

Standard Operating Procedure
for
Disposals of Biomedical Waste including Pandemic Medical
Waste through incineration in Common Hazardous Waste
Treatment, Storage and Disposal Facility



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1. Introduction:

CPCB has issued "Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/Quarantine of COVID-19 Patients" for effective management of COVID-19 related biomedical waste management. The said guidelines recommend that *"In case of generation of large volume of yellow colour coded (incinerable) COVID-19 waste, permit HW incinerators at existing TSDFs to incinerate the same by ensuring separate arrangement for handling and waste feeding."*

Part C, Schedule II of HOWM Rules, 2016 identifies infectious wastes as hazardous and other wastes and Rules also provide for development of Standard Operating Procedures (SoPs) for handling and disposal of hazardous and other wastes. Further, Bio-Medical Waste Management (BMWM) Rules, 2016 stipulates incineration for disposal of Bio-medical waste and emission limits from such incinerators (given at Schedule II of said Rules) are comparable with emission limits of Hazardous Waste (HW) incinerators. Therefore, usage of Treatment, Storage and Disposal Facility (TSDF) and HW incinerator for disposal of biomedical waste was also specified in Revised Guidelines for Common Bio-medical Waste Treatment and Disposal Facilities issued by CPCB in December, 2016. Therefore, the existing TSDF with HW incinerator may be developed as an integral facility for BMW Disposal with specific conditions as Bio medical waste is also hazardous in nature.

This SoP will be applicable when existing TSDFs are temporarily permitted (for a specific time) by SPCB/PCC for disposal of biomedical waste during following emergency situations (i) Generation of waste beyond the capacity of Common Bio-medical Waste Treatment Facility (CBWTF) in critical situation (such as COVID19 pandemic); (ii) Temporary failure of CBWTF and having no alternative arrangement for disposal; (iii) Absence of alternative arrangement for disposal of bio medical waste in case of failure of CBWTF to comply with prevailing rules and regulations.

Hazardous waste incinerators shall be used for disposal of bio-medical waste as per Schedule-I of BMWM Rules, 2016.

Role of SPCBs/PCCs:

- (i) Temporary permission specifying time period may be given during an emergency situation (as mentioned above). However, in case the TSDF intends to use HW incinerator for disposal of BMW on regular basis, amendment in the Environmental Clearance, revised authorization under HWM Rules, 2016 as well as BMWM Rules, 2016 shall be necessary.
- (ii) In case the situation arises, SPCB/PCC may intimate the TSDF and if not available, any industry having captive HW incinerator with twin combustion chambers and OCEMS connectivity with CPCB and SPCB/PCC servers for disposal of such waste.
- (iii) Ensure that TSDF operator follow safe handling and disposal of pandemic waste and excess bio medical waste as per this SoP.

- (iv) Permit the existing CBWTFs to continue collection of BMW from their member HCFs and waste generation points and transport the waste to designated TSDF. Alternatively, TSDFs in the area to be allowed to handle BMW from collection points in consultation with ULBs/HCFs/CBWTFs.
- (v) Ensure that TSDF uses tracking App (such as COVID19BWM) to report quantity of pandemic and excess bio medical waste disposed.

SoPs for safe disposal BMW at CHWTSDF

- (i) Operators of the Common Hazardous Waste treatment and Disposal facility shall receive yellow and red category (only in case of unavoidable emergency situation) of bio medical waste for disposal by incineration as per BMWM Rules, 2016.
- (ii) In case of temporary pandemic situation such as COVID-19 or any other, operator of TSDF can receive BMW at their premises from multiple CBWTFs as per the permission of SPCBs/PCCs. The existing TSDF may also receive BMW from HCFs with temporary permission from SPCBs.
- (iii) TSDF shall ensure that bags containing BMW are labelled as per part 'A' of the Schedule IV of BMWM Rules, 2016, and any specific guidelines issued by CPCB in a pandemic situation.
- (iv) Vehicles used for transportation of the COVID-19 waste shall be disinfected after unloading of the waste as per 9 (j) of "Revised guidelines for Common Bio-medical Waste Treatment Facilities" issued by CPCB as well as specific guidelines of CPCB such as "Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/Quarantine of COVID-19 Patients".
- (v) The details of waste collected and disposed shall be entered in Biomedical Waste Tracking application developed by CPCB (such as COVID19BMW).
- (vi) The BMW waste should be disposed-off immediately upon receipt at facility
- (vii) Following infrastructure facilities shall be provided for handling and disposal of BMW;
 - (a) Provide or create temporary storage waste reception and storage shed exclusively for BMW. Bags containing BMW should be collected in containers prior to incineration.
 - (b) HW and BMW should not be handled in same storage shed.
 - (c) There should be separate waste feeding facility for BMW. In case such system is not feasible, the existing feeding system such automatic cart dumper / bucket loader should be operated in separate batches for BMW and HW after disinfecting loading cart/bucket loader after every batch operation.
 - (d) The operating parameters for incineration as well as emission standards as mentioned in Schedule II of BMWM Rules, 2016 shall be complied with. To comply with operating standards for temperature of both HW and BMW, ensure minimum temperature of 800 ± 50 °C for Primary and 1050 ± 50 °C for



- secondary combustion chambers. However, incinerator may be operated at 1200C in case the BMW contains cytotoxic drugs.
- (e) Floor area should be sanitized with suitable disinfectant solution at regular intervals. Wash-water from cleaning of floors along with liquid waste collected in wastes storage containers should be channelized to a collection sump and disinfected prior to disposal alongwith leachate from SLF or excess scrubber liquid of TSDF as per the consent conditions for effluent/leachate.
 - (f) The storage sheds should be well ventilated, with roofing and side sheets for preventing rainwater.
 - (g) Emission standards of Hazardous waste incinerators shall also be complied with at all times.
- (viii) The liquid waste generated from vehicle and container washing should be disinfected with suitable infecting agent like hypochlorite be, prior to further treatment disposal alongwith leachate from SLF or excess scrubber liquid of TSDF as per the consent conditions for effluent/leachate.
 - (ix) The ash generated from incineration of the BMW shall be disposed of in Secured landfill for Hazardous Waste.
 - (x) Ensure regular sanitization of the workers involved in collect, transportation and disposal of COVID-19 waste. Also ensure vaccination of workers against Hepatitis, COVID-19 and other infectious diseases.
 - (xi) Provide adequate PPEs (three-layer mask, splash proof apron/gowns, nitrile gloves, gum boots, safety google etc.) to all the workers engaged in handling and disposal of BMW including pandemic COVID-19 BMW.
 - (xii) Vehicles used for transportation of COVID-19 waste including tools used for handling and disposal of waste should be sanitized with sodium hypochlorite or any appropriate chemical disinfectant after every trip/usage.
 - (xiii) Do not allow any worker showing symptoms of illness to work at the facility. May provide adequate leave to such workers and by protecting their salary.
 - (xiv) During COVID-19 situation, CHWTSDF operator shall submit daily records of BMW waste through COVID19BWM App.
 - (xv) CHWTSDF operator shall maintain records of the waste collected and disposed as per Annexure-II & III of the "Revised Guidelines for Common Bio-Medical Waste Treatment facilities" prepared by CPCB.
 - (xvi) CHWTSDF operator shall submit the compiled monthly occupier wise records of waste collected and disposed to concerned SPCB/PCC.

