{\%C0_2}{\%C0_2 + \%\ CO} \times 100$$

3). The temperature of the primary chamber shall be a minimum of 800 ^{0}C and the secondary chamber shall be minimum of 1050^{0}C + or - 50^{0}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 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 asNO_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% O2)	8 hours or $5NM^3$ of sample volume, whichever is more
5.	Hg and its compounds	0.05	2 hours or $1NM^3$ 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:

(a) The existing incinerators shall comply with the above within a period of two years from the date of the notification.

(b) The existing incinerators shall comply with the standards for Dioxins and Furans of 0.1ngTEQ/Nm^3, as given below within two years from the date of commencement of these rules.

(c) All upcoming common bio-medical waste treatment facilities having incineration facility or captive incinerator shall comply with standards for Dioxins and Furans.

(d) The existing secondary combustion chambers of the incinerator and the pollution control devices shall be suitably retrofitted, if necessary, to achieve the emission limits.

(e) Wastes to be incinerated shall not be chemically treated with any chlorinated disinfectants.

(f) 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.

(g) 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.

(h) 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.

(i) 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.

(j) All monitored values shall be corrected to 11% Oxygen on dry basis.

(k) 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.

(l) The occupier or operator of a common bio-medical waste incinerator shall use combustion gas analyzer to measure CO_2, CO and O_2.

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

A. Operating Standards:

All the operators of the Plasma Pyrolysis or Gasification **s**hall 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.

$$C.E = \frac{\%\ CO_2}{(\%\ CO_2 + \%\ CO)} \times 100$$

3) The temperature of the combustion chamber after plasma gasification shall be $1050 \pm 50\ ^{o}C$ 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 Sl 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 Geobacillusstearothermophilus spores using vials or spore Strips; with at least $1X10^6$ spores. Under no circumstances will an autoclave have minimum operating parameters less than a residence time of 30 minutes, a temperature less than 121^o 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.

(3) 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 atrophaeusspores using vials or spore strips with at least 1×10^4sporesper 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 185^0C, 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 Shaprs sterilization unit

Waste shaprs sterilization unit should completely and consistently kill the biological indicator GeobacillusStearothermophillus or Bacillus Atropheausspoers 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.

(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 overall review and promotion of clean or new technologies for bio-medical waste management.

		(vii) Organizing or Sponsoring of trainings for the regulatory authorities and health care facilities on bio-medical waste management related activities. (viii) 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 (Rule 9). (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).
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 . (viii) Inspection and monitoring of health care facilities 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 or 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 HAZARDSYMBOL

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 .....
Fax Number.....
Contact Person .....

Receiver's Name and Address:
Phone Number .....
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 you facility has an Emergency Control policy? If yes give details:

Date : …… Signature …….
Place: …… Designation ……..

FORM - II

(See rule10)

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:

Activity	Please tick
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:
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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.

Date : Signature of the Applicant

Place : Designation of the Applicant

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;

Activity	Please tick
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	

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

4. 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		Type of treatment equipment / No of units / Capacity Kg/day / Quantity treatedor 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:
	(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		Quantity generated / Where disposed Incineration Ash 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?		
	Details of Continuous online emission monitoring systems installed		
10.	Liquid waste generated and treatment methods in place. How many times you have not met the standards in a year?		
11	Is the disinfection method or sterilization meeting the log 4 standards? How many times you have not met the standards in a year?		
12.	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

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 ……..

Date : Name and Address……..

[F. No. 3-1/2000-HSMD]

(Bishwanath Sinha)
Joint secretary to the Government of India

******

वन विभाग, हरियाणा सरकार

कार्यालयः– प्र0मु0व0सं0 (वन्य प्राणी) एवं मुख्य वन्य प्राणी वार्डन, हरियाणा

वन भवन सी–18, सैक्टर–6, पंचकूला–134109 फोन/फैक्स नं. 0172.2561224 E-mail apccfwl@gmail.com

क्रमांक :– 320 दिनांकः– 20/4/18

सेवा में

Alliance Envirocare Company Pvt. Ltd.
(A Common Bio-Medical Waste Management Facility)
Corp. Off. Dr. P.N. Chhuttani, IMA Memorial Complex,
Sector-35-B, Chandigarh

विषयः Request for No Objection Certificate for the project Alliance Envirocare Co Private Limited for the installation of Incinerator in the Biomedical Waste Treatment Facility, Situated at Plot No. 182/9, Industrial Area, Phase-1, Chandigarh.

सन्दर्भः आपका पत्र क्रमांक ABC-Z-K-1493 दिनांक 19.03.2018.

–000–

उपरोक्त विषय के सम्बन्ध में आपका प्रोजैक्ट खोल–हाय–रायतन व बीड़ शिकारगाह वन्य प्राणी विहार से लगभग 10 कि0मी0 की दूरी पर पड़ता है तथा सूखना वाईल्ड लाईफ सैन्चूरी से 4 कि0मी0 की दूरी पर पड़ता है। आपको एन0ओ0सी0 निम्नलिखित शर्तों पर दी जाती हैः–

1. वन्य प्राणी (संरक्षण) अधिनियम, 1972 की उलंघना न की जाए।
2. प्रोजैक्ट का वेस्ट मेटिरियल हरियाणा में न गिराया जाए।
3. प्रोजैक्ट से सम्बन्धित अन्य एन0ओ0सी0 आप अपने स्तर पर अन्य विभाग से स्वयं प्राप्त करेगें।

प्र.मु.व.सं. (व0प्रा0) एवं
मुख्य वन्य प्राणी वार्डन,
हरियाणा, पंचकूला।

PCCF (Wildlife)
Chief Wildlife Warden
Haryana, Panchkula

पृ0 क्रमांक दिनांक

इसकी एक प्रति वन संरक्षक (वन्य प्राणी), पंचकूला को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है।

प्र.मु.व.सं. (व0प्रा0) एवं
मुख्य वन्य प्राणी वार्डन,
हरियाणा, पंचकूला।

Akshata Sharma

From: Akshata Sharma <akshata.sharma@hammurabisolomon.com>
Sent: 14 December 2023 19:33
To: 'shubhambhalla@hotmail.com'
Cc: 'ronz.chd-mef@nic.in'; 'mscb.cpcb@nic.in'; 'Cpcc-chd@nic.in'; 'anil.tiwari@hammurabisolomon.com'; 'pranshu singh'
Subject: Rajiv Kumar Dubey v. Union of India & Ors. [Original Application No.561/2023]

Sir,

We are Counsel for the Respondent No. 5/Project Proponent in the captioned matter. Please find below mentioned herein the google drive link containing the scanned copy of the Reply Affidavit filed on behalf of Respondent No. 5/Project Proponent before the Hon'ble National Green Tribunal, Principal Bench, New Delhi in the matter *"Rajiv Kumar Dubey v. Union of India & Ors. [Original Application No.561/2023]"*.

https://drive.google.com/drive/folders/1tWMdMRPZnGyLT2qx8bnhoTkWG78cVaXc?usp=sharing

Please treat the same as service to your good self for the above captioned matter.

With best regards,

S. Akshata | Associate Level II
Hammurabi & Solomon Partners
Mobile: +91 8340462840
akshata.sharma@hammurabisolomon.com

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