Form-II

RENEWAL OF AUTHORIZATION
[As Per Rule 16(1) (e)]

UNDER SOLID WASTE MANAGEMENT RULES, 2016

File No. 89
Dated: 25.05.2018
Authorisation No. 89/APPCB/MSW/A/2017

To
The Commissioner,
Ongole Municipal Corporation,
Ongole – 523 001,
Prakasam District.


The A.P. Pollution Control Board after examining the proposal hereby authorises Ongole Municipal Corporation having administrative office at Ongole, Prakasam District to operate waste disposal facility of Sanitary Landfill at Sy. No. 105, Guthikondavari palem, H/o of Koppolu in Ongole Municipal Corporation Limits, Prakasam District.

The authorisation is hereby granted to operate the sanitary landfill facility for disposal of solid waste.

The authorisation is subject to the terms and conditions attached and such conditions as may be otherwise specified in these rules and the standards laid down in Schedules I and II under these rules.

The A.P. Pollution Control Board may, at any time, revoke any of the conditions applicable under the authorisation and shall communicate the same in writing.


This Renewal of authorization is valid for period of Five Years i.e up to 31.01.2023.

Sd/-
MEMBER SECRETARY

Date: 25.05.2018
Place: Vijayawada.

Copy to: 1) The JCEE, Zonal Office, Vijayawada for information.
2) The Environmental Engineer, Regional Office, Nellore for information and directed to submit water and ambient air quality monitoring reports once in 6 months to the Board.

// T.C.F.B.O //

JOINT CHIEF ENVIRONMENTAL ENGINEER
UH-II
GENERAL CONDITIONS OF THE AUTHORIZATION

1. The Renewal of Authorization is issued for a period of 5 years i.e. up to 31.01.2023.
2. The Municipal Corporation shall apply for renewal of Authorization at least Sixty days prior to the expiry of the Authorization.
3. The Municipal Corporation shall obtain the CFE/CFO of the Board and shall renew the same from time to time. The validity of Consent and Authorization shall be synchronized.
4. The industry shall dispose the compostable waste to the Compost facility, as reported by the Municipal Corporation in the Form-I.
5. The Andhra Pradesh Pollution Control Board may at any time revoke/ stipulate any of the conditions applicable under the authorizations and shall communicate the same in writing.
6. The Municipal Corporation shall ensure that the waste disposal facility shall be 500 mtrs., away from the village habitation.
7. The Municipal Corporation shall obtain authorization from the Board for setting up of processing and composting facilities in future.

I. Criteria for development of facilities at the sanitary landfills:-
1. Landfill site shall be fenced or hedged and provided with proper gate to monitor incoming vehicles or other modes of transportation.
2. The landfill site shall be well protected to prevent entry of unauthorized persons and stray animals.
3. Approach and other internal roads for the movement of vehicles and other machinery shall exist at the landfill site.
4. The vehicles used for transportation of wastes shall be covered.
5. The landfill site shall have wastes inspection facility to monitor wastes brought in for landfill, office facility for record keeping and shelter for keeping equipment and machinery including pollution monitoring equipments.
6. Provisions like weigh bridge to measure quantity of wastes brought at landfill site, fire protection equipments and other facilities as may be required shall be provided with in 2 months.
7. Utilities such as drinking water (preferably bathing facilities for workers) and lighting arrangement for easy landfill operations when carried out in light hours shall be provided.
8. Safety provisions including health inspections of workers at landfill site shall be periodically made.
9. The landfill site facility shall provide provision for parking, cleaning, washing of transportation of vehicles carrying solid waste generating waste water shall be treated to meet the prescribed standards.

II. Criteria for specifications for land filling operations and closure on Completion of land filling:-
10. Wastes subjected to land filling shall be compacted in this layer using landfill compactors to achieve high density of the wastes. In high rainfall areas where heavy compactors cannot be used alternative measures shall be adopted.
11. Wastes shall be covered immediately or at the end of each working day with minimum 10 cm of soil, inert debris or constructions materials till such time waste processing facilities for composting or recycling or energy recovery are set up.
12. Prior to the commencement of monsoon season, an intermediate cover of 40-65 cm thickness of soil shall be placed on the landfill with proper compaction and grading to prevent infiltration during monsoon. Proper drainage berms shall be constructed to divert run-off away from the active cell of the landfill.
13. After completion of landfill, a final cover shall be designed to minimize infiltration and erosion. The final cover shall meet the following specifications, namely:-
   a) The final cover shall have a barrier soil layer comprising of 60 cm of clay or amended soil with permeability coefficient less than 1 X 10^{-7} cm/sec.
   b) On top of the barrier soil layer there shall be a drainage layer of 15 cm.
   c) On top of the drainage layer there shall be a vegetative layer of 45 cm to support natural plant growth and to minimize erosion.
III. Criteria for pollution prevention:-

14. Diversion of storm water of discharge drains to minimize leachate generation and prevent pollution of surface water and also for avoiding flooding and creation of marshy conditions;

15. Provisions for management of leachate collection and treatment shall be made. The treated leachate shall be recycled as permitted, otherwise shall be release into sewerage line, after meeting the standards.

<table>
<thead>
<tr>
<th>S.N</th>
<th>Parameter</th>
<th>Standards (Mode of Disposal)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inland surface water</td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td>1</td>
<td>Suspended solids, mg/l, max</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Dissolved solids (inorganic) mg/l, max.</td>
<td>2100</td>
</tr>
<tr>
<td>3</td>
<td>pH value</td>
<td>5.5 to 9.0</td>
</tr>
<tr>
<td>4</td>
<td>Ammoniacal nitrogen (as N), mg/l, max.</td>
<td>50</td>
</tr>
<tr>
<td>5</td>
<td>Total Kjeldahl nitrogen (as N), mg/l, max.</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>Biochemical oxygen demand (3 days at 27°C) max,(mg/l)</td>
<td>30</td>
</tr>
<tr>
<td>7</td>
<td>Chemical oxygen demand, mg/l, max.</td>
<td>250</td>
</tr>
<tr>
<td>8</td>
<td>Arsenic (as As), mg/l, max</td>
<td>0.2</td>
</tr>
<tr>
<td>9</td>
<td>Mercury (as Hg), mg/l, max</td>
<td>0.01</td>
</tr>
<tr>
<td>10</td>
<td>Lead (as Pb), mg/l, max</td>
<td>0.1</td>
</tr>
<tr>
<td>11</td>
<td>Cadmium (as Cd), mg/l, max</td>
<td>2.0</td>
</tr>
<tr>
<td>12</td>
<td>Total Chromium (as Cr), mg/l, max.</td>
<td>2.0</td>
</tr>
<tr>
<td>13</td>
<td>Copper (as Cu), mg/l, max</td>
<td>3.0</td>
</tr>
<tr>
<td>14</td>
<td>Zinc (as Zn), mg/l, max</td>
<td>5.0</td>
</tr>
<tr>
<td>15</td>
<td>Nickel (as Ni), mg/l, max</td>
<td>3.0</td>
</tr>
<tr>
<td>16</td>
<td>Cyanide (as CN), mg/l, max</td>
<td>0.2</td>
</tr>
<tr>
<td>17</td>
<td>Chloride (as Cl), mg/l, max</td>
<td>1000</td>
</tr>
<tr>
<td>18</td>
<td>Fluoride (as F), mg/l, max</td>
<td>2.0</td>
</tr>
<tr>
<td>19</td>
<td>Phenolic compounds (as C=H=OH) mg/l, max.</td>
<td>1.0</td>
</tr>
</tbody>
</table>

All values are mg/l except for pH

16. Landfill site shall have provision of non-permeable lining system at the base and walls of waste disposal area.

a) Landfill shall have liner of composite barrier of 1.5 mm thick hide and city polyethylene (HDPE) geo-membrane or geo-synthetic liners or equivalent, overlying 90 cm of soil (clay or amended soil) having permeability coefficient not greater than 1 X 10⁻⁷ cm/sec.

b) The highest of level of water table shall be at least 2 m below the base of clay or amended soil barrier layer provided at the bottom of the landfill.

c) Arrangement shall be made to prevent leachate runoff from land fill area entering any drain, stream, river or pond. In case of mixing of runoff of water with leachate or solid waste, the entire mixed water shall be treated by the concern authority.

IV. Criteria for water quality monitoring:-

17. The ground water quality within 50mts of the periphery of landfill site shall be periodically monitor covering different seasons in a year i.e. summer, monsoon and postmonsoon period to ensure that the ground water is not contaminated.

18. Usage of ground water in and around landfill sites for any purpose (i.e. including drinking and irrigation) shall be considered only after ensuring its quality. The following specification for drinking water quality shall apply for monitoring purpose.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Parameters</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Arsenic</td>
<td>0.01</td>
</tr>
<tr>
<td>2</td>
<td>Cadmium</td>
<td>0.01</td>
</tr>
<tr>
<td>3</td>
<td>Chromium (as Cr⁶⁺)</td>
<td>0.05</td>
</tr>
<tr>
<td>4</td>
<td>Copper</td>
<td>0.05</td>
</tr>
<tr>
<td>5</td>
<td>Cyanide</td>
<td>0.05</td>
</tr>
<tr>
<td>6</td>
<td>Lead</td>
<td>0.05</td>
</tr>
<tr>
<td>7</td>
<td>Mercury</td>
<td>0.001</td>
</tr>
<tr>
<td>8</td>
<td>Nitrate as No₃</td>
<td>45.0</td>
</tr>
</tbody>
</table>
V. Criteria for ambient air quality monitoring:-

19. Installation of landfill gas control system including gas collection system shall be made at landfill site to minimize odour generation, prevent off-site migration of gasses and to protect vegetation planted on the rehabilitated landfill surface.

20. The concentration of methane gas generated at landfill site shall not exceed 25 per cent of the lower explosive limit (LEL).

21. The landfill gas from the collection facility at a landfill site shall be utilized for either thermal applications or power generation, as per viability. Otherwise, landfill has shall be burnt (flared) and shall not be allowed to directly escape to the atmosphere or for illegal tapping. Passive venting shall allowed in case if its utilisation or flaring is not possible.

22. Ambient air quality at the landfill site and at the vicinity shall be regularly monitored to meet the following specified standards prescribed the CPCB for industrial area.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Parameters</th>
<th>Acceptable levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Sulphur dioxide</td>
<td>120 μg/m² (24 hours)</td>
</tr>
<tr>
<td>II.</td>
<td>Suspended Particulate Matter</td>
<td>500 μg/m² (24 hours)</td>
</tr>
<tr>
<td>III.</td>
<td>Methane</td>
<td>Not to exceed 25% of the lower explosive limit (equivalent to 650 mg/m³)(24 hours)</td>
</tr>
<tr>
<td>IV.</td>
<td>Ammonia daily average</td>
<td>0.4 mg/m³ (400 μg/m³)</td>
</tr>
<tr>
<td></td>
<td>9 sample duration 24 hrs)</td>
<td></td>
</tr>
<tr>
<td>V.</td>
<td>Carbon monoxide</td>
<td>1 hour average : 2 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 hour average : 1 mg/m³</td>
</tr>
</tbody>
</table>

VI. Criteria for plantation at landfill site:-

23. A vegetative cover shall be provided over the completed site in accordance with the following specifications, namely:-

   a) Selection of locally adopted non-edible perennial plants that are resistant to drought and extreme temperature shall be allowed to grow;

   b) The plants grown be such that their roots do not penetrate more than 30 cms. This condition shall apply till the landfill is stabilized.

   c) Selected plants shall have ability to thrive on low-nutrient soil with minimum nutrient addition:

   d) Plantation to be made in sufficient density to minimize soil erosion.

   e) Greenbelts shall be developed all around the boundary of the landfill in consultation with State Pollution Control Board.

VII. Criteria for post-care of landfill site:-

24. The post-closure care of landfill site shall be conducted for at least fifteen years and long term monitoring or care plan shall consist of the following, namely:-

   a) Maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and run-off from eroding or otherwise damaging the final cover;

   b) Monitoring leachate collection system in accordance with the requirement;

   c) Monitoring of ground water in and around the land fill.

   d) Maintaining and operating the landfill gas collection system to meet the standards.

25. Use of closed landfill site after 15 years of post closure monitoring can be considered for human settlement or otherwise only for ensuring that gaseous emission and leachate quality analysis complies with the specified standards and the soil stability is ensured.

26. The Municipal Corporation shall set up a pelletization for making up Solid Waste in form of pellet and same to be sent to the Biomass Power Plants.
VIII. Closure and Rehabilitation of Old Dumps:

27. Solid waste dumps which have reached their full capacity or those which will not receive additional waste after setting up of new and properly designed landfills should be closed and rehabilitated by examining the following options:
   a) Reduction of waste by bio mining and waste processing followed by placement of residues in new landfills or capping as in (b) below.
   b) Capping with solid waste cover or solid waste cover enhanced with geomembrane to enable collection and flaring/utilization of greenhouse gases.
   c) Capping as in (b) above with additional measures (in alluvial and other coarse grained soils) such as cut-off walls and extraction wells for pumping and treating contaminated ground water.
   d) Any other method suitable for reducing environmental impact to acceptable level.

28. Measures to be taken to prevent the dousing of fire in landfills and shall be arrested with soil cover only and shall not arrest the fire in Sanitary Landfills using water. Slope shall be maintained at Sanitary Landfill site in ratio of 1:3 instead of the current ratio of 1:2, as per the minutes of the meeting held on 02.02.2018 at MoEF&CC, Gol.

Date: 25.05.2018

Sd/-
MEMBER SECRETARY

// T.C.F.B.O //

JOINT CHIEF ENVIRONMENTAL ENGINEER
UH-II