

MAHARASHTRA POLLUTION CONTROL BOARD

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LETTER OF BIO-MEDICAL WASTE AUTHORISATION

[Authorisation for Collection, Reception, Storage, Transportation, Treatment, Disposal of Bio-Medical Wastes under Rule 7(4) of BMW (M & H) Rules, 1998]

No. MPCB/PSO)/BMW/ Pune/2014 - 05

Dated : 09.6.2014

- I. File number of authorisation and date of issue
- II. **M/s. Passco Environmental Solutions Pvt. Ltd., Pune** is hereby granted an authorisation for operating Common Biomedical Waste treatment and disposal facility on the premises situated at **Kailash Crematorium Compound, Next to Naidu Hospital, Pune- 411 004 (email: satish.satarkar@passco.in)**
- III. This authorisation is renewed w.e.f. **01.02.2014** and shall be valid for a period up to **31.01.2015**. An application shall be made by the occupier/operator for renewal **3 Months** before expiry of this authorisation.
- V. This authorisation is issued subject to compliance of 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.

Terms and Conditions of authorisation

1. The "authorized Person" Mr. Sunil G. Dandawate, Passco Environmental Solutions Pvt. Ltd., Pune shall comply with the provisions of the Environment (Protection) Act, 1986, and the Rules made there under.
2. The authorisation shall be produced for inspection at the request of an officer authorized by the prescribed authority i.e. Member Secretary, MPCB.
3. Any unauthorized change in equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of this authorisation.
4. It is the duty of the authorized person to take prior permission of the prescribed authority to close down / suspended the facility for temporary period or permanently.

No. MPCB/PSO)/BMW/ Pune/2014 - 05 Dated : 09.6.2014

5. The authorisation is granted for collection, storage, transportation, treatment and disposal of Bio-Medical Waste (BMW) from the HCEs in their jurisdiction as per clause 13 of this authorization. The waste categories and quantities listed here in below :

Sr. No.	Category	Description	Quantity not to exceed	UOM	Segregation Colour coding	Treatment & Disposal
1	Cat-1	Human Anatomical waste	10159.93	Kg/M	Yellow	Incineration
2	Cat- 2	Animal waste	16.34	Kg/M	Yellow	Incineration
3	Cat-3	Microbiology & Biotechnology Waste	5609.17	Kg/M	Yellow	Incineration
4	Cat-5	Discarded Medicines and Cytotoxic drugs	Nil	Kg/M	Yellow	Incineration / destruction and drug disposal in secured landfill.
5	Cat-6	Soiled Waste	45741.02	Kg/M	Yellow	Incineration
6	Cat-4	Waste Sharps	8600.07	Kg/M	Blue/ white translucent	Disinfection by chemical treatment/ autoclaving and mutilation/ shredding. Hand over to MPCB authorized metal recyclers.
7	Cat-7	Solid Waste	21532.29	Kg/M	Red	Disinfection by chemical treatment, autoclaving, shredding and hand over to MPCB authorized plastic recyclers.
8	Cat-9	Incineration Ash	As per actual	Kg/M	Black	Sent to CHWTSDF

6. The liquid/solid waste generated from the treatment activity (from washing, cleaning, housekeeping and disinfecting activities) shall be treated suitably by providing effluent treatment facility to conform the standards prescribed in Schedule V of said Rules and the Environment (Protection) Act, 1986.
7. (i) BMW shall be treated and disposed of in accordance with Schedule I; and in compliance with the standards prescribed in Schedule V of said Rules.
- (ii) You shall setup requisite BMW treatment facilities like incinerator, autoclave, shredder, etc., in accordance with the BMW rules. You shall dispose of the duly treated Metal & Plastic waste to MPCB authorized recycler and incineration ash in secured land fill site at authorized Common Hazardous Waste treatment & disposal facility (CHWTSDF) setup as per the Hazardous Waste (M & H) Rules, 1989 as amended.

8. (i) BMW shall not be mixed with other wastes or reused or sold in any form.
- (ii) BMW shall be segregated into containers / bags at the point of generation in accordance with Schedule-II prior to storage, treatment and disposal. The containers shall be labeled according to Schedule III of BMW Rules 1998..
- (iii) If a container containing BMW is to be transported from the premises where BMW is generated to any waste treatment facility outside the premises, the container shall, apart from the Label prescribed in Schedule III, also carry information prescribed in Schedule IV and shall be transported by authorized Transporter only.
- (iv) Notwithstanding anything contained in the Motor Vehicles Act, 1988 or Rules there under, BMW shall be transported only in such vehicle as may be authorized for the purpose by the competent authority as specified by the Government.
- (v) No untreated BMW shall be kept stored beyond a period of 48 hours.
- (vi) Necessary protective gear for the waste handlers shall be provided by the facility operator.
- (vii) You shall ensure proper collection of mercury spillage arising mainly due to breakage of thermometers pressure gauges (Sphygmomanometers) other equipments used in health care facilities (HCFs) as well as its storage in accordance with the Hazardous waste (Management & Handling) Rules (presently these Rules has to be read as 'Hazardous Waste (Management & Handling and Transboundary Movement) Rules, 2008) and returning it to the instrument manufacturers apart from necessary taking steps to ensure that the spilled mercury does not become a part of bio-medical or other solid wastes generated from the HCFs.

9. Standards for waste autoclaving:

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

- (I) When operating a gravity flow autoclave, medical waste shall be Subjected to:
- (i) a temperature of not less than 121⁰ 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 135⁰C 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 149⁰C and a pressure of 52 psi for an autoclave residence time of not less than 30 minutes.
- (II) When operating a vacuum autoclave, medical waste shall be subjected to a minimum of one pre-vacuum pulse to purge the autoclave of all air. The waste shall be subjected to the following.
- (i) a temperature of not less than 121⁰C and a pressure of 15 psi for an autoclave residence time of not less than 45 minutes; or
- (ii) a temperature of not less than 135⁰C and a pressure of 31 psi for an autoclave residence time of not less than 30 minutes; or
- (III) Medical waste shall not be considered 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 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.

- (IV) *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.
- (V) *Validation test: 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 *Bacillus stearothermophilus* spores using vials or spore strips, with at least 1×10^4 spores per milliliter. Under no circumstances will an autoclave have minimum operating parameters less than a residence time of 30 minutes, regardless of temperature and pressure, a temperature less than 121 C° or a pressure, less than 15 psi.
- (VI) *Routine Test*.—A chemical indicator strip/tape that changes color 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 location to ensure that the inner content of the package has been adequately autoclaved.
10. The liquid / solid waste generated from the treatment activity (from laboratory and washing, cleaning, housekeeping and disinfecting activities) shall be treated suitably to conform to the standards prescribed in Schedule V of said Rules and the Environment (Protection) Act, 1986.

10.1 Standards for LIQUID waste :

The effluent generated should conform to the following limits

PARAMETERS	PERMISSIBLE LIMITED
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

These limits are applicable to those hospitals which are either connected with sewers without terminal sewage treatment plant or not connected to public sewers. For discharge into public sewers with terminal facilities, the general standards as notified under the Environment (Protection) Act, 1986 shall be applicable.

10.2 CONDITIONS UNDER AIR ACT:-

The incinerator should meet the following operating and emission standards:
Standards for emissions of air Pollutants

Operating Standards

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

$$\text{C.E.} = \frac{\% \text{CO}_2}{\% \text{CO}_2 + \% \text{CO}} \times 100$$

3. The temperature of the primary chamber shall be $800 + 50^{\circ} \text{C}$,
4. The secondary chamber gas residence time shall be at least 1 (one) second at $1050 \pm 50^{\circ} \text{C}$ with minimum 3% Oxygen in the stack gas.

S.No	Parameters	Conc.Mg/Nm ³ at (12%CO ₂ correction)
1	Particulate matter	150
2	Nitrogen Oxides	450
3	HCL	50

5. Minimum stack height shall be 30 meters above the ground
6. Volatile organic compounds in the ash shall not be more than 0.01%
7. The Applicant shall provide ports in the chimney and facilities such as ladder, platform etc for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's staff. The chimneys shall be numbered as S-1, S-2 etc and these shall be painted / displayed to facilitate identification.
8. The applicant shall carry out monitoring of above mentioned parameters atleast quarterly from the approved laboratory and submit rept of the same to the Board.

Note :

- Suitably designed pollution control devices should be installed / retrofitted with the incinerator to achieve the above emission limits, if necessary.
- Wastes to be incinerated shall not be chemically treated with any chlorinated disinfectants.
- Chlorinated plastics shall not be incinerated.
- Toxic metals in incineration ash shall be limited within the regulatory quantities as defined under the Hazardous Waste (Management and Handling Rules,) 1989.

- Only low sulphur fuel like L.D.O./L.S.H.S./Diesel shall be used as fuel in the incinerator.
- The occupier shall comply with above operating and emission standards during the validity period of this Authorization. In case of failure your authorization may be cancelled.

10.3 The Applicant shall install , operate and maintain of Power generating sets (Diesel) as per provisions of Environment (Protection) Act, 1986.

11. (i) You shall submit an Annual Report to MPCB(RO), Pune in Form-II by 31st January every year including information about the categories and quantities of BMW handled during the preceding year.

(ii) You shall maintain records related to the collection, reception, storage, transportation, treatment, disposal and / or any form of handling of BMW in accordance with these Rules and any guidelines issued.

(iii) All records shall be subject to inspection and verification by the prescribed authority at any time.

12. When any accident occurs at any institution or facility or any other site where BMW is handled or during transportation of such waste, the authorized person shall report the accident in Form III to the prescribed authority forthwith.

13. M/s. Passco Environmental Solution, Pune shall collect, treat and dispose off of BMW from following area as mentioned below,

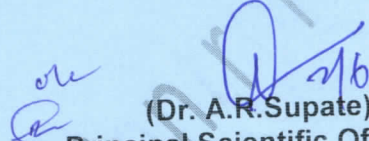
Existing Area	Pune Municipal Corporation area	1. Any adjoining area agreeable to Municipal Council and this facility after obtaining NOC of concerned Local body for collection of BMW from their jurisdiction.
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14. This authorization is issued subject to condition as mentioned below,

- To submit B.G. of Rs. 5.50 lakhs within 15 days to RO- Pune towards compliance of condition mentioned at Annexure - A valid for three years. B.G. conditions will be reviewed by RO, Pune every six months.
- You shall obtain Consent to operate from Board under Water (P & CP) Act,1974 and Air (P & CP) Act, 1981.

15. The facility operator shall ensure that all Health Care Establishments (HCEs) in their jurisdiction shall become member and hand over all Biomedical Waste generated in their hospital for treatment and disposal. In case of failure it is the duty of the facility operator to inform the name of such defaulter HCEs to Regional Officer, Pune.
16. The Occupier will obey all the lawful instructions issued by the Board Officers from time to time.

Sd/-
 (Rajeev Kumar Mital)
 Member Secretary
 and
 Prescribed Authority


 (Dr. A.R. Supate)
 Principal Scientific Officer

To
Passco Environmental Solutions Pvt. Ltd.,
Kailash Crematorium Compound,
Next to Naidu Hospital,
Pune- 411 004

Authorization Fees Received:-

Sr. No.	Amount	DD. No.	Date	Drawn On
1	17500	766548	13.12.2013	Bank of Maharashtra
2	100	766549	13.12.2013	Bank of Maharashtra

Copy to:

- 1] Regional Officer, MPCB, Pune – for information. & n.a.
- 2] Sub Regional Officer, Pune -I, MPCB, for information and with instructions to monitor the necessary compliance of the conditions stipulated in the Letter of Authorization. You are also instructed to forward BMW cases of authorization and Consent through IMIS.

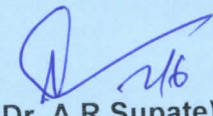
Annexure -A

Statement of conditions to be complied and Bank Guarantee imposed to ensure timely compliance to be observed by **Passco Environmental Solutions Pvt. Ltd., Pune.**

Sr. No.	Activity / Condition to be Complied	Compliance Timeline (Months)	Bank Guarantee Amount
I (A)	Operation and Maintenance		
1	To achieve temperature of Primary and Secondary chamber of Incinerator	Continuous	1,00,000
2	To Operate and maintain Air Pollution Control Device(s) to achieve prescribed Stack emissions (e.g. Particulate Matter, HCL, NOx, VOC)	Continuous	1,00,000
I (B)	Records		
1	To Maintain records of BMW and submission of Annual Report in Form -II before 31 st January	Continuous	25,000
2	To maintain records of BMW material delivered to CBMWTSDf (Transporters only)	Continuous	25,000
II	Performance		
1	To provide Separate BMW storage facility	Six	75,000
2	To provide Automatic BMW feeding system	Six	75,000
3	To provide PLC based online temperature monitoring system	Six	1,00,000
4	To provide Graphical Temperature, Pressure & Time recording system	Six	50,000
		Total,	5,50,000/-

Rupees Five Lakh Fifty thousand only

Sd/-
(Rajeev Kumar Mital)
Member Secretary
and
Prescribed Authority

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(Dr. A.R. Supate)
Principal Scientific Officer