

KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM

Present : Shri. Preman Dinaraj, Chairman
Adv. A.J Wilson, Member (Law)

OP No 40/2021

In the matter of : Petition in the matter of determination of Generic Tariff for Electricity generated from Municipal Solid Waste (MSW) to energy Projects under Section 62, Section 86(1) (e) of Electricity Act 2003.

Petitioner : Kerala State Electricity Board Ltd.
KSEB Ltd represented by : Dr. G. Sreenivasan, Deputy Chief Engineer
Sri. K.G.P. Nampoothiri, Executive Engineer

Date of the hearing : 07.09.2021

Order dated 05.10.2021

1. KSEB Ltd, on 04.08.2021, filed a petition before the Commission with the following prayers.

“KSEBL humbly prays before this Hon’ble Commission for looking into the possibility of determining generic tariff for Electricity generated from Municipal Solid to Waste (MSW) to energy Projects in accordance with Section 62, Section 86(1)e of the EA-2003, as decided by the Government of Kerala.”

2. Summary of the petition filed by M/s KSEB Ltd is given below.

- (1) Government of Kerala has accorded high priority to the solid waste management in environmentally sustainable manner. The Government policy intends to develop integrated Solid Waste Management Projects with Waste to Energy Plants in Thiruvananthapuram, Kollam, Ernakulam, Thrissur, Palakkad, Malappuram, Kozhikode and Kannur districts on DBFOT basis through PPP model.
- (2) Government observed that the finalisation of the power tariff of the Waste to Energy project is a time consuming process involving multiple procedural requirements. Delay in finalisation of the power tariff affects the pace of development of the project since to tie-up the financial support and financial closure a definitive power tariff for such projects is essential.

Government further observed that, a pre-determined power tariff would provide a financially sound foundation to the development of MSW project especially in PPP basis.

- (3) The high-level meeting held by Chief Principal Secretary to the Chief Minister on 25.06.2021, observed that arriving at the tariff of the electricity generated from solid waste is one of the serious points of delay in project implementation and tendering process. Hence, the Government has decided to request the KSERC to fix a generic tariff for electricity from the Solid Waste Projects, which would be valid for a specified period to be decided by the Commission. The high-level meeting also observed that Karnataka Electricity Regulatory Commission (KERC) has standardised the tariff for the electricity from Solid Waste.

Electricity Regulatory Commissions of other States including Tamilnadu, Haryana, Maharastra etc too have determined generic tariff for waste to energy projects in their respective States.

- (4) Regulation 55 of the KSERC (Renewable Energy & Net Metering) Regulations, 2020 specify that the 'Commission shall determine only project specific capital cost and tariff based on prevailing market trends for MSW projects. Hon'ble Commission had determined project specific tariff for 10MW MSW based WtE plant at Brahmapuram, Kochi @ Rs 6.17/unit and 6MW WtE project at Kozhikode @Rs 6.81/unit without the benefit of accelerated depreciation.

While determining the tariff of the Kozhikode WtE project, the Commission had considered a generic capital cost of Rs 15.00 crore/MW, as specified by CERC in the CERC (Terms and Conditions for Tariff determination from RE sources) Regulations, 2015 as the primary basis. Additionally, Rs 1.00 crore/MW was allowed to comply with various environmental norms etc.

The Commission also observed in the Order dated 10.02.2021 in Petition OA No. 06/2021 that, Capital Financial Assistance upto Rs 5.00 crore/MW is available to MSW projects.

- (5) KSEB Ltd also submitted the tariff determined by other SERCs for WtE projects, as detailed below.

Sl No	State	Tariff (Rs/kWh)	Remarks
1	KARNATAKA	7.08	MSW plant Order issued on 19.09.2016 and extended the validity (3 times) up to 31.03.2021
2	MAHARASHTRA	6.08	Levelised Tariff (with CFA) Order issued on 22/03/2021 (in connection with tariff determination of Pune Bioenergy Systems Pvt. Ltd 13.19 MW)
3	HARYANA	6.66	Suo Motu Order dated 20.12.2019 for WtE for FY 2019-20 & FY 2020-21
4	ANDHRA PRADESH	7.50	Retained the tariff (2016 & 2019) for enhancement project Order dated 8/04/2019
5	TAMILNADU	6.28	Comprehensive Tariff Order for MSW plant dated 28-03-2019

4. The Commission admitted the petition as OP 40/2021. Hearing of the petition was held on 07.09.2021 through video conference. Sri. K.G.P. Nampoothiri, Executive Engineer presented the petition. The summary of the deliberations during the hearing is given below:

- (1) KSEB Ltd submitted that, a meeting was conducted on 25.06.2021 by the Chief Principal Secretary to the Chief Minister to discuss the standardization of Electricity Tariff for Solid Waste Management Projects in the State. Mentor (Science) to Hon'ble CM, Principal Secretary, LSGD (Urban), Secretary, Power Department, GoK and Chairman, KSEB Ltd attended the meeting.

It was decided in the meeting that the Electricity Regulatory Commission shall be requested by Government for fixing a generic tariff for electricity from the Solid Waste Projects in the State which would be valid for a specified period as decided by the Commission.

Determination of project specific tariff is a time consuming process and will also not give price signals to developers who are interested in investing in WtE plants in the State. SERCs of Karnataka, Maharashtra, Haryana, Andhra Pradesh and Tamilnadu have fixed generic tariff for the WtE plants.

Regulation 55 of the KSERC (Renewable Energy & Net Metering) Regulations, 2020, specifies that the Commission shall determine only project specific capital cost and tariff based on prevailing market trends for MSW projects.

- (2) During the hearing, the Commission clarified the following.
 - (i) As a statutory body, the Commission has to exercise its statutory functions as per the provisions of the Electricity Act, 2003 and Regulations notified by the Commission.
 - (ii) As per the KSERC (Renewable Energy & Net Metering) Regulations,2020, the Commission has to determine the project specific tariff for all the WtE plants separately, irrespective of its capacity. Hence, in order to determine the generic tariff for WtE plants, the Commission is required to amend the KSERC (Renewable Energy & Net Metering) Regulations,2020, in accordance with the procedures including pre-publication, public hearings etc.
 - (iii) WtE plants established in each site may be different due to the different technology adopted, nature of waste and the process required to combust the fuel etc.
 - (iv) Since the WtE plants are capital intensive, the State Government/ Local Self Government Departments are offering Tipping fee for the collection and transportation of waste from the households to

the plant site. The tipping fee available to the developer is also required to be factored while determining the generic tariff of WtE plants so that the tariff is viable to the DISCOMS and will not result in additional burden to the consumers of the State.

- (v) The above aspects have to be appraised to the LSGD in State Government and their considered opinion is required for determining the generic tariff for MSW based power projects.
- (vi) KSEB Ltd has to propose a generic tariff for MSW based power plants with supporting documents for initiating the process including pre-publication, stakeholder consultation and public hearings for amending the RE Regulations, 2020.

Analysis and Decision

5. The Commission has examined in detail the petition filed by KSEB Ltd as per the provisions of the Electricity Act, 2003 and KSERC (Renewable Energy & Net Metering) Regulations, 2020, and decide as follows.

6. KSEB Ltd, has filed the instant petition with the prayer to *'looking into the possibility of determining generic Tariff for electricity generated from MSW to energy projects in accordance with the Section 62, Section 86(1)(e) of the EA-2003 as decided by the Government of Kerala'*. The Commission examined the prayer of the KSEB Ltd in detail and noted the following.

- (1) The Commission fully appreciates the high priority given by the State Government for Solid Waste Management and the proposal to develop integrated Solid Waste Management projects with Waste to Energy in Thiruvananthapuram, Kollam, Ernakulam, Thrissur, Palakkad, Malappuram, Kozhikode and Kannur districts on DBFOT basis through PPP model.
- (2) The Tariff Policy, 2016, notified by the Central Government in compliance of the Section-3 of the Electricity Act, 2003 provide as follows.

"6.4(1)(ii) Distribution Licensee(s) shall compulsorily procure 100% power produced from all the Waste-to-Energy plants in the State, in the ratio of their procurement of power from all sources including their own, at the tariff determined by the Appropriate Commission under Section 62 of the Act."

In line with the Tariff Policy 2016, the Commission has already instructed KSEB Ltd to procure the entire electricity generated from MSW based power plants at the tariff determined by this Commission.

- (3) As part of promoting Renewable Energy Generation in the State including the electricity generation from power plants based on MSW fuel, the Commission vide the notification No: 1204/D(T)/2019/KSERC dated 7th February 2020, has notified the Kerala State Electricity

Regulatory Commission (Renewable Energy & Net Metering) Regulations, 2020, (herein after referred as RE Regulations, 2020). The said Regulations was published in the official Gazette on 05.06.2020 and came into force in the State from the date of publication in the Gazette. The said Regulations were notified after completing all the procedural formalities including 'pre publication, stake holder consultation & public hearings'.

- (4) As per the Regulation 36 read along with Regulation 55 of the RE Regulations, 2020, the Commission has to determine project specific tariff of the power projects using Municipal Solid Waste/ refused derived fuel & based on Ranking Cycle Technology. Hence, for determining the levellised generic tariff for the power generated from Waste to Energy Plants in the State, the Commission has to incorporate this provision by making suitable amendments to the above provisions in the RE Regulations 2020. The process of amendments involves prepublication of the draft amendment, stake holder consultation and public hearings. In order to facilitate the process. The interested party, i.e., KSEB Ltd, has to file a proper petition for amending the provisions of the RE Regulations, 2020 to determine the generic tariff for electricity generated from MSW based power projects.
- (5) The Commission notes that Capital cost per MW required for establishing the MSW based power plant is one of the basic parameters for the determination of generic tariff. At present, various technologies are available for producing electricity from MSW based power plants. It is also a fact that the per MW capital cost of the MSW based power plants differs based on the type of technology adopted for such projects. Hence, in order to facilitate the determination of generic tariff for the electricity generated from MSW based power projects to be established at various locations across the State, the LSG Department of State Government has to specify the technology proposed to be adopted for the MSW based power plants while selecting the concessionaire and communicate the same.
- (6) WtE plants are capital intensive. The entire capital cost of such projects including the collection of the MSW from its source, transportation of MSW to the plant site, cost associated with the drying and processing of waste etc cannot be fully factored into the tariff for electricity generated from such plants. At present, a considerable amount has been earmarked by the LSGD for MSW collection and its disposal. Considering these aspects, the State Government/ Local Self Government Departments are offering Tipping fee to the developer for the collection and transportation of waste from the households to the plant site and also to meet a part of the other expenses
- (7) The Government of Kerala, vide its Order No G.O.(Ms)No.50/2019/LSGD, dated, Thiruvananthapuram, 14.5.2019, had approved the tipping fee of Rs 3500/tonne to the concessionaire of the Kozhikode MSW based project. Such tipping fee available to the developer is also required to be factored while

determining the generic tariff of WtE plants, so that the tariff is viable to the KSEB Ltd. Considering these aspects, the LSGD in State Government also has to communicate its decision on tipping fee per MT of MSW, available to the concessionaire of the MSW based power plants.

- (8) The Central and State Government has been providing Central Financial Assistance and Viability Gap Funding for power plants based on MSW. These funds too have to be factored while determining the generic tariff of the MSW based power plants.
7. To this end, KSEB Ltd shall get a clarification from the LSGD in State Government on the issues discussed under paragraphs 6(5) to 6(8) at the earliest for initiating the process of determining the generic tariff for MSW based power projects. Further, KSEB Ltd, shall file a detailed proposal for determining the generic tariff for MSW based power plants with supporting documents for pre-publication, stake holder consultation and public hearings for incorporating the same in KSERC (Renewable Energy & Net Metering) Regulations, 2020.
8. A copy of this order is also forwarded to the Local Self Government Department in State Government for information.

Orders of the Commission

9. The Commission after examining the petition filed by KSEB Ltd as per the provisions of the Electricity Act, 2003 and KSERC (Renewable Energy & Net Metering) Regulations, 2020, hereby orders the following.
 - (1) KSEB Ltd shall get a clarification from the Local Self Government Department (LSGD) in the State Government on the issues discussed under paragraphs 6(5) to 6(8) of this order.
 - (2) Appreciating the importance being accorded to the issue of Solid Waste Management and its disposal by the State Government, KSEB Ltd, shall file a detailed proposal preferably within the next 3 months for determining the generic tariff for MSW based power plants mentioning the technology to be adopted with supporting documents so as to amend the KSERC (Renewable Energy & Net Metering) Regulations, 2020 and to incorporate the generic tariff for MSW based projects after pre-publication, stakeholder consultation and public hearings.

The petition disposed off. Ordered accordingly.

Sd/-
Adv. A.J. Wilson
Member (Law)

Sd/-
Preman Dinaraj
Chairman
Approved for issue

C R Satheeshchandran
Secretary (i/c)