

**GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY**

**EIA-Goa State Secretariat,**

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No: 3 – 181 – 2010/STE-DIR/160

Date: 27 / 09 /2019

To,

**The Managing Director,**

Goa Waste Management Corporation,

Saligao, Bardez, Goa ó 403 511.

**Sub.: Proposed Common Bio-Medical Waste Treatment Facility (CBMWTF), at Kundaim Industrial Estate, Kundaim, Goa - Issuance of the Prior Environmental Clearance (EC) – Reg.**

**Ref.:**

- (1) Your letter No. GWMC/Tech/BMW/2017-18/Part-3/124 dated 01/08/2017.
- (2) This office letter dated 4<sup>th</sup> January, 2018 bearing No. 3/181/2012/STE-DIR/Part-I/EIA-GOA/66 reg (issuance of TORs).
- (3) Your letter No. GWMC/TECH/17/2018-19/part-2/946 dated 28<sup>th</sup> December 2018 reg (Submission of EIA report).

Sir,

This is with reference to your application along with the EIA report dated 28/12/2018, referred above, submitted to Goa-SEAC, Seeking Environmental Clearance under the Environment Impact Assessment Notification, 2006 and additional information /Presentation submitted dated 23/03/2019.

The Goa Waste Management Corporation (GWMC), approached this Authority (*i.e. Goa-SEIAA*), seeking prior Environmental Clearance (EC) for establishment of a Common Biomedical Waste Treatment Facility (CBMWTF), at plot No. BW-1, in Kundaim Industrial Estate, Kundaim, Goa. The officials from Goa Waste Management Corporation (GWMC) made a presentation before the SEAC, Goa-SEAC during its 104<sup>th</sup> meeting held on 23<sup>rd</sup> March 2019, in this meeting it was decided by the Goa-SEAC to recommend the said proposal to the (Goa-SEIAA) Authority for grant of Environmental Clearance under the permission of EIA Notification, 2006, (as amended).

The said matter was thereafter placed before the Goa-SEIAA (Authority) during its 47<sup>th</sup> meeting held on 24/06/2019 wherein the Authority perused the documents submitted by the project Proponent vis-á-vis noted the said project falls in the schedule 7 (d)(a)(CBWTF project) of EIA Notification, 2006 and the recommendation by the Goa-SEAC. Accordingly, the Authority after careful consideration decided to grant Environmental Clearance for the said project under the provision of EIA Notification

2006 (as amended under section 7) with following conditions which should be abide by the project proponent.

The Proposal is for Environmental Clearance to **M/s Goa Waste Management Corporation (GWMC)**, for setting up of Common biomedical Waste Treatment Facility (CWMWTF), at plot No BW-1 in Kundaim Industrial Estate, Kundaim, Goa for Collection Transportation & its Management as per the Biomedical Waste Management Rules, 2016 and its amendments, as below which falls in the category of 7 (d) (a) of the schedule of the EIA Notification of 2006.

**Details of the Capacity of the equipment's is mentioned below:**

Sr. No.	Equipment to be installed	Capacity	Number	Alternate and additional arrangement
1.	<b>Incinerator</b>	Two 300Kg/Hour & One 100 kg/Hour)	3	Installed Incinerator one of 300kg/hr and one 100kg/hr with one 300kg/hr as standby arrangement.
2.	<b>Autoclave</b>	240 Liter (Volume)	2	Installed two numbers of autoclave one is standby arrangement.
3.	<b>Shredder</b>	50kg/hour	1	Nil

**A. SPECIFIC CONDITION:**

1. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project submitted by project proponent vide commitments made during presentation before SEAC and proposed in the EIA report shall be strictly adhered to in letter and spirit.
2. The unit shall strictly comply with the CPCB guidelines for setting up the Common Bio-Medical Waste Treatment Facility. (CBWTF)
3. Proponent shall strictly comply the design criteria for incinerator, autoclave, shredder and all other requirements including bar-coding etc. as per the CPCB guidelines.
4. The unit shall strictly setup the dry technology system.
5. The unit shall strictly ensure mercury waste management at health care facility as per the CPCB guidelines.
6. The unit shall establish Standard operating Procedure for waste collection, handing transportation, treatment and disposal as per Biomedical Waste Management Rules 2016.
7. Zero Liquid Discharge (ZLD) status shall be maintained all the time.
8. There shall be no drainage connections from the treatment shed.
9. The Project proponent shall isolate the existing tree area towards the eastern side by providing fencing, so as to ensure that the same is not accessed by the workers during construction phase.

**B. CONSTRUCTION PHASE**

10. Water demand during construction shall be reduced by use of curing agents, super plasticizers and other best construction practices.
11. Project proponent shall ensure that surrounding environment shall not be affected due to construction activity.

12. Construction materials shall be covered during transportation and regular water sprinkling shall be done in vulnerable areas for controlling fugitive emission.
13. All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.
14. First Aid Box shall be made readily available in adequate quantity at all times.
15. The Project proponent shall strictly comply with the building and other construction workers (Regulation of Employment) & conditions of service Act 1996 and Goa Rules made there under and their subsequent amendments. Local bye laws of concern Authority shall be complied in letter and spirit.
16. Ambient noise levels shall conform to residential standard both during day and night. Incremental pollution load on the ambient air & noise quality shall closely be monitored during construction phase.
17. Use of Diesel Generator (DG) sets during construction phase shall be strictly equipped with acoustic enclosure and shall conform to the EPA rules for air and noise emission standards.
18. Safe disposal of sewage and solid wastes generated during the construction phase shall be ensured.
19. All top soil excavated during construction activity shall be used in horticultural/ landscape development within the project site.
20. Excavated earth to be generated during the construction phase shall be utilized within the premises to the maximum extent possible and balance quality of excavated earth shall be disposed off with the approval of the competent authority after taking the necessary precautions of general safety and health aspects. Disposal of the excavated earth during construction phase shall create adverse effect on neighboring communities.
21. PP shall ensure use of eco-friendly building materials including fly ash bricks, fly ash paver blocks, ready Mix concrete (RMC) and lead-free paints in the project.
22. Fly ash be used in the construction wherever applicable as per provisions of fly ash Notification under the EP Act, 1986 and its subsequent amendments from time to time, regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to all surroundings.

### **C. OPERATION PHASE:**

23. Consent to operate shall be obtained from GSPCB under the Air (Prevention & control of Pollution) Act, 1981 and Water (Prevention & control of Pollution) Act 1974 before operation, failing which the Environment Clearance herein shall be deemed to be withdrawn.
24. Authorization from Goa Pollution Control Board shall be obtained as applicable under Bio Medical Waste Management Rules 2016 and its subsequent amendments from time to time.
25. The Biomedical wastes shall be managed in accordance and compliance with the Bio medical waste Management Rules 2016 and its subsequent amendments from time to time.
26. Incinerated ash, used oil, sludge, treated biomedical waste and ETP sludge should be disposed in accordance with BMW Rules, 2016/ Hazardous and other Waste (Management & Transboundary Movement) Rules 2016 and its subsequent amendments issued form, time to time.
27. The PP shall comply with the Environmental standards notified by MOEF & CC for incinerators along with the technology/guidelines.
28. Guidelines published the Central pollution Control board from time to time for common bio medical waste treatment published shall be referred for implementation.
29. There should not be any spillage from the transportation vehicles.
30. The PP will set up separate environmental management cell for effective implementation of stipulated environmental safeguards under the supervision of Senior Executive.
31. All the recommendations of EMP shall be strictly complied.

32. The environmental safeguards containing the EIA report shall be implemented in letter & spirit.
33. Necessary provision shall be made for firefighting facilities within the complex.
34. Treated flue gas emissions discharged through stack to atmosphere shall always be less than the specific emission standards.
35. PP shall ensure regular operation and maintenance of the ETP and printed logbook shall be maintained.
36. All the pipelines carrying water/waste water should be distinguished using colour coding on raw water pipes and re use lines of treated water.
37. Utilization of Diesel power generating sets is subject to power failure condition only. The DG sets proposed as a source of power back up during operation phase should be of enclosed type, low sulphur diesel run and confirm to rules made under the Environment (Protection) Act, 1986. The DG sets should be subjected to periodic noise and stack monitoring.
38. Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
39. Energy conservation measures such as LED light for common lighting of areas, signage etc should be adopted.
40. The unit shall develop 33% of plot area (including existing green belt) as a green belt within premises as per the CPCB guidelines.
41. Total water requirements for the project shall not exceed 20KL/day. Unit shall reuse treated waste water for lime slurry preparation for quenching process as well as floor and vehicle washing to the maximum extent. Hence, fresh water requirement shall not exceed 13KL/day and it shall be met through PWD water supply only. Prior permission from the concerned authority shall be obtained for withdrawal of water.
42. Water meter shall be installed and its record of daily water consumptions shall be maintained.
43. The industrial effluent generation from the project shall not exceed 15KL/day.
44. Waste water generation from floor washing, vehicle washing, domestic waste water and autoclaving (15/KL/day) shall be treated in proposed ETP. (Cap.20.0 KL/Day).
45. Entire quantity of treated waste water shall be reused for individual purpose within the premises after conforming the (GSPCB) norms including 600m x 600m garden bed along periphery of the plot.
46. The unit shall provide adequate effluent treatment plant (ETP) comprises of Primary, tertiary treatment plants and operated regularly and efficiently so as to ensure for quenching process.
47. Separate energy meter shall be provided at ETP. A proper operation logbook of the ETP containing records of quantities and qualities of treated effluent.
48. The domestic wastewater generation shall not exceed 3KL/day for proposed project and it shall be treated into Bio-digester or equivalent system.
49. The Zero wastewater discharge condition to be achieved with utilizing treated effluent for lime slurry preparation for spraying in reactor for quenching process as well as floor and vehicle washing.
50. The Project proponent shall provide electromagnetic flow meter at the inlet & outlet of the water supply, Inlet & Outlet of the ETP and shall maintain a record of readings of each such meter on daily basis.
51. The quantity of fresh water usage and water recycling shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the GSPCB, State Level Environment Impact Assessment Authority & Regional Office, MoEF& CC along with six monthly monitoring reports.

**D. AIR:**

52. LPG/Natural Gas to the tune of 100 SCM/hr and HSD 200lits/hr shall be used as fuel for Incinerators.

53. Unit shall provide Lime Reactor, Air cooled gas cooler, Sodium Carbonate injection, Activated carbon injection system and Bag Filter with adequate stack height as APCM within incinerator as per the CPCB and relevant guidelines.
54. Regular monitoring of ground level concentration of PM10, PM2.5, NOx and CO shall be carried out at the site and downwind direction and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the CPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional\control measures shall be taken immediately.
55. Proponent shall strictly follow the odour control measures as suggested in environmental management plan.
56. Proponent shall strictly follow the Environmental Monitoring Program (EMP) for ambient Air Quality Monitoring (AAQM). An online Ambient Air Quality monitoring station (AAQMS) to be installed.
57. Treated flue gas emissions discharged through stack to atmosphere shall always be less than CPCB/GSPCB stipulated emission standards.
58. Diesel/HSD to the tune 60Lit./hr shall be used in the stand-by DG set (Cap.20 KVA).
59. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution and shall conform to the EPA Rules for air and noise emission standards.
60. A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive and transport dust emission.

#### **E. WASTE MANAGEMENT:**

61. The company shall strictly comply with the rule and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous and Other wastes (Management and Transboundary Movement) Rules 2016, as may be amended from time to time. Authorization of the GPCB shall be obtained for collection/treatment/storage/disposal of hazardous wastes.
62. Hazardous wastes shall be dried, packed and stored in separate designated hazardous waste storage facility with pucca bottom and leachate collection facility, before its disposal and handled as per the Hazardous Waste Rules 2016.
63. Incinerator Ash, ETP sludge & sludge shall be disposed in accordance with BMW Rules, 2016/ Hazardous and other Waste (Management & Transboundary Movement) Rules 2016 and its subsequent amendments issued form, time to time.
64. Treated Biomedical plastic waste shall be sold out to GSPCB Authorized Recyclers only.
65. Used oil shall be either reused for lubrication in plant machineries or sold out to GSPCB registered/ AuthorizedRecyclers.
66. Discarded container/bags shall be either reused or sold only to GSPCBAuthorized Recyclers.
67. Treated glass waste shall be sold out to GSPCB Authorized Recyclers only.
68. Sharp waste shall be disposed through in-house designated concrete sharp pit or as per the BMW Rules, 2016 and its amendments issued from time to time.
69. The unit shall obtain necessary permission from the nearby TSDF site.
70. Trucks/Tankers used for transportation of hazardous waste shall be in accordance with the provisions under the Motor Vehicle Act, 2019 and rules made there under.
71. The design of the Trucks/tankers shall be such that there is no spillage during transportation.
72. All possible efforts shall be made for Co-Processing of the Hazardous waste prior to disposal into TSDF/CHWTF.
73. Management of fly ash (If any) shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.

#### **E. SAFETY:**

74. The occupier/Plant Manger shall strictly comply with the provisions under the Factories Act, 1948 and other relevant Goa State laws.
75. The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules (MSIHC) 1989, as amended time to time and the Public Liability Insurance Act for handling of hazardous chemicals etc. Necessary approvals from the Chief Controller of Explosives and concerned Govt. Authorities shall be obtained before commissioning of the project. Requisite On-site and Off-site Disaster Management Plans have to be prepared and implemented.
76. Main entry and exit shall be separate and clearly marked in the facility.
77. Sufficient peripheral open passage shall be kept in the margin area for free movement of fire tender/emergency vehicle around the premises.
78. Sufficient number of fire extinguishers shall be provided near the plant and storage area.
79. All necessary precautionary measures shall be taken to avoid any kind of accident during loading, unloading and transportation of biomedical waste.
80. The project management shall ensure to comply with all the environment protection measures, risk mitigation measures and safeguards mentioned in the Risk Assessment report.
81. Only flame proof electrical fittings shall be provided in the plant premises.
82. All the waste storage room shall be marked with colour coding as per the CPCB guidelines time to time.
83. Proponent shall tie up with nearby health care facility for any emergency cases.
84. Personal Protective equipmentø (PPEs) shall be provided to workers and its usage shall be ensured and supervised.
85. First Aid Box in the unit shall be made readily available in adequate quantity.
86. Training shall be imparted to all the workers on safety and health aspects of biomedical waste handling.
87. Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre-employment and periodical medical examination for all the workers shall be undertaken as per the Factories Act & Rules.
88. Transportation of biomedical waste shall be done as per the provisions of the Motor Vehicle Act & Rules.
89. The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.

#### **F.NOISE:**

90. The Overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering controls like acoustic insulation hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under The Environment (Protection) Act, 1986 & Rules.

#### **G.GREEN BELT AND OTHER PLANTATION:**

91. The Unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within the premises, the unit shall take up adequate plantation on road sides and suitable open areas in GIDC estate or any other open areas in consultation with the GIDC/GSPCB and submit an action plan of plantation for next three years to the GSPCB, including the existing green belt within the premises.
92. Drip irrigation/low-angle sprinkler system shall be used for the green belt development within the premises.

#### **H.OTHER CONDITIONS**

93. Rain water recharging of surface as well as rooftop runoff shall be undertaken and the same water shall be used for the various activities of the project to conserve fresh water

as well as to recharge ground water. Before recharging the surface runoff, pre-treatment must be done to remove suspended matter.

94. The unit shall join and participate financially and technically for any common environmental facility and infrastructure as and when the same is taken up either by the GIDC or any such authority created for this purpose by the Govt.
95. The area earmarked as green area shall be used only for plantation and shall not be altered for any other purpose.
96. All the commitments and undertakings given to the SEAC during the appraisal process for the purpose of Environmental Protection and Management shall be strictly adhered to.
97. The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose for the environmental protection and management.
98. In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed and shall not be restarted until the desired efficiency of the control equipment has been achieved.
99. The project authorities must strictly adhere to the stipulations made by the Goa Pollution Control Board (GSPCB) state government and any statutory authority.
100. During biomedical waste unloading there shall be no spillages and garland drain shall be constructed to avoid mixing of accidental spillages with domestic wastewater or storm water.
101. Industrial Grade flooring with impervious layer shall be provided in the work areas, biomedical waste storage areas and chemical handling areas to minimize soil contamination.
102. Renewable power/ solar/wind / hybrid shall be installed within the premises and on the roof area of the administrative part of the building.
103. No further expansion or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior environmental Clearance from the concerned Authority.
104. The above conditions will be enforced, inter-alia under the provisions of water (Prevention & Control of Pollution) Act 1974, air (Prevention & Control of Pollution) Act 1981, the Environment Protection Act 1986, Hazardous & other Wastes (Management & Transboundary Movement Rules, 2016 and the Public Liability Insurance Act 1991 along with their amendments and rule.
105. The Project management shall ensure that the unit complies with all the environmental protection measures, risk mitigation measures and safeguards recommended in the EMP report and Risk assessment study report as well as proposed by project Proponent.
106. Further this EC is issued without prejudice to the action initiated in the Environment (*Protection*) Act or any court case pending in the court of law. As such, it does not mean that the PP has not violated any environmental laws in the past and whatever decision under the said Act by the Honøble Court will be binding on the PP. **Hence, this environmental clearance does not give immunity to the PP in the case complaint is filed against, if any, or action initiated under the said Act.**
107. In case of submission of false document and non-compliance to any of the stipulated conditions, this Authority will revoke or suspend the EC without any intimation and initiate appropriate legal action under the Environment (*Protection*) Act, 1986 (*as amended till date*).
108. E-waste generated in the complex should be managed as per CPCB guidelines on E-waste management Rules 2016.
109. The Goa-SEIAA reserves their right to add any stringent condition or to revoke the environmental clearance, if conditions stipulated above are not implemented to the satisfaction of the Authority or for that matter, for any other administrative reasons.
110. **In addition**, the following conditions shall be specifically complied with:
  1. Project proponent shall advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the Konkani or Marathi

language within **seven days** of receipt of this communication, informing that the proposed project has been accorded prior Environmental Clearance (EC) and the copies of the clearance letter will be available on the PP website.

2. **Validity of the Environmental Clearance (EC) accorded shall be for a period of 07 (seven) years from the date of its issue.**
3. 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.
4. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by State Environment Impact Assessment Authority.
5. Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.
6. Any appeal against this prior environmental clearance shall lie with the National Green Tribunal (NGT), if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010 (*Central Act 19 of 2010*).

*Yours faithfully,*

**Sd/-**

(Johnson Fernandes)  
**Director Environment &  
Member Secretary, Goa-SEIAA**

*Copy for favour of information to:*

1. **Shri. Vivekanand L. Sawkar,(Chairman, Goa-SEIAA)**, F-2 Soares Enclave, Near Basilo's Health Club, St. Inez, Panaji, Goa.
2. **Prof. Suhas Godse,(Chairman, Goa-SEAC)**,H.No. 5258, Faket, Nr. Pandurang Temple, Opp. Workshop Taleigao, Goa
3. **P. A. to Principal Secretary (Environment)**, Secretariat, Porvorim, Goa.
4. **P. S. to Additional Secretary**, Ministry of Environment & Forests (MoEF), Paryavaran Bhavan, C.G.O. Complex, Lodhi Road, New Delhi ó 110 510.
5. **Addl. Director General (C)**, Ministry of Environment & Forests (MoEF), Regional office (Southern Zone), KendriyaSadana, IV floor, E & F Wings, 17<sup>th</sup> main road, 11nd Block, Koramangala, Bengaluru-560034.
6. **Member Secretary**, Goa State Pollution Control Board (GSPCB), Opp Saligao Seminary, Saligao, Bardez, Goa.