Form-II

AUTHORISATION
[As Per Rule 21(3)]
UNDER SOLID WASTE MANAGEMENT RULES, 2016

File No. 01
Authorisation No. 01/APPCB/MSW/2018

Dated: 04.05.2018

To
M/s. Jindal Urban Waste Management (Guntur) Ltd,
Jindal ITF Center, 28, Shivaji Marg,
Delhi Industrial Area,
West Delhi – 110015.

Reference to your authorization application number 2297/APPCB/RO-GNT/SWM/2018-152, Dated 03.05.2018.

The A.P. Pollution Control Board after examining the proposal hereby authorizes, M/s. Jindal Urban Waste Management (Guntur) Ltd, having administrative office at Delhi Industrial Area, West Delhi, for municipal solid waste based Waste to Energy Plant of capacity of 15.0 MW Electric Power generation and to produce other by-products. The facility is spread in an extent of 15.50 Acres of leased land located at Sy. No. 933 & 938, Kondaveedu (V), Edlapadu (M), Guntur District.

The authorisation is hereby granted to the facility of (Waste to Energy Plant) proposed by M/s. Jindal Urban Waste Management (Guntur) Ltd, to use municipal solid waste as a fuel.

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 authorization is valid for period of One Year i.e up to 31.05.2019.

Date: 04.05.2018.
Place: Vijayawada.

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

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

JOINT CHIEF ENVIRONMENTAL ENGINEER
UH-II
TERMS AND CONDITIONS OF THE AUTHORISATION

General Conditions:

1. This authorization is valid for period of One Year i.e up to 30.04.2019.

2. The operator of the facility shall apply for renewal of Authorization at least Sixty days prior to the expiry of the Authorization.

3. The Andhra Pradesh Pollution Control Board may at any time revoke/ stipulate any of the conditions applicable in the authorization under Solid Waste Management Rules, 2016 and may communicate the same in writing.

4. The operator of the facility shall adhere to the conditions stipulated in CFE/ CFO of the Board and shall adhere to the conditions made in land lease agreement with the Lead Urban Local Body.

5. The operator of the Facility shall obtain the CFO of the Board and shall renew the same from time to time.

6. The Operator of the facility shall dispose the Liquid and Solid wastes generated from the facility as per the CFE/ CFO Order stipulated by the Board and maintain the record of wastes and report the same time to time to the Board.

7. The operator of the facility shall ensure to maintain buffer zone as per the CPCB guidelines on the provision of Buffer Zone around waste processing disposal facilities. Additional green belt buffer shall be maintained towards residential areas in view of public safety.

8. The operator of the facility shall be taken every possible efforts in implementing for minimizing the inert waste generation at source.

9. The operator of the facility shall ensure to cover the vehicles transporting the solid waste from different local bodies and shall not litter solid waste along the village roads/ State highway/ national highways and vacant private and Government sites.

10. The operator of the facility shall not store Solid waste openly, received from the different municipalities within the premises and the solid waste shall not be segregated at the facility.

11. The operator of the facility is not permitted to maintain any transit point in and around the facility premises. Temporary storage facility for solid waste shall be established for the waste processing facility in consultation with the Lead Urban Local Body to accommodate the waste in case of non-operation of waste processing and during emergency or natural calamities.

12. The operator of the facility shall store solid waste in Bins provided for storage as and when receipt of the waste at facility and shall be used subsequently.

13. The operator of the facility shall take all necessary measures for preventing odour nuisance and shall be lifted without any delay.

14. The operator of the facility shall ensure to procure combustible waste and shall take all possible measures to minimize the mixing of other recyclable/ compostable wastes into the combustible waste being used as fuel for power generation.

15. The operator of the Facility shall not prepare Refuse Derived Fuel and shall not provide compost plant with in the facility premises.

16. The operator of the facility shall modify the mode of waste collection/ treatment/ disposal as per new modifications suggested by the CPCB/ SPCB from time to time.
17. The facility shall strictly adhere to the provisions of Solid Waste Management Rules, 2016 and the solid waste shall be collected/ treated/ disposed as per the DPR.

18. The Board reserves the right to suspend or cancel the authorization issued Solid Waste Management Rules’ 2016 any time, if the Lead urban local body or operator of the facility fails to operate the facility as per the conditions stipulated.


20. The operator of the facility shall design and set up the facility as per the technical guidelines issued by the Central Pollution Control Board in this regard from time to time and the manual on solid waste management prepared by the Ministry of Urban Development.

21. The operator of the Facility shall adopt new technology for solid waste processing and shall obtain prior consent of the Board as and when modifications are proposed in solid waste processing & disposal.

22. The operator of the Facility shall allow only non-recyclable, non-biodegradable, non-combustible and non-reactive inert waste and pre-processing rejects and residues from waste processing facilities to go to sanitary landfill sites those meeting the specifications as given in Schedule-I, however, every effort shall be made to recycle or reuse the rejects to achieve the desired objective of zero waste going to landfill.

23. The operator of the facility shall segregate the hazardous items like chlorinated plastics, batteries, etc. and shall take measures not to mix with other combustible wastes.

24. The operator of the facility shall take necessary measures to prevent off-site migration of gases and to avoid the smell nuisance during handling of solid waste proposed to store in 12 Nos. of pits, each having one day storage capacity.

25. The operator of the facility shall dispose the sanitary landfills as per the technical guidelines issued by the Central Pollution Control Board in this regard from time to time and as per the manual on solid waste management prepared by the Ministry of Urban Development.

26. The operator of the facility shall be responsible for the safety and environmentally sound operations of the solid waste processing and treatment facilities as per the guidelines issued by the Central Pollution Control Board from time to time and the Manual on Municipal Solid Waste Management published by the Ministry of Urban Development and updated from time to time.

27. The operator of the solid waste processing and treatment facility shall submit annual report in Form-III each year by 30th April to the State Pollution Control Board or Pollution Committee and concerned Lead Urban Local Body.

28. A buffer zone of no development shall be maintained around solid waste processing and disposal facility, exceeding five Tones per day of installed capacity. This will be maintained within the total area of the municipal solid waste based waste to energy plant. The revised lay out clearly indicating the buffer zone around the Waste to Energy Plant shall be furnished to the Board with in 3 Months.

29. The biomedical waste shall be disposed of in accordance with the Biomedical Waste Management Rules, 2016, as amended from time to time. The hazardous waste shall be managed in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, as amended from time to time. The E-waste shall be managed in accordance with the e-Waste (Management) Rules, 2016 as amended from time to time.
30. The approach and internal roads shall be concreted or paved so as to avoid generation of dust particles due to vehicular movement and shall be so designed to ensure free movement of vehicles and other machinery.

31. The facility shall have waste inspection facility to monitor waste brought in for power generation, office facility for record keeping and shelter for keeping equipment and machinery including pollution monitoring equipment. The operator of the facility shall maintain records on MSW received and used for power generation and waste received and inert waste generation.

32. Provisions like weigh bridge to measure quantity of waste brought at the facility and inert waste disposed to the Sanitary Landfill Facility, fire protection equipment and other facilities as may be required shall be provided.

33. Utilities such as drinking water and sanitary facilities (preferably washing/bathing facilities for workers) and lighting arrangements for easy operations during night hours shall be provided.

34. Safety provisions including health inspections of workers at facility shall be carried out at regular intervals.

35. Provisions for parking, cleaning, washing of transport vehicles carrying solid waste shall be provided. The wastewater so generated shall be treated to meet the prescribed standards by providing ETP for the waste water generated from the facility.

**Special Conditions:**

36. The operator of the facility shall maintain records on solid waste received at the Facility and to characterize the same and ensure the suitability of waste for power generation. The consolidated report shall be submitted to the Board from time to time.

37. Under any circumstances, the operator of the facility shall not use halogenated plastic materials for incineration. Proper segregation shall be adopted prior to feeding in to the Boiled and segregated waste shall sent for co-processing in cement plants or to the common incinerators duly following the procedure prescribed under the HOWM Rules, 2016.

38. Concealing the factual data or submission of false information / fabricated data and failure to comply with any of the conditions mentioned in this order may result in withdrawal of this order and attract action under the provisions of relevant pollution control Acts.

39. This authorization is subject to final orders in the Writ petitions pending before the Hon’ble High Court.

40. **Criteria for waste to energy process:**
   
   (1) Non-recyclable waste having calorific value of 1500 k.cal/ kg or more shall not be disposed of on landfills and shall only be utilized for generating energy.

41. **Criteria for Pollution Prevention.**

   (1) The operator of the facility shall made provisions for management of leachates including its collection and treatment. The treated leachate shall be recycled or utilized as permitted, otherwise shall be released into the sewerage line, after meeting the standards specified in Schedule-II. In no case, leachate shall be released into open environment.

<table>
<thead>
<tr>
<th>S. N</th>
<th>Parameter</th>
<th>Inland surface water</th>
<th>Public sewers</th>
<th>Land disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Suspended solids, mg/l, max</td>
<td>100</td>
<td>600</td>
<td>200</td>
</tr>
</tbody>
</table>
(2) The operator of the facility shall made arrangement to prevent leachate runoff from the facility entering any drain, stream, river, lake or pond. In case of mixing of runoff water with leachate or solid waste, the entire mixed water shall be treated by the concern authority.

42. Criteria for Water Quality Monitoring.—

(1) Before establishing the Waste processing facility, baseline data of ground water quality in the area shall be collected and kept in record for future reference. The ground water quality within 50 meter of the periphery of facility shall be periodically monitored covering different seasons in a year that is, summer, monsoon and post-monsoon period to ensure that the ground water is not contaminated.

(2) The Operator of the facility shall usage of treated sewage water of Guntur Municipal Corporation (GMC), as reported in the DPR.

(3) Usage of ground water in and around the facility 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></td>
<td></td>
<td>All values are mg/l except for pH</td>
</tr>
<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>
<tr>
<td>9</td>
<td>pH</td>
<td>6.5-8.5</td>
</tr>
<tr>
<td>10</td>
<td>Iron</td>
<td>0.3</td>
</tr>
<tr>
<td>11</td>
<td>Total hardness (as CaCO₃)</td>
<td>300.0</td>
</tr>
<tr>
<td>12</td>
<td>Chlorides</td>
<td>250</td>
</tr>
<tr>
<td>13</td>
<td>Dissolved solids</td>
<td>500</td>
</tr>
<tr>
<td>14</td>
<td>Phenolic compounds (As C₆H₅OH)</td>
<td>0.001</td>
</tr>
<tr>
<td>15</td>
<td>Zinc</td>
<td>5.0</td>
</tr>
<tr>
<td>16</td>
<td>Sulphate (as SO₄)</td>
<td>200</td>
</tr>
</tbody>
</table>
43. Criteria for Ambient Air Quality monitoring:-

(1) Ambient air quality at the facility and at the vicinity shall be regularly monitored. Ambient air quality shall meet the standards prescribed by the Central Pollution Control Board 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 ug/m³ (24 hours)</td>
</tr>
<tr>
<td>II.</td>
<td>Suspended Particulate Matter</td>
<td>500 ug/m³ (24 hours)</td>
</tr>
<tr>
<td>III.</td>
<td>Methane</td>
<td>Not to exceed 25 per cent of the lower explosive limit (equivalent to 650 mg/m³) (24 hours)</td>
</tr>
<tr>
<td>IV.</td>
<td>Ammonia daily average 9 sample duration 24 hrs.</td>
<td>0.4 mg/m³ (400 ug/m³)</td>
</tr>
<tr>
<td>V.</td>
<td>Carbon monoxide</td>
<td>1 hour average : 2 mg/m³; 8 hour average : 1 mg/m³</td>
</tr>
</tbody>
</table>

44. Criteria for plantation at MSW Based Waste to Energy Plant:-

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

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

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

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

45. Greenbelts shall be developed all around the boundary of the facility of MSW based Waste to Energy Plant in consultation with State Pollution Control Board as per the condition of Schedule-II of Solid Waste Management Rules, 2016.

46. The incoming organic waste at site shall be stored properly prior to further processing. To the extent possible, the waste storage area should be covered. If, such storage is done in an open area, it shall be provided with impermeable base with facility for collection of leachate and surface water run-off into lined drains leading to a leachate treatment and disposal facility as per the condition of Schedule-II of Solid Waste Management Rules, 2016.

47. Necessary precaution shall be taken to minimise nuisance of odour, flies, rodents, bird menace and fire hazard as per the condition of Schedule-II of Solid Waste Management Rules, 2016.

48. In case of breakdown or maintenance of plant, waste intake shall be stopped and arrangements be worked out for diversion of waste to the temporary processing site or temporary landfill sites which will be again reprocessed when plant is in order as per the condition of Schedule-II of Solid Waste Management Rules, 2016;

49. Pre-process and post-process rejects shall be removed from the processing facility on regular basis and shall not be allowed to pile at the site. Recyclables shall be routed through appropriate vendors. The non-recyclable high calorific fractions to be segregated and sent to waste to energy. Only rejects from all processes shall be sent for sanitary landfill site(s) as per the condition of Schedule-II of Solid Waste Management Rules, 2016.

50. Ambient air quality monitoring shall be regularly carried out. Odour nuisance at down-wind direction on the boundary of processing plant shall also be checked regularly as per the condition of Schedule-II of Solid Waste Management Rules, 2016.

51. The Emission from incinerators / thermal technologies in solid waste treatment / disposal facility shall meet the following standards, namely:-

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Emission standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulates</td>
<td>50 mg/Nm³, Standard refers to half hourly average value</td>
</tr>
<tr>
<td>HCl</td>
<td>50 mg/Nm³, Standard refers to half hourly average value</td>
</tr>
<tr>
<td>SO₂</td>
<td>200 mg/Nm³, Standard refers to half hourly average value</td>
</tr>
<tr>
<td>CO</td>
<td>100 mg/Nm³, Standard refers to half hourly average value</td>
</tr>
<tr>
<td></td>
<td>Value</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Total Organic Carbon</td>
<td>50 mg/Nm³</td>
</tr>
<tr>
<td>HF</td>
<td>20 mg/Nm³</td>
</tr>
<tr>
<td>NOx (NO and NO₂ expressed as NO₂)</td>
<td>4 mg/Nm³</td>
</tr>
<tr>
<td>Total dioxins and furans</td>
<td>0.1 ng TEQ/Nm³</td>
</tr>
<tr>
<td>Cd + Th + their compounds</td>
<td>0.05 mg/Nm³</td>
</tr>
<tr>
<td>Hg and its compounds</td>
<td>0.05 mg/Nm³</td>
</tr>
<tr>
<td>Sb+As+Pb+Cr+Co+Cu +Mn+Ni+V+their compounds</td>
<td>0.5 mg/Nm³</td>
</tr>
</tbody>
</table>

**NOTE:** All values corrected to 11% oxygen on a dry basis

**Note:**

(a) Suitable designed pollution control devices shall be installed or retrofitted with the incinerator to achieve the above emission limits.

(b) Waste to be incinerated shall not be chemically treated with any chlorinated disinfectants.

(c) Incineration of chlorinated plastics shall be phased out within two years.

(d) If the concentration of toxic metals in incineration ash exceeds the limits specified in the Hazardous Waste (Management, Handling and Trans boundary movement) Rules, 2008, as amended from time to time, the ash shall be sent to the hazardous waste treatment, storage and disposal facility.

(e) Only low sulphur fuel like LDO, LSHS, Diesel, bio-mass, coal, LNG, CNG, RDF and bio-gas shall be used as fuel in the incinerator.

(f) The CO₂ concentration in tail gas shall not be more than 7%.

(g) All the facilities in twin chamber incinerators shall be designed to achieve a minimum temperature of 950°C in secondary combustion chamber and with a gas residence time in secondary combustion chamber not less than 2 (two) seconds.

(h) Incineration plants shall be operated (combustion chambers) with such temperature, retention time and turbulence, as to achieve total Organic Carbon (TOC) content in the slag and bottom ash less than 3%, or the loss on ignition is less than 5% of the dry weight.

(i) Odour from sites shall be managed as per guidelines of CPCB issued from time to time.

Sd/-
MEMBER SECRETARY

To,

M/s. Jindal Urban Waste Management (Guntur) Ltd,
Jindal ITF Center, 28, Shivaji Marg,
Delhi Industrial Area,
West Delhi – 110015.

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

JOINT CHIEF ENVIRONMENTAL ENGINEER
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