



**State Level Environment Impact Assessment Authority, Jharkhand**

Nursery Complex, Near Dhurwa Bus Stand, P.O+P.S-Dhurwa, Ranchi, Jharkhand-834004

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Letter No. : EC/ SEIAA/2021-22/2671/2021/

Ranchi, Date:

To: **RANCHI NAGAR NIGAM,**  
**Assistant Municipal Commissioner,**  
**Ranchi Nagar Nigam,**  
**Ranchi Municipal Corporation,**  
**Kutchary Road, Ranchi - 834001.**

Sub: Prescribing of ToR to “Integrated Municipal Solid Waste Management Facility Project of Ranchi Municipal Corporation at Village : Jhiri, Tehsil : Kanke, Distt. : Ranchi, Jharkhand” (Proposal No. : SIA/JH/MIS/73513/2022) - regarding.

Ref: Your application no.- Nil, dated- 17.11.2022.

Sir,

It is in reference to the project “Integrated Municipal Solid Waste Management Facility Project of Ranchi Municipal Corporation at Village : Jhiri, Tehsil : Kanke, Distt. : Ranchi, Jharkhand” submitted by you for seeking Terms of Reference (ToR).

This is a new project which was listed for consideration on 12.01.2023.

The proposal was considered by the committee to determine the “Terms of Reference (TOR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendments thereafter. For this purpose the Project Proponent has submitted the prescribed Form - I & PFR the proposed project falls under item 7 (i) Common Municipal Solid Waste Management Facility (CMSWMF) as per EIA Notification, 2006.

Currently collection, transportation and dumping of solid waste of entire 53 wards are done by Ranchi Municipal Corporation (RMC). RMC appointed concessionaire for door-to-door waste collection and transportation of waste with mechanical sweeping of major roads. For processing of municipal waste RMC & GAIL (INDIA) Limited, A Government of India Undertaking-A Maharatna Company has signed agreement to set up Compressed Bio Gas (CBG) plant in Ranchi to produce CBG from Municipal Solid Waste.

Compressed Bio Gas (CBG) plant capacity is 2x150 TPD bio-degradable organic MSW as input and 2x5 MW is output. Plant will set up at Jhiri dumping yard. Total area of Jhiri dumping yard is approx. 42.05 acres and plant will be set up in 8 acres of land.

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The proposed project comprises of daily primary and secondary collection of MSW generated within the service area, including residential (door-to-door collection), commercial, institutional, market places, etc., and transportation of MSW to the Proposed Integrated Solid Waste Management Facility for processing and disposal of waste, in compliance with Solid Waste Management Rules 2016.

The waste to energy plant will use bio methanation technology. Anaerobic co-digestion of many different substrates has achieved the most success when utilizing a Continuous Stirred-Tank Reactor (CSTR). Biogas production is a complex process resulting from incomplete anaerobic mineralization of biomass, carried out in four steps in single-phase. Organic acids formed in the hydrolysis and acidogenesis are intermediates of the biological process and can be described as nutrients for the microbes in the acetogenesis and methanogenesis.

A key design parameter for CSTR digester system is the overall loading rate. Loading rates are commonly expressed as the number of days of retention time or the quantity of organic matter applied to a given tank volume. Common detention times for farm-based waste digesters are roughly 20-30 days. Experience has shown that this time represents an optimum time where gas yield is maximized without over designing the residence time. Facilities that are co-digesting more complex wastes that include fats and proteins will commonly have retention times higher than 30 days.

The CSTR is a proven digester design consisting of an above-ground tank with a Flexible Double membrane roof. Biogas is collected at the top of the tank and is pumped to a separate gas holder. Digestate is removed from the base of the digester tank. Bio Gas will be purified (removal of Moisture) & compressed to make CNG for fuel to run automobile.

RMC proposes its Integrated Municipal Solid Waste Facility at Jhiri, Ranchi, Jharkhand. Geographically the site is located at Latitude: 23° 24' 41.10" N and Longitude: 85° 15' 21.28" E. The location is well connected by road and Rail. The site is only 1.0 km away from NH75 and is about 0.11 km from Ring Road. The nearest railway station is Ranchi Railway Junction which is about 10.5 km.

#### Details of the proposed project:

Sl. no.	Information	Details
1.	Project Name	Integrated Municipal Solid Waste Management Facility Project at Village : Jhiri, Tehsil : Kanke, Distt. : Ranchi, Jharkhand.
2.	Area	Total area : 42.05 acres Area utilized for development : 23.05 acres Area for waste to CBG plant : 8 acres Sanitary landfill : 11 acres
3.	Name of the Client	Ranchi Municipal Corporation, Ranchi
4.	Water requirement and its source	20 KLD (Source : Bore Wells)
5.	Power supply and its source	20 KVA (Source : State Electricity Board)

6.	Project cost	28.19 Crore
7.	Nearest railway station	Ranchi Railway Junction is approx. 10.5 km in South East.
8.	Nearest SH/NH	NH-39 is 1 km towards SW
9.	Nearest airport	Birsa Munda International Airport, Ranchi is approx. 13 km in SE.

#### LAND DETAILS:

Khata No.	Plot No.
54	219, 251, 252 & 261
77	249, 253, 254, 255, 218 & 260
29	250
27	262

#### STATUTORY CLEARANCES:

1	DFO Forest Distance	DFO, Ranchi Forest division vide letter no. 3548, dated 30.10.2018 certified that the distance of Gutwa forest is 4800 m from proposed project site.
2	DFO wildlife	: DFO, Ranchi Forest division vide letter no. 3548, dated 30.10.2018 certified that the said project is outside Eco Sensitive Zone.
3	CO certificate	: The CO, Ratu (Ranchi) vide letter no. 893 (ii), dated 23.10.2018 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyani & Register II.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meeting held during 09<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup> and 14<sup>th</sup> January, 2023 the Committee recommends issuing of TORs for consideration of SEIAA for undertaking detailed EIA / EMP study and alongwith following specific condition as recommended by SEAC :

SEAC, Jharkhand has suggested the ToRs in its 100<sup>th</sup> meeting 09<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup> and 14<sup>th</sup> January, 2023 and SEIAA, Jharkhand has approved the ToRs in its 101<sup>st</sup> meeting held on 23<sup>rd</sup> & 24<sup>th</sup> January, 2023.

The TORs prescribed for undertaking detailed EIA study are as follows:

#### 1. Executive Summary

#### 2. Introduction

- Details of the EIA Consultant including NABET accreditation.
- Information about the project proponent.
- Importance and benefits of the project.

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#### **A. Specific Conditions:**

- i. A study on the possibility of utilization of H<sub>2</sub>S to be carried out and included in the EIA report.
- ii. The calculation of hazardous waste generation and its management in RMC area to be included in the EIA report.
- iii. A study on Leachate generation and its characterization to be conducted and TCLP test report to be included in the EIA report.
- iv. A comprehensive study on surface water and ground water quality, soil quality and odor to be conducted and included in the EIA report alongwith corresponding mitigation measures.
- v. The mechanism for storm water management for project area to be provided in the EIA report.
- vi. Three row plantation plan all along the boundary of the project area to be clearly indicated on the plant layout plan.

#### **B. Standard Terms of Reference:**

1. The project should be designed based on the population projections as per Master Plan.
2. Submit a 10 km. radius map (on survey of India toposheet) showing co-ordinates of project site, national highway, state highway, district road/approach road, river, canal, natural drainage; protected areas, under Wild Life (Protection) Act, archaeological site, natural lake, flood area, human settlements (with population), industries, high tension electric line, prominent wind direction (summer and winter), effluent drain, if any and ponds etc. should be presented and impacts assessed on the same.
3. Examine and submit details of alternative technologies viz. RDF shall also be evolved.
4. Examine and submit details of storm water/ leachate collection from the composted area.
5. Examine and submit details of monitoring of water quality around the landfill site. Water analysis shall also include for nitrate and phosphate.
6. Examine and submit details of the odour control measures.
7. Examine and submit details of impact on water bodies/rivers/ ponds and mitigative measures during rainy season.
8. Submit the criteria for assessing waste generation. Any segregation of hazardous and bio-medical wastes.
9. Submit a copy of the layout plan of project site showing solid waste storage, green belt (width & length, 33% of the project area), all roads, prominent wind direction, processing plant & buildings etc. should be provided.
10. Submit a copy of the land use certificate from the competent authority.
11. NOC from local or nearest airport within 20 km and any flight funnel restrictions.







12. Submit a copy of the status of ambient air quality and surface and ground water quality, soil type, cropping pattern, land use pattern, population, socio-economic status, anticipated air and water pollution.
13. Submit a copy of the topography of the area indicating whether the site requires any filling, if so, the details of filling, quantity of fill material required, its source and transportation, etc.
14. Examine and submit the details of impact on the drainage and nearby habitats/settlements (surroundings).
15. Examine and submit the details of surface hydrology and water regime and impact on the same.
16. Examine and submit the details of one complete season AAQ data (except monsoon) with the dates of monitoring, impact of the project on the AAQ of the area (including H<sub>2</sub>S, CH<sub>4</sub>).
17. Submit a copy of detailed plan of waste management.
18. Submit the details of sanitary land fill site impermeability and whether it would be lined, if so details thereof.
19. Examine and submit the details of impact on environmental sensitive areas.
20. Examine and submit the details of rehabilitation/compensation package for the project effected people, if any.
21. Submit Environmental Management Plan and Environmental Monitoring Plan with costs and parameters.
22. Public hearing to be conducted for the project in accordance with provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan. The Public Hearing should be conducted based on the ToR letter issued by the Ministry and not on the basis of Minutes of the Meeting available on the web-site.
23. A detailed draft EIA/EMP report should be prepared in accordance with the above additional TOR and should be submitted to the Ministry in accordance with the Notification.
24. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
25. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
26. Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Common Municipal Solid Wastes>".
27. Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the F.R for securing the TOR) should be brought to the attention of SEIAA, Jharkhand with reasons for such changes and permission should be sought, as the TOR may also have to be altered.



28. The prescribed TORs would be valid for a period of three years for submission of the EIA / EMP reports, as per the O.M. No. J-11015 / 109 / 2013 – IA.II (M), dated 12.01.2017.

Sd/-

Member Secretary  
State Level Environment Impact  
Assessment Authority, Jharkhand.

Memo No. : EC/SEIAA/2021-22/2671/2021/ 372

Dated: 30/01/2023

Copy to:

1. Additional Chief Secretary, Department of Forests, Environment & Climate Change, Govt. of Jharkhand for information and necessary action.
2. Member Secretary, Jharkhand State Pollution Control Board, Ranchi.
3. Secretary, SEAC, Jharkhand, Ranchi for information and necessary action.

Member Secretary  
State Level Environment Impact  
Assessment Authority, Jharkhand

at

30/01/2023