Review of Coverage Areas

of

Common Bio-Medical Waste Treatment and Disposal Facilities (CBWTFs) of Madhya Pradesh

Madhya Pradesh Pollution Control Board

Paryawaran Parisar, E-5 Arera Colony – Bhopal

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Tables and Maps

1. Preamble :

Ministry of Environment, Forest and Climate Change , Government of India, 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, notified new rules of Bio Medical Waste Management on dated 28th march 2016 named as "the Bio-Medical Waste Management Rules, 2016."

Some of the important provisions of the rules pertaining to waste collection , transportation and treatment are as follows :

(a) 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.

(b) The duties of an occupier, common treatment facility, central and state authorities are very well defined in these rules. As per these rules, the 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.

(c) The health care facility/ waste generator (the 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. ***As per these rules "No occupier shall establish on-site treatment and disposal facility, if a service of `common biomedical waste treatment facility is available at a distance of seventy-five kilometre.***

(d) 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.

(e) No untreated bio-medical waste shall be mixed with other wastes. 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.

(f) 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 dedicated 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. The vehicles used for transportation of bio-medical waste shall comply with the conditions if any, stipulated by the State Pollution Control Board 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.

(g) The 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.

(h) 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.

(i) 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.

(j) Municipalities or Corporations, Urban Local Bodies and Gram Panchayats have assigned duties in these rules to 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.

(k) State Pollution Control Boards are responsible for Inventorisation of Occupiers and data on bio-medical waste generation, treatment & disposal, Compilation of data and submission of the same in Annual report to Central Pollution Control Board. Board is also responsible to grant and renewal, suspension or refusal of authorisation, Monitoring of compliance of various provisions and conditions of authorisation and action against health care facilities or common biomedical waste treatment facilities for violation of these rules . State Board is also responsible for organizing training programmes to staff of health care facilities, common bio-medical waste treatment facilities and State Pollution Control Board Staff on segregation, collection, storage, transportation, treatment and disposal of bio-medical wastes. State Board has also to undertake or support research or operational research regarding bio-medical waste management. SPCB has also to undertake and support third party audits of the common bio-medical waste treatment facilities in their State.

2. Term of Reference of Review Committee:

As per Rule 7 (3) of Bio-Medical Waste Management Rules, 2016, no occupier shall establish on-site treatment and disposal facility, if a service of "Common Biomedical Waste Treatment Facility" is available at a distance of seventy-five kilometres.

M.P.P.C.B. vide Office Order no 143 /BMW/MPPCB/2017 letter dated 10.8.17 , constituted a review committee comprising, Director (Env.), Chief Chemist - Incharge-Bio-medical waste Management and two other Field officers i.e. Regional Officers Indore and Bhopal for review of coverage area of existing CBWTFs and to explore the possibility of establishment of new Common Facilities to ensure proper collection, treatment and safe disposal of Bio-Medical Waste looking in to the population growth of State and future need of CBWTFs.

The committee reviewed the current status of Bio-Medical Waste Management on the basis of record available with BMW in-charge, keeping following points in consideration as per guidelines issued by CPCB:

(1) A buffer zone or safe distance available between the source of pollution in CBWTF and the receptor for Health and environment safety.
(2) Potential for spread of infection from wastes stored in the premises.
(3) Applicable standards for pollution control and the relative efficiency of the existing incinerators and emission control systems.
(4) Potential of fugitive dust emission from incinerators.
(5) Potential for discharge of wastewater, odour problem & noise pollution.
(6) The risk posed to health and safety of general public due to exposure of infectious waste during transportation and emissions from incinerators.
(7) Possibility of strengthening of treatment network in State by setting up new facilities in each district in future and immediate need of CBWTFs in present scenario.
(8) 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 for ensuring collection, treatment and safe disposal of bio-medical waste within 48 hours.

3.0 Need of Review of Coverage Areas of CBWTFS :

Ministry of Environment Forests & Climate Change, Govt. Of India has notified Bio-Medical Waste Management Rules, 2016 which are effective from 28th March 2016. According to these rules, the bio-medical waste generated from various sources must be collected and disposed off scientifically in safe manner.

State of Madhya Pradesh has 308,000 square kilo-meters geographical area covered under 51 districts, having population about 72627000 (As per senses 2011) and as per projected population for 2016 it is 77875000 and expected to be increased to 83135000 (in 2021) and 8,41,11000 (in 2022) respectively.

The Bio-medical waste is being generated from various sources like Govt. and Private hospital, Medical Colleges, District Hospitals, Civil Hospitals, Community Health Centres, Primary health centres, Dispensaries, Pathology labs., Veterinary Colleges, Research Labs., etc. As per inventorization carried out by various Regional Offices of M.P. Pollution Control Board and information received from Madhya Pradesh Health Directorate, there are 5,000 such institute identified in Madhya Pradesh which are generating about 13,000 Kg/day bio-medical waste. Apart from this the household bio-medical waste is also being generated and disposes of along with Municipal Solid Waste. Such waste has to be collected and handed over to Municipal Authority for separate collection and disposal in designated CBWTF.

There are 10 authorized CBWTF being operated in various parts of Madhya Pradesh these common facilities are having incinerators, autoclave, shedders for treatment of bio-medical waste. These CBWTFs are having dedicated vehicles for collection of bio-medical waste from surrounding areas but entire waste is not being collected by these facilities.

The details of common facilities, its coverage areas, waste collection and treatment along with no of vehicles associated with facility are given in enclosed tables.

At present about 9000 Kg/day BMW is being collected by these common facilities which is about 70% of total waste generation from Madhya Pradesh. Thus there is a gap of about 30 % waste (4000 Kg/day) which is still to be collected, transported and treated in these dedicated CBWTFs. After thorough review of each CBWTF, its treatment capacity, coverage area, number of health care facilities, generation of waste, collection of waste, number of member HCFs following points have been emerged which have to be addressed on priority to bridge the gap of waste generation and treatment :-

(a) The area of coverage required to be reviewed in light of waste collection and its transportation and treatment within stipulated time i.e. within 48 hrs, because few facilities are collecting waste from more than 150 Kms. and covering many districts but the waste is not being collected from all HCFs of districts covered by these facilities. Therefore infectious waste left unattended may cause adverse impact on health of general public.

(b) All the HCFs are to be covered under CBWTFs so that untreated BMW could not be thrown /deep buried illegally.

(c) There should not be any backlog of collected BMW at the level of CBWTF which is not treated within 48 hours. It is observed that few facilities used to store the infectious waste in their waste storage rooms even beyond 48 hours.

(d) The common facilities are not collecting waste from rural and remote areas therefore such waste found to be accumulated at source of generation.

(e) The vehicles associated with few CBWTF for collection of waste are travelling even more than 800 KM/day and taking lot of time in collection and transportation. This practice lead to bear and tear of vehicles and long time travelling of infectious waste on the route between source of waste generation and treatment facility. It also increases the possibility of exposure of infectious waste to the general public during transportation.

(f) As per Rule 7 (3), No occupier shall establish on-site treatment and disposal facility, if a service of "Common Biomedical Waste Treatment Facility" is available at a distance of seventy-five kilometres.

The location of various existing CBWTFs, its coverage area are shown on the map of M.P. and the tables showing numbers of facilities, its coverage area , number of HCFs associated with common facility, number of beds and waste generation are enclosed.

4.0 Common Bio-medical Waste treatment and Disposal Facility (CBWTF) :

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 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 .

CPCB has published guidelines for Common Bio-medical Waste treatment and Disposal Facility (CBWTF) and some of the important provisions are as follows :

(4.1) 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.

(4.2) 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.

(4.3) 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.

(4.4) 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.

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

As per guidelines of CPCB, following criteria or steps may be followed prior to allowing any new CBWTF:

(5.1) State Pollution Control Board (SPCB) 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.

(5.2) SPCB is required to conduct gap analysis with respect 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 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, 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.***

(5.3) *SPCB 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* . ***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 other stakeholders*** and in accordance with these guidelines issued by CPCB from time to time.

(5.4) 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.

(5.5) The SPCB or concerned department in the business allocation of land assignment in the respective State Government 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.

(5.6) In the absence of expression of interest by any proponent, then SPCB shall insist health care facilities to form association and to develop its own CBWTF in line with these guidelines or to have captive treatment facilities for ensuring treatment and disposal of generated bio-medical waste as stipulated under the BMWM Rules, 2016.

(5.7) In case of any regulatory action including closure of any existing CBWTF is inevitable, the respective SPCB 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.

6.0 Legal Provisions 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. Incineration as well as DG Set is the general source of air emissions.

6.1 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.

6.2 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, 1974 & Air (Prevention and Control of Pollution) Act, 1981 from the respective SPCB/PCC prior to commencement of the CBWTF.

7.0 Requirement of Environmental Clearance :

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:

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

(7.2) 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).

(7.3) 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 .

8.0 Location criteria of Common Bio-medical Waste Treatment Facility :

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). The location shall be decided in consultation with the State Pollution Control Board (SPCB).

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.

(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; (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 is not in a position to resolve the issue relating to buffer zone while selecting the site for CBWTFs, in such a case, SPCBs 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.

9.0 Land requirement for CBWTFs :

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, 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.

10. 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 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 and CPCB to cross check the movement of the transportation vehicles on any time by the SPCB/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.

11. 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 up to 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.

12.0 Outcome of Review / Recommendations:

Based on the review of existing common Biomedical Waste treatment facilities, its area distribution and the waste being collected by these common facilities ,It is observed that an immediate action should be initiated for collection and treatment of 4000 Kg per day bio-medical waste which is not being collected / treated by existing CBWTFs .

It is also observed that some facilities are not covering entire area with respect to collection of Biomedical Waste from government hospitals located in remote areas like Community Health centres, Primary Health centres, dispensaries etc. Therefore the area of few facilities is required to be limited in accordance to the guidelines issued by Central Pollution Control Board, So that the facilities could deliver their services effectively.

At present 10 facilities are in operation (one facility at Seoni has been closed and one captive common facility of people group of hospitals is operating in populated area) covering 51 districts of Madhya Pradesh. These facilities are not able to collect entire Bio-medical Waste from all the areas. Thus a gap of 4000 Kg/ day is being reflected in annual report of Bio- waste which is still unattended. Therefore, there is immediate need of new facilities which may be set up for coverage of entire Madhya Pradesh effectively based on cluster approach.

Looking into current scenario of Biomedical Waste Management in the State , a gap of treatment of about 4-5 metric ton per day and future growth of state, the committee has arrived on the following conclusions that:-

1. Every district should have Common Bio-medical Waste Treatment Facility (CBWTF) for timely collection and disposal of Biomedical Waste, so that travelling of infectious Biomedical Waste across many districts could be avoided.
2. On review of treatment capacities of existing Common Bio-medical Waste Treatment Facility (CBWTF), its coverage area of surrounding districts, number of Hospitals and beds associated with particular common facility, it is felt that in each Metro city i.e. Indore, Bhopal, Jabalpur and Gwalior more than one common facilities may be established for complete and safe disposal of infectious waste. These facilities may be established at such location so that the entire area of the city and its surrounding may be covered conveniently for effective collection and disposal of Biomedical Waste.

   2.1 In Indore one CBWTF is operational having 903 Health Care Facilities (HCFs) as a member out of 1247 HCFs in Indore area covering 25340 beds of Indore, Khandwa, Khargone, Badwani, Burhanpur, Ujjain, Dhar, Dewas, Shajapur, Rajgarh, Jhabua, Alirajpur and Aagar-Malwa. Therefore, looking in to gap of HCFs still to be associated with common facility, number of beds associated beyond the permissible limit prescribed in CPCB guidelines (i.e. max. 10,000) and to ensure effective collection and safe treatment and disposal of infectious waste one more facility may be promoted in Indore district.

2.2 In Bhopal, one CBWTF is operational having 626 Health Care Facilities (HCFs) as a member out of about 1000 HCFs in Bhopal area covering 13831 beds of Bhopal and Raisen districts. Furthermore one captive common facility is operational in the campus of People General Hospital established for its group hospitals which has now been surrounded by population and there is no enough buffer zone between the facility and the habitation as defined in guidelines of CPCB, therefore such captive facilities should be closed and the waste of group hospitals may be sent to nearest common facility located within 75 kilometres distance as per the guidelines issued by Central Pollution Control Board. Therefore, looking in to gap of HCFs still to be associated with common facility, number of beds associated beyond the permissible limit prescribed in CPCB guidelines (i.e. max. 10,000) and to ensure effective collection and safe treatment and disposal of infectious waste, one more facility may be promoted in Bhopal district.

2.3 In Jabalpur, one CBWTF is operational having 343 Health Care Facilities (HCFs) as a member out of 514 HCFs in Jabalpur area covering 6855 beds of Jabalpur, Katni, Mandla, Seoni, Narsinghpur, Balaghat and Dindori. Therefore, looking in to gap of HCFs still to be associated with common facility and to ensure effective collection and safe treatment and disposal of infectious waste, one more facility may be promoted in Jabalpur district.

2.4 In Gwalior, one CBWTF is operational having 416 Health Care Facilities (HCFs) as a member out of approx 1000 HCFs in Gwalior area covering 8441 beds of Gwalior, Datia, Bhind, Morena and Seopur districts. Therefore, looking in to gap of HCFs still to be associated with common facility and to ensure effective collection and safe treatment and disposal of infectious waste, one more facility may be promoted in Gwalior district.

3. The guidelines also says that "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."

4. Each common facility must engage sufficient numbers of well designed vehicles according to its coverage area to collect Biomedical Waste effectively within shortest possible time so that the exposure of general public could be minimised/ avoided.

5. The maximum distance allowed to be travelled by a vehicle of common facility is 150 KM (75 KM radius) and the maximum numbers of beds are allowed to be covered are 10,000 as per the guidelines issued by CPCB. Therefore in first phase, new facilities may be set up immediately at Khargone, Ujjain, Dhar, Hoshangabad, Seoni, Morena and Sidhi on cluster based approach and in near future more and more facilities may be allowed to ensure at least one facility in each district as per need of field conditions.

6. The coverage area of any facility may be extended or reduced by M.P. Pollution Control Board i.e. the prescribed authority defined in the rules, as per the requirement of field conditions, quantity of infectious waste generation, number of Health Care Facility coming up in any area and Environmental conditions to be maintained in particular district.

7. 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, 1974 & Air (Prevention and Control of Pollution) Act, 1981 from the respective SPCB/PCC prior to commencement of the CBWTF. The coverage area of the CBWTF shall be mentioned in the consent and Authorization letters.

(R.K. Gupta)	(Dr. P.S. Bundela)	(R.K. Malviya)	(R.S. Kori)
R.O. Indore	R.O. Bhopal	Chief Chemist	Director(Environment)

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(R.K. Gupta)	(Dr. P.S. Bundela)	(R.K. Malviya)	(R.S. Kori)
R.O. Indore	R.O. Bhopal	Chief Chemist	Director(Environment)

Table -1

District wise Health Care Facilities & BMW Generation

Sr. No.	District	No. Of HCF	No. of Beds	Quantity of BMW (Kg/day
1.	Syopur	16	280	19
2.	Morena	61	1105	202
3.	Bhind	45	933	123
4.	Gwalior	231	5615	1141
5.	Datia	19	508	20
6.	Shivpuri	37	485	94
7.	Guna	41	1405	184
8.	Ashok Nagar	34	572	25
9.	Rajgarh	48	813	23
10.	Dewas	99	2052	44
11.	Shajapur	47	920	21
12.	Ratlam	86	4275	530
13.	Ujjain	156	4002	990
14.	Aagar Malwa	14	305	75
15.	Mandsour	80	1457	360
16.	Neemuch	56	955	230
17.	Indore	384	11388	2831
18.	Burhanpur	45	683	178
19.	Khargone	124	1427	339
20.	Badwani	64	968	243
21.	Khandwa	86	965	243
22.	Dhar	105	2014	201

Sr. No.	District	No. Of HCF	No. of Beds	Quantity of BMW (Kg/day
23.	Alirajpur	37	551	38
24.	Jhabua	38	679	65
25.	Bhopal	438	13831	1430
26.	Sehore	58	886	87
27.	Raisen	41	820	22
28.	Vidisha	73	1209	77
29.	Betul	67	1098	74
30.	Hoshangabad	65	1654	178
31.	Harda	27	391	43
32.	Sagar	184	2692	177
33.	Damoh	70	813	65
34.	Panna	63	462	50
35.	Chhatarpur	113	1167	101
36.	Tikamgarh	49	970	68
37.	Jabalpur	198	4627	788
38.	Narsinghpur	46	1106	141
39.	Sioni	51	945	131
40.	Mandla	44	740	124
41.	Balaghat	67	1010	146
42.	Chhindwara	114	1874	46
43.	Katni	72	1415	392
44.	Rewa	150	2318	359
45.	Sidhi	48	844	40

Sr. No.	District	No. Of HCF	No. of Beds	Quantity of BMW (Kg/day
46.	Singrauli	47	881	79
47.	Satna	151	2314	198
48.	Umaria	23	344	46
49.	Shahdol	23	344	46
50.	Dindori	36	382	32
51.	Anuppur	35	426	70

** Above figure are based on the information provided by Regional officers.*

Table -2

Latest status of Existing Common Bio-Medical Waste Treatment Facilities (CBWTF) and its coverage area

S. No.	Name of CBWTF	Coverage Area (District)	No. of HCFs	No. of member HCF	BMW collected (Kg)	No. of vehicle
1.	Hoswin Incinerator Pvt. Ltd., Indore	Indore, Khandwa, Khargone, Badwani, Burhanpur, Ujjain, Dhar, Dewas, Shajapur, Rajgarh, Jhabua, Alirajpur, Aagar-Malwa	1247	903	3584	16
2.	Bhopal Incinerator Pvt. Ltd., Bhopal	Bhopal, Raisen	> 1000	626	1345	10
3.	Environment Protection Corp. Sehore	Sehore, Harda, Vidisha, Betul, Hoshangabad	290	243	525	06
4.	Elite Engineers, Jabalpur	Jabalpur, Katni, Mandla, Sioni, Narsinghpur, Balaghat, Dindori	514	343	1288	10
5.	Davis Surgico (J.A. Group of Hospital) Gwalior	Gwalior, Datia, Bhind, Morena, Syopur	> 1000	416	885	06
6.	Davis Surgico (Bundelkhand Medical of College) Sagar	Sagar	184	66	120	03
7.	Indo Water Management Control Corp., Satna	Satna, Rewa, Sidhi, Singrauli, Panna, Chhatarpur, Tikamgarh, Damoh	691	398	658	12
8.	M.P. Bio-Medical Waste Disposal System, Umaria	Shahdol, Annupur, Umaria	113	60	113	05
9.	Bio-Medical Waste Management System, Ratlam	Ratlam, Neemuch, Mandsour	222	159	250	05
10.	J.K. Medical Waste Management System, Chanderi, Ashoknagar,	Guna, Shivpuri, Ashoknagar	112	56	150	04
11.	Chandra Project, Chhindwara	Chhindwara	114	56	46	01
12.	People College of Medical Science & Research Centre, Bhopal	People Group of Hospital, Bhopal	05	05	85	01

** Above figure are based on the information provided by Regional officers.*

Table -3

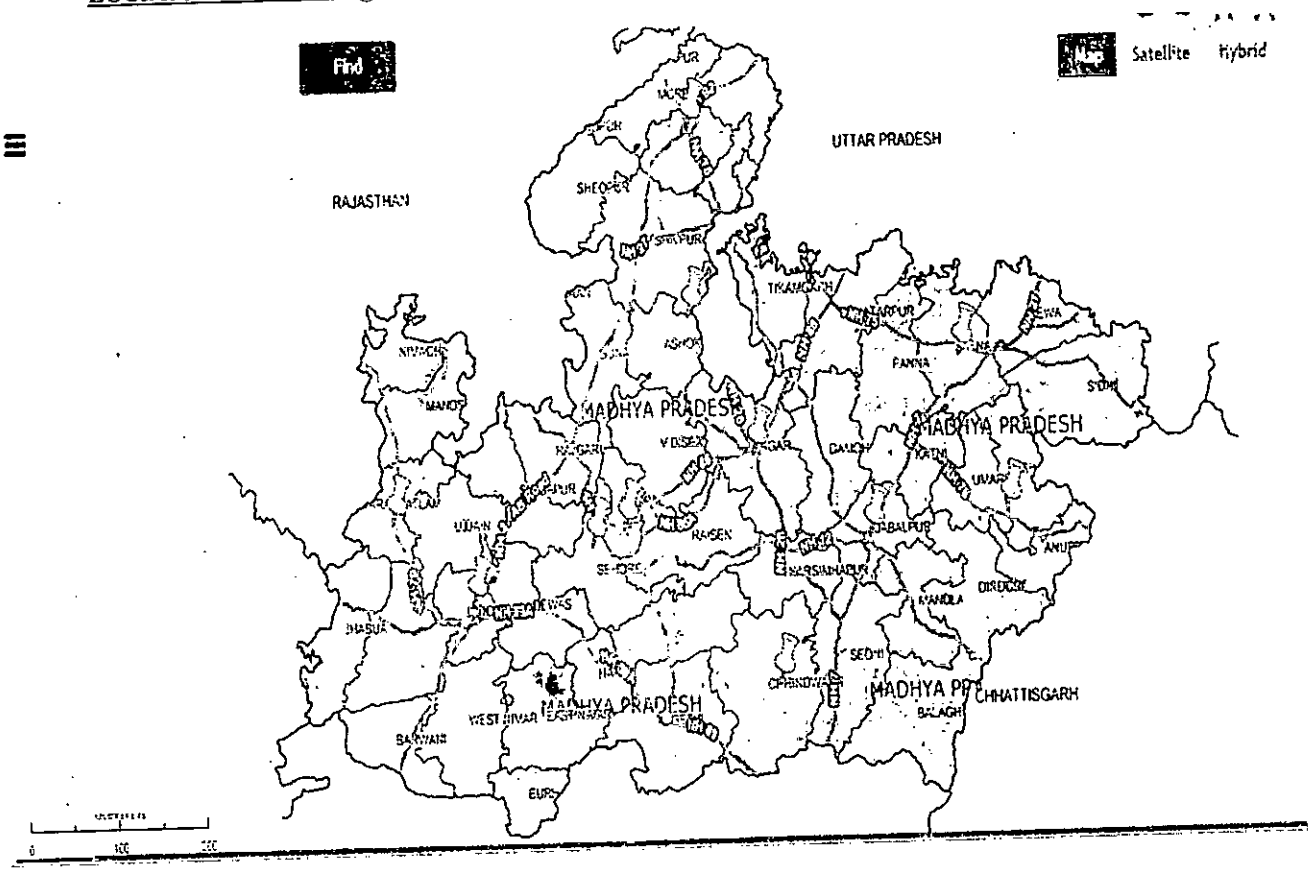
Existing CBWTFs, coverage area and proposed new facilities

Sr. No.	Name of CBWTF	Coverage area	No. of Beds	Quantity of BMW (kg/day)	Remark
1.	Hoswin Incinerator Pvt. Ltd., Indore	Indore distt.	11388	2831	Limited up to 10,000 beds or safe capacity of treatment
2.	Proposed CBWTF at Khargone	Barwani – 86.5 km Khandwa – 87.4 km Burhanpur – 137.8 km	4043	1020	
3.	Proposed CBWTF at Ujjain	Shajapur – 64.6 km. Rajgarh – 144.2 km Dewas – 37.3 km.	8092	1153	
4.	Proposed CBWTF at Dhar	Jhabua – 90.5 km Alirajpur – 153.2 km	3244	304	
5.	Bhopal Incinerator Ltd., Bhopal	Bhopal district	13831	1430	Limited upto 10,000 beds
6.	Environment Protection Corpn., Sehore	Vidisha – 91.3 km Raisen – 93.9 km	2915	186	Facility shall also cover excess 3831 beds of Bhopal distt.
7.	Proposed CBWTF at Hoshangabad	Betul – 105.3 km Harda – 89.2 km	3143	295	
8.	Elite Engineers, Jabalpur	Narsinghpur – 95.4 km Mandla – 132 km Dindori – 138 km	6855	1092	
9.	Proposed CBWTF at Seoni	Balaghat – 88.2 km Chhindwara – 69.7 km	3829	323	
10.	Devis Surgico (J.A. Group of Hospital) Gwalior	Gwalior district	5615	1141	
11.	Proposed CBWTF at Morena	Sheopur – 110 KM Bhind – 102.0 km Datia – 135 km	2826	364	
12.	Indo Water Management and Pollution Control Corpn., Satna	Rewa – 57.1 km. Panna – 50.8 km Chhatarpur – 142.6	6265	708	

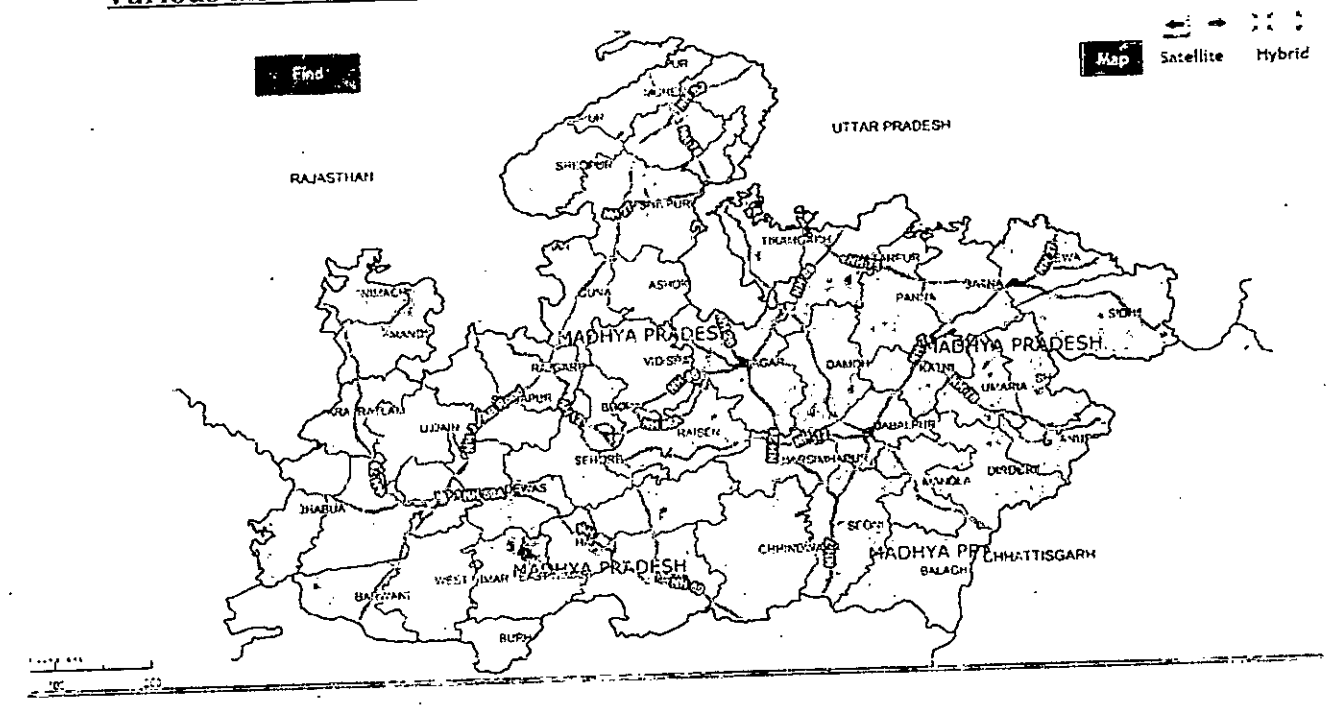
Sr. No.	Name of CBWTF	Coverage area	No. of Beds	Quantity of BMW (kg/day)	Remark
13.	M.P. Biomedical Waste Disposal System, Umaria	Shahdol – 70.5 km Anuppur – 120.6 km Katni – 121 km	4024	588	
14.	Biomedical Waste Management System, Ratlam	Mandsour – 90.5 km Neemuch – 146.2 km	6687	1120	
15.	J. K. Medical Waste Management System, Chanderi, Ashoknagar	Guna – 108.4 km Shivpuri – 102.8 km Tikamgarh – 84.9 km	3432	371	
16.	Devis Surgico (BMC) Sagar	Damoh – 81.9 km	3505	242	
17.	Proposed CBWTF at Sidhi	Singrauli – 108 km.	1725	119	

* *Above figure are based on the information provided by Regional officers.*

Location of Existing CBWTFs



Various districts of state



Location of Existing and Proposed CBWTFs