

BEFORE THE HARYANA ELECTRICITY REGULATORY COMMISSION AT PANCHKULA

Case No. HERC/Petition No. 1 of 2025

Date of Hearing : 26.03.2025

Date of Order : 26.03.2025

IN THE MATTER OF

Determination of fuel cost, for the FY 2024-25, for renewable energy projects set up / to be set up in Haryana viz. Biomass, Paddy Stubble, Biogas, Biomass Gasifier & Bagasse / Non-bagasse (cogeneration), on the basis of parameters, except fuel cost, provided in the Haryana Electricity Regulatory Commission (Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy Certificate) Regulations, 2021- Suo Motu.

Present:

Mr. Hemant Sahai, Advocate, M/s. SAEL Kaithal Ltd. and M/s. Hind Samachar Ltd.
Ms. Molshree Bhatnagar, Advocate, M/s. SAEL Kaithal Ltd. and M/s. Hind Samachar Ltd.
Mr. Shaيدا Dass, Advocate, M/s. SAEL Kaithal Ltd. and M/s. Hind Samachar Ltd.
Ms. Kanya Sharma, Advocate, M/s. SAEL Kaithal Ltd. and M/s. Hind Samachar Ltd.
Mr. Varun Todi, Director, M/s. Starwire (India) Vidyut Pvt. Ltd.
Mr. Gaurav Gupta, Xen, HPPC
Mr. Raghavendar Patel, M/s. Jind Bio-Energy LLP

Quorum

**Shri Nand Lal Sharma
Shri Mukesh Garg**

**Chairman
Member**

ORDER

Brief Background

1. The Haryana Electricity Regulatory Commission (Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy Certificate) Regulations, 2021, notified on 30.04.2021 (hereinafter referred to as "the HERC RE Regulations, 2021"), provides for terms and conditions and the procedure for determination of tariff of the Renewable Energy (RE) generators in Haryana.
2. As per regulation 6 (1) of the HERC RE Regulations, project specific tariff, on case to case basis, may also be determined by the Commission for the following types of projects: -
 - (a) Processed Municipal Solid Waste (WtE) Projects
 - (b) Poultry litter / Cow dung etc.
 - (c) small / micro hydro power projects of 25 MW and below
 - (d) Renewable energy with storage projects

- (e) Biomass project other than that based on Rankine Cycle technology application with water cooled / air cooled condenser
 - (f) Non-fossil fuel-based co-generation project
 - (g) Any other new renewable energy technologies that may be approved by MNRE i.e. Solid oxide fuel cell (SOFC) etc.
3. Section 61 read with Section 181 (2) of the Electricity Act, 2003 casts statutory obligation on the State Commissions to promote co-generation and generation of electricity from renewable sources of energy and to make Regulations by way of notifications to carry out the provisions of the Act.
 4. Further, as per Regulation 6 (3) of the HERC RE Regulations, these regulations shall apply to the RE Power Projects set-up / to be set – up in Haryana and where the tariff is determined by the Commission u/s 62 of the Electricity Act, 2003 for grid connected RE Projects except the general provisions for banking, RPO, Late Payment Surcharge / rebate etc. applicable for all concerned.
 5. Regulation 7 (1) of the HERC RE Regulations provides as under:-
“The Commission shall determine the indicative tariff on the basis of suo-motu petition at least six months in advance at the beginning of each year of the Control period for renewable energy technologies for which norms have been specified under the Regulations.”
 6. Regulation 9 of the HERC RE Regulations specifies the tariff design, as under:-
*“(1) The generic tariff, for the control period as per these Regulations, shall be determined, for the entire tariff period/useful life of the project.
 Provided that for renewable energy projects having single part tariff with two components viz. fixed cost component shall be determined on levelized basis considering the year of commissioning of the project while fuel cost component shall be determined on annual basis and the same shall also be prospectively (i.e. from the date of the Order) applicable for the projects commissioned during the previous control periods.

 (2) For the purpose computation of levelled tariff, the discount factor equivalent to weighted average cost of capital {Term Loan (R) and Return on Equity (RoE)} shall be considered i.e. $\{(R \times 0.7) + (RoE \times 0.3)\}$.
 (3) The above principles shall also apply for the determination of project specific tariff under these Regulations.”*
 7. The Commission in its orders dated 27.01.2021 (HERC/PRO-50 of 2020 & HERC/PRO-51 of 2020, in the matter of M/s. GEMCO and M/s. Starwire) and dated 03.03.2021 (HERC/PRO-47 of 2020, in the matter of M/s. Sri Jyoti), had decided as under:-

“The Commission is in the process of issuing RE Regulations, for the control period from FY 2021-22 to FY 2024-25. Accordingly, the tariff shall be charged by the Petitioner, for the energy supplied, during the control period from FY 2021-22 to FY 2024-25, in accordance with the provisions contained in these Regulations including dispensation on ‘fuel cost’ for the projects already commissioned prior to the FY 2021-22. Till then the fuel cost shall be frozen at the FY 2020-21 levels as per HERC Order dated 9.10.2015 for the projects commissioned in the FY 2013-14. It is added that, hence forth, the Commission shall determine ‘fuel cost’ on an annual basis for the RE Projects set up / to be set up in Haryana so as to ensure that fuel cost remains aligned to the prevailing market conditions.”

8. Further, the Commission in its order dated 26.07.2024, while disposing off Petition No. 24 of 2024 filed by M/s. Star Wire (India) Vidyut Pvt. Ltd., decided as under:-

“9.
.....the process of getting an independent State specific study for determination of the fuel cost for biomass based Renewable Energy power plants for the FY 2024-25, has already been initiated and upon the receipt of the report, the same shall be made available on the website of the Commission. The petitioner has averred that the present case can be taken up along with the suo-moto proceedings which the Commission may initiate for determination of fuel cost of biomass for the FY 2024-25.

The Commission is of the considered view that the main contour of the present petition i.e. to get an independent State specific study, is already under its consideration. Therefore, keeping alive of the present petition and merging of the same with the future suo-moto proceedings to be initiated by the Commission for determination of fuel cost of biomass for the FY 2024-25, does not stand to logic. In any case, the study report shall be hosted on the website of the Commission inviting comments/ suggestions/ objections of all the intervenors including the petitioner herein.”

9. The Commission observes that the various components of fixed cost and variable cost for determination of tariff, are already specified in the HERC RE Regulations, 2021. Hence, the same is not being re-produced here.
10. The Commission, in accordance with the provision of Regulation 9(1) of the HERC RE Regulations in vogue as well as orders of the Commission dated 27.01.2021/03.03.2021 as well as 26.07.2024, considered it appropriate to suo-motu

initiate the process of determination of levelized cost of RE projects mentioned in para 2 of this order, for the FY 2024-25.

11. In order to assist the Commission in assessing the quantum and delivered cost of paddy stubble, bagasse and biomass at the power generator's site, in Haryana, a work order no. 690/HERC dated 10.06.2024 was issued to M/s. Chaudhary Devi Lal University (CDLU), Sirsa. CDLU, Sirsa had submitted their final report, vide email dated 27.12.2024. On the basis of the report of CDLU, Sirsa, the Commission had proposed the cost of paddy straw as Rs. 3255/MT (square bale upto 25 KM), cost of bagasse as Rs. 2462/MT, and cost of biomass at Rs. 4175/MT, for the FY 2024-25. Further, the Commission in exercise of its power conferred by regulation 73 of HERC RE Regulations, 2021, has considered it appropriate to relax the condition of consumption of minimum of 30% of the fuel requirement met from Paddy Straw by all biomass/non- fossil based cogeneration plants, as provided under regulation 36 (3) of the ibid regulations. Accordingly, the cost of biomass fuel has been considered on the basis of study conducted by CDLU, Sirsa without giving weightage of paddy straw mix of 30%. The Commission is of the considered view that allowing higher fuel cost will incentivize the biomass power generators to utilize maximum paddy straw taking into consideration of its landed cost at their generating plants and its availability which otherwise also is having alternative sources of consumption within the 25 km radius in pellets manufacturing units, bio-ethanol manufacturing units, compressed biogas (CBG) etc.
12. Further, in order to promote higher utilization of paddy straw and curb the menace of burning of paddy straw, the Commission has considered it appropriate to incentivize PLF above normative level of 80%. Accordingly, for the annual generation of paddy straw based biomass power generating plants achieving PLF between 80% to 90% and 90% to 100%, a special incentive tariff of Rs. 0.50/unit and Rs. 1/- per unit, respectively, over and above the tariff of fuel cost (Rs./kWh) determined for 80% PLF has been provided, as the fixed cost is fully recovered at 80% PLF. This incentive shall be applicable for additional generation achieved above the normative level of 80%.
13. Considering the fuel cost (Rs./MT) discussed above and taking all other parameters as provided in the HERC RE Regulations, 2021, notified on 30.04.2021, the tariff for the FY 2024-25, comprising of levelized fixed cost for the entire useful life of the projects and fuel cost for the FY 2024-25, for various technologies of biomass/bagasse/biogas, considering the escalation factor of 2.93% over the O&M cost determined for the FY 2023-24, was proposed as under:-

FY 2024-25	Fuel	Tariff	Tariff	Total Tariff	Levelized
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	Cost	(Fuel Cost)	(Levelized Fixed Cost)	for the FY 2024-25	(Useful Life)
RE Technology	(Rs. /MT)	INR/kWh	INR/kWh	INR/ kWh	Indicative INR / kWh
Biomass (Air Cooled - TG, 100% Paddy Straw) *	3,255	5.01	2.74	7.75	8.83
Biomass (Air Cooled - AFBC, 100% Paddy Straw) *	3,255	4.92	2.73	7.65	8.72
Biomass (Water Cooled - TG, 100% Paddy Straw) *	3,255	4.90	2.59	7.49	8.55
Biomass (Water Cooled - AFBC, 100% Paddy Straw) *	3,255	4.81	2.58	7.40	8.44
Biomass (Air Cooled - TG, Biomass)	4,175	6.31	2.61	8.92	10.29
Biomass (Air Cooled - AFBC, Biomass)	4,175	6.22	2.60	8.82	10.17
Biomass (Water Cooled - TG, Biomass)	4,175	6.17	2.47	8.64	9.98
Biomass (Water Cooled - AFBC, Biomass)	4,175	6.08	2.46	8.54	9.86
Bagasse Co-generation (Sugar Mills)	2,462	4.31	2.47	6.78	7.71
Biomass / Non-Bagasse Cogeneration	4,175	5.30	1.77	7.07	8.22
Biomass Based Gasifier	4,175	5.80	2.41	8.21	9.47
Biogas	705	2.47	2.98	5.46	5.99

* A special incentive of Rs. 0.50/unit and Rs. 1/- per unit, over and above the tariff of fuel cost (Rs./kWh) determined above for 80% PLF, is applicable for the annual generation achieving PLF between 80% to 90% and 90% to 100%, respectively. This incentivized tariff shall be applicable for additional generation achieved above the normative level of 80%.

Public Proceedings

14. The Commission issued a draft order proposing fuel cost for the FY 2024-25, for various technologies of biomass/bagasse/biogas and invited comments/suggestions/objections from the stakeholders on the same. A public notice was hosted on the website of the Commission as well as in 'The Tribune' and 'Amar Ujala', both dated 09.01.2025, inviting comments/ suggestions/objections on affidavit latest by 26.01.2025.
15. In response, the following stakeholders have filed their comments/suggestions, within the due date of filing comments i.e. 26.01.2025: -
 - 15.1 M/s. Hind Samachar Ltd. and M/s. SAEL Kaithal Ltd.
 - 15.2 M/s. Starwire (India) Vidyut Pvt. Ltd.
 - 15.3 Haryana Power Purchase Centre, Panchkula (HPPC)

The Comments filed / issues raised by the intervenors, reply on the same from M/s. CDLU, Sirsa and Commission's view thereon, are as follows:-

- 15.1 M/s. Hind Samachar Ltd. and M/s. SAEL Kaithal Ltd.
The Comments filed by M/s. Hind Samachar Limited ("HSL") and M/s. SAEL are identical. Therefore, separate discussion on the same is not required.

The interveners have submitted as under:-

- a) That Regulation 38 of the HERC RE Regulations 2021 provides that the Biomass fuel price for the first control period shall be INR 3000/MT and the same shall be escalated at the rate of 2.93% per annum. First proviso of the said regulation provides that the fuel cost shall be determined on a year-to-year basis so that the fuel cost remains aligned to the prevailing market conditions. Moreover, the second proviso to said regulations provides that the commission while determining the fuel cost would consider the appropriate price weightage in order to gainfully utilize and prevent the burning of paddy straw / stubble. Accordingly, by virtue of the draft tariff order, this Hon'ble Commission is not only determining the generic fuel cost for the FY 2024-2025 but also the final fuel cost so determined shall also be applicable in case of project specific determination of tariff for 100 percent paddy based WTE projects, such as the 15 MW paddy straw-based biomass project of intervener.
- b) That the cost of Paddy Straw considered by this Hon'ble Commission, as Rs. 3255/MT (square bale up to 25 KM), for the FY 2024-25, is very low if compared to the prevailing market prices at which the generator is procuring the fuel. In this regard, the CDLU Report cannot be relied upon completely by this Hon'ble Commission since the same highlights certain gaps which need indulgence of this Hon'ble Commission while determining the fuel cost for FY 2024-25. The CDLU Report asserts that its analysis is based on a sample of districts; however, this Hon'ble Commission must consider whether the sample size was sufficient to accurately reflect the true fuel cost. Notably, the CDLU Report identifies 19 districts in Haryana where Paddy Straw cultivation occurs, but the report itself is based on a study of only 14 randomly selected districts to assess the fuel cost. CDLU Report further lacks authenticity since it does not rely upon all the components that are necessary for the determination of the fuel cost. During the process of the fuel procurement, the generators bear significant expenses, which are not only limited to machinery but also for ensuring safe storage conditions of the Paddy Straw, which involve preventing risk such as spontaneous combustion or fire, storage losses, insurance cost etc.

That procurement / collection of paddy straw is not a regulated activity and therefore, the cost of paddy is dependent on negotiations between the farmers and the collectors/aggregators. Since the farmers have a short window to clear the fields, and storing paddy is economically not viable for the farmers, if not procured at the asking price, incidents of stubble burning are often reported.

Further, since it is an unregulated sector, there is no ceiling price and procurement is solely dependent on demand /supply factors.

That paddy straw is collected from the paddy cultivated area through appointments of contractors / aggregators who will be utilising the equipment like cutter, raker, baler, tractor etc. for processing the paddy, making it ready as fuel to be used by projects. It is then the paddy straw is collected in bales and supplied to collection centres/projects depending on the proximity from the source of supply. After purchase the Paddy straw, it has to be transferred from the farmer to the intended generating plants. Pertinently, during the transportation of the same till the generating station, paddy straw loss is caused which also results in the increase in cost of its purchase. To transport to the generating station, labourers are engaged for handling of paddy straw, whose rates fluctuate on seasonal basis i.e., during seeding time, cutting time of crop, festival time, marriage. In certain instances, machinery such as JCB, Hydra, Tractor are required in the raining season. Thus, the entire fuel handling cost is an essential part of the fuel cost and ought to be considered. The entire value chain of paddy stubble cutting, raking, baling and then transportation is not only an expensive activity but also a labour-intensive activity. The CDLU, Sirsa Report also recognises the same. However, while taking cost estimations, the same are not true reflection of the actual costs that are incurred by the aggregator / WTE project developer. Further, the CDLU, Sirsa Report also does not take into consideration various other factors such as manpower cost, diesel cost, renting of machinery for raking / baling etc. while considering the processing of paddy straw for fuel.

That Paddy straw, with its high moisture and silica content, has lower GCV and experiences greater GCV degradation due to prolonged storage. It is worth mentioning, that how moisture content of paddy straw needs to be factored in while calculating the cost of paddy has not been considered by CDLU, Sirsa Report.

That due to above stated reasons, large amount of fuel is required to fed into the boilers, which requires large storage facilities, results in high land leasing costs, that ought to be added to the fuel cost. The CDLU, Sirsa Report does not consider this aspect while calculating the average fuel cost of paddy straw.

That due to highly combustible nature of the paddy straw, the project developer is required to insure the fuel storage facility. Insurance is a pre-requisite to recover any loss that may be suffered on account of loss of fuel due to unforeseen and/or unmitigated damages. Usually, the cost of insurance is to

the tune of Rs. 50/MT. Therefore, it is humbly prayed that while determining the fuel cost, the cost of insurance ought to be added by this Hon'ble Commission.

That, in view of the above, as per HSL, the minimum fuel cost that ought to be considered by this Hon'ble Commission should be INR 3859.95/MT. This figure is based on the documents submitted in the ongoing litigation before the Hon'ble Appellate Tribunal for Electricity in New Delhi, which demonstrates the actual fuel cost incurred. However, it is also to be noted that the fuel cost for the financial year 2024-25 is expected to be INR 3810/MT.

- c) That Regulation 38 of the HERC RE Regulations 2021 provides that the Biomass fuel Price as INR 3000/MT which was to be escalated at 2.93% every year. Even if the same is escalated in terms of the Regulation 38 every year at 2.93%, the price of the Biomass Fuel for the FY 2024-25 comes out to be INR 3395.96/MT whereas the fuel price proposed by this Hon'ble Commission is INR 3255/MT which is not in consonance with the methodology as prescribed under the HERC RE Regulations 2021.
- d) That one of the primary objectives of the National Tariff Policy, 2016, under Clause 4.0 (b), is to ensure the financial viability of the power sector and encourage investment. Therefore, to support the financial stability of generators, it is crucial to strike a balance between the interests of consumers and the need for investment. The fuel cost should be made cost-reflective and applicable to all existing and future projects, regardless of whether the tariff is determined based on a generic tariff order or a project-specific tariff.
- e) That Section 61(a) of the Electricity Act, 2003 ("Act") provides that the appropriate commission while determining the terms and conditions of tariff shall be guided by the principles and methodologies specified by the Central Electricity Regulatory Commission ("CERC"). The Hon'ble CERC in Regulation 38 of CERC RE Tariff Regulations, 2024, has specified the Biomass fuel price for the State of Haryana as INR 4534/ MT and with an escalation of 3.45% per annum. There cannot be two different prices for the same fuel within the same state. Therefore, to curb this variation in the fuel price, the fuel cost must be revised by this Hon'ble Commission.
- f) That this Hon'ble Commission while determining the fuel cost for the 15MW project, had relied on the then prevailing norms and generic tariff for FY 2022-23, which stipulated INR 3113.14/MT as cost of fuel. However, the same is ought to be reconsidered by this Hon'ble Commission as INR 3843/MT.

- g) That Regulation 9 of the HERC RE Regulations specifies the tariff design, as under: -

“(1) The generic tariff, for the control period as per these Regulations, shall be determined, for the entire tariff period/useful life of the project.

Provided that for renewable energy projects having single part tariff with two components viz. fixed cost component shall be determined on levelized basis considering the year of commissioning of the project while fuel cost component shall be determined on annual basis and the same shall also be prospectively (i.e. from the date of the Order) applicable for the projects commissioned during the previous control periods.

... ..

(2) For the purpose computation of levelled tariff, the discount factor equivalent to weighted average cost of capital {Term Loan (R) and Return on Equity (RoE)} shall be considered i.e. $\{(R \times 0.7) + (RoE \times 0.3)\}$.

(3) The above principles shall also apply for the determination of project specific tariff under these Regulations.”

Accordingly, in light of Regulation 9(3) as cited above and without prejudice to the ongoing litigation of HSL before the Appellate Tribunal for determination of project specific tariff, even if the proposed fuel cost is considered, the same relates to INR 5.01 per kWh, at least that ought to be considered as the determined fuel cost for FY 2024-2025 for the 15 MW HSL Project and the project must receive at least this fuel cost for FY 2024-2025.

- h) That under the Regulations 73 and 76 of the HERC RE Tariff Regulations, 2021, this Hon'ble Commission is empowered with the powers to relax any provisions of the Regulations and to remove difficulties if any difficulty arises in giving effect to any of the provisions of these regulations as may be necessary in the interest of justice. In the present case, it is important for this Hon'ble Commission to exercise its powers to relax and ensure that the full cost of generator's investment is considered while determining the fuel cost and the same are aligned with the prevailing market conditions.

Reply of M/s. CDLU, Sirsa

M/s. Hind Samachar Ltd. and M/s. SAEL, have not restricted their comments to the fuel survey report submitted by Chaudhary devi Lal university (CDLU). Accordingly, the present reply has been submitted restricting to the comments on the fuel survey report submitted by Chaudhary devi Lal university (CDLU). The same is as under:-

Comments	Reply
<ul style="list-style-type: none"> While calculating the Fuel Cost for 100 percent paddy straw (air-cooled technology) based power projects, the Cost of procurement of Paddy Straw & consequential landed cost of Paddy Straw has been proposed without taking into consideration the factors that have impact on procurement of the fuel. Further, the empirical data based on which the Final Report has been prepared does not consider the additional fuel handling costs that are to be considered, especially for paddy straw which may have a direct impact on the fuel cost. For example: storage facilities, fire safety measures, dehydration, and steeping preservation etc. 	<p>The cost of processing as well as losses given in the report, is as per primary study conducted by CDLU. Further, all the fuel cost components have been duly considered in the present report. The items of cost which forms part of fixed cost and not pertaining to fuel cost are not considered. It is also pertinent to note that similar component of fuel cost were also considered by in the earlier study conducted by M/s. MDU.</p>
<ul style="list-style-type: none"> The entire value chain of paddy stubble cutting, raking, baling and then transportation is not only an expensive activity but also a labour-intensive activity. The CDLU, Sirsa Report also recognises the same. However, while Further, the CDLU, Sirsa Report also does not take into consideration various other factors such as manpower cost, diesel cost, renting of machinery for raking / baling etc. while considering the processing of paddy straw for fuel. 	<p>As above</p>
<ul style="list-style-type: none"> It is worth mentioning, that how moisture content of paddy straw needs to be factored in while calculating the cost of paddy has not been considered by CDLU, Sirsa Report. 	<p>The issue of moisture content has been taken into consideration while determining the State Heat Rate. Further, the moisture is controllable to a certain extent by efficient management of paddy straw.</p>
<ul style="list-style-type: none"> Further, due to above stated reasons, large amount of fuel is required to fed into the boilers, which requires large storage facilities, results in high land leasing costs, that ought to be added to the fuel cost. The CDLU, Sirsa Report does not consider this aspect while calculating the average fuel cost of paddy straw. 	<p>The issue of moisture content has been taken into consideration while determining the State Heat Rate. Further, the moisture is controllable to a certain extent by efficient management of paddy straw.</p>
<ul style="list-style-type: none"> One of the major costs which has not been considered by CDLU, Sirsa Report is in relation to the 'insurance' of the fuel storage facility. Due to highly combustible nature of the paddy straw, it is a widely accepted industry practice, the WTE project developer is required to insure the fuel storage facility. Insurance is a pre-requisite to recover any loss that may be suffered on account of loss of fuel due to unforeseen and/or unmitigated damages. Usually, the cost of insurance is to the tune of INR (50/MT. Therefore, it is humbly prayed that while determining the fuel cost, the cost of insurance ought to be added by this Hon'ble Commission 	<p>The cost of processing as well as losses given in the report, is as per primary study conducted by CDLU. Further, all the fuel cost components have been duly considered in the present report. The items of cost which forms part of fixed cost and not pertaining to fuel cost are not considered. It is also pertinent to note that similar component of fuel cost were also considered by in the earlier study conducted by M/s. MDU.</p>
<ul style="list-style-type: none"> It is worth noting that, as per Table 6.15 of the CDLU Report, the assumptions for determining / calculating the average cost of fuel for 100 percent paddy based WTE projects, is based on 	<p>CDLU has carried out an extensive survey of availability and cost of paddy straw in Haryana. In Haryana, approximately 8</p>

<p>selected respondents for 14 districts out of 22 districts of the State. These assumptions are, therefore, not reliable to set a generic fuel cost for 100 percent paddy based WTE projects. HSL has been running 15 MW WTE project since last 02 (two) years, and therefore, in a position to submit the actual data in relation to working out the fuel cost for 100 percent paddy based WTE project.</p>	<p>Million Ton of paddy straw available annually. Data was collected from 889 farmers producing paddy straw across 14 major paddy straw producing districts viz. Ambala, Bhiwani, Fatehabad, Hisar, Jind, Jhajjar, Kaithal, Karnal, Kurukshetra, Panipat, Sirsa, Sonapat, Yamuna Nagar, and Rohtak. Further, the data was also collected from 14 aggregators, directly involved in the procurement and bulk selling of paddy straw.</p> <p>It is also pertinent to note that dynamics of paddy straw fuel prices are changing, which in the present report has been arrived at Rs. 3255/MT. CDLU has observed that some farmers have reported cost of paddy straw as Nil, which has been ignored just to align the same to the overall sentiments of the cost of paddy straw as fuel at Rs. 3255/MT, in the interest of the generators.</p>
<ul style="list-style-type: none"> Without prejudice to above comments and suggestions, it is imperative to point out that HSL has entered into a Power Purchase Agreement dated 22.02.2019 (hereinafter referred to PPA') with Haryana Power Purchase Centre. It is humbly submitted that this Hon'ble Commission has determined the Appeal fuel No. cost 561 of INR of 2023 4.57 before per kWh, the which Hon'ble is being Appellate currently Tribunal under for challenge Electricity in at New Delhi. It is important to point out that while a lower fuel cost was Commission determined previously, has been pleased it is on basis to undertake of the CDLU, an upward Sirsa revision Report, this of the Hon'ble Fuel Cost of 100 percent paddy straw (air-cooled technology) based power projects as INR4.57 per kWh. It is humbly submitted that based on the CDLU, Sirsa Report, this Hon'ble Commission has already recognised that the true reflection of the fuel cost is not INR 4.57 per kWh but INR 5.01 per kWh. Therefore, HSL's existing facility of 15 MW at Kurukshetra, is entitled to receive at least INR 5.01 per kWh from FY 2024 - 2025 onwards. This Hon'ble Commission Hon'ble Commission is bound by is bound its own to orders. discharge Being itsa functions statutory authority, in a non-arbitrary it is this manner without any discrimination 	<p>It is not related to our study</p>

Commission's view

The Commission has examined the submissions of the intervener as well as M/s. CDLU, Sirsa and decides as under:-

- a) Regarding the applicability of the tariff determined in the present order to the projects whose tariff is determined under Section 62 of the Electricity Act,

2003 i.e. case of project specific tariff determination, it is relevant to note the provisions of Regulation clause 6 of the HERC RE Regulations, 2021, which provides as under:-

“Project Specific tariff. –

- (1) *Subject to the “Scope and Extent of application” of these Regulations, the project specific tariff, on case to case basis, may also be determined by the Commission for the following types of projects:*
 - (a) *Processed Municipal Solid Waste (WtE) Projects*
 - (b) *Poultry litter / Cow dung etc.*
 - (c) *small / micro hydro power projects of 25 MW and below*
 - (d) *Renewable energy with storage projects*
 - (e) *Biomass project other than that based on Rankine Cycle technology application with water cooled / air cooled condenser.*
 - (f) *Non-fossil fuel based co-generation project*
 - (g) *Any other new renewable energy technologies that may be approved by MNRE i.e. Solid oxide fuel cell (SOFC) etc.*
- (2) *Determination of Project specific Tariff for generation of electricity from such renewable energy sources shall be in accordance with such terms and conditions as stipulated by the Commission.*
Provided that the financial and operational norms as specified in these Regulations, shall be ceiling norms while determining the project specific tariff.
Provided further that the levelized tariff of project calculated on the basis of norms specified in these Regulations shall be the ceiling tariff.”

Thus, the regulations provides that the project specific tariff determination, is an entirely distinct procedure involving the examination of project specific conditions, wherein the financial and operational norms as specified in these Regulations, are considered as ceiling norms. Further, the project specific tariff determination exercise of RE projects, as that of the interveners, is for the entire life of the project and is not subject to annual review, as the same is governed by the specific terms of the PPA including ceiling tariff mentioned therein, as per the terms of RfP and subsequent discussions with the successful bidders held by High-Powered Committee (HPC).

It is pertinent to note that the present proceedings does not encompass the project specific tariff determination issues. However, for the sake of clarity, it is reiterated that the tariff determined in the present order shall not be applicable, mutatis-mutandis, to the projects of the interveners, whose tariff

has already been determined, as single tariff, under project specific tariff determination process.

- b) Regarding the data gaps averred by the intervener, the Commission has considered the reply filed by M/s. CDLU, Sirsa that it had carried out an extensive survey of availability and cost of paddy straw in Haryana. In Haryana, approximately 8 Million Ton of paddy straw available annually. Data was collected from 889 farmers producing paddy straw across 14 major paddy straw producing districts viz. Ambala, Bhiwani, Fatehabad, Hisar, Jind, Jhajjar, Kaithal, Karnal, Kurukshetra, Panipat, Sirsa, Sonapat, Yamuna Nagar, and Rohtak. Further, the data was also collected from 14 aggregators, directly involved in the procurement and bulk selling of paddy straw. The cost of processing as well as losses given in the report, is as per primary study conducted by CDLU. Further, all the fuel cost components have been duly considered in the present report. The items of cost which forms part of fixed cost and not pertaining to fuel cost are not considered. It is also pertinent to note that similar component of fuel cost were also considered by in the earlier study conducted by M/s. MDU. The issue of moisture content has been taken into consideration while determining the State Heat Rate. Further, the moisture is controllable to a certain extent by efficient management of paddy straw. The cost of processing as well as losses given in the report, is as per primary study conducted by CDLU.

- c) Regarding the calculation of the intervener to arrive at the fuel cost of Rs. 3395.96/MT, based on the escalation factor of 2.93% provided under HERC RE Regulations 2021 on the base fuel Price of Rs. 3000/MT, the intervener has itself submitted that procurement / collection of paddy straw is not a regulated activity and there is no ceiling price as the procurement is solely dependent on demand /supply factors.

The Commission has also considered the submissions of M/s. CDLU, Sirsa, that dynamics of paddy straw fuel prices are changing, which in the present report has been arrived at Rs. 3255/MT. CDLU has observed that some farmers have reported cost of paddy straw as Nil, which has been ignored just to align the same to the overall sentiments of the cost of paddy straw as fuel at Rs. 3255/MT, in the interest of the generators.

In this regard, the Commission is constrained to note an observation in its order dated 21.03.2022 (Petition No. 52 of 2021), wherein the submissions of M/s. Sainsons Paper Industries Ltd., a 5 MW biomass based power generator, was recorded. M/s. Sainsons Paper Industries Ltd. had submitted

that actual average cost of paddy straw was in the range of Rs 1650/MT to Rs. 1750/MT, in the FY 2020-21 and Rs. 1900/MT in the FY 2021-22. However, the same was discarded by this Commission and the cost of paddy straw was determined as Rs. 3113.14/MT, based on the report of MDU, Rohtak, which was based on the detailed survey of paddy grown area in the State of Haryana. Furthermore, the *ibid* decision was so taken, notwithstanding the fact that the Commission in its order dated 26.10.2010 (Petition No. 68 of 2019) in the case of project specific tariff determination of the *ibid* power generator, had pegged Fuel Cost for FY 2017-18, 2018-19 & 2019-20 at the actual levels as claimed by the Petitioner i.e. Rs. 1985/MT, Rs. 2416/MT & Rs. 1983/MT, respectively. The Commission is conscious of the fact that dealing with the generation of electricity being vital for the economy of the State, a narrow interpretation will ignore realities, leading to irrational results.

However, acceding to the request of other generators (interveners) present during the hearing, in order to enable the power generators to utilize paddy straw/biomass available within a distance of 50 KM radius, it is decided that cost of paddy straw fuel shall be Rs. 3463/MT, based on the study report of M/s. CDLU, Sirsa for distance up to 50 KM i.e. increase of Rs. 208/MT on account of additional distance of 25 KM. Similarly, the cost of biomass shall also be increased by an amount of Rs. 208/MT. Accordingly, the cost of biomass fuel is also determined at Rs. 4384/MT.

- d) Regarding the admission of fuel cost determined by Hon'ble CERC, for the state of Haryana, for the FY 2024-25 at Rs. 4534/MT, the intervener has itself submitted that for the actual fuel cost for the FY 2024-25 is expected to be Rs. 3810/MT. It reflects that the fuel cost determined by Hon'ble CERC, is not based on any study, but has been determined based on some base year data which has been escalated by escalation factor, to arrive at the fuel cost for the FY 2024-25.
- e) Regarding the prayer of the interveners to the Commission to exercise its powers to relax so as to make applicable the fuel cost determined in the present order to the project specific tariff determined for the projects of the interveners, the Commission observes that the *ibid* powers can be exercised only in case any difficulty arises in '*giving effect to the provisions of these regulations*' and not in case difficulty arises in the implementation any order passed by the Commission. The scope and realm of application of the

'powers to remove difficulty' is very limited. Attention in this regard is brought towards the judgment of the Hon'ble Apex Court in **Madera Upendra Sinai V. Union of India** reported at (1975) 3 SCC 765 wherein it has been settled as under:-

"Now let us turn to Clause (7) of the Regulation. It will be seen that the power given by it is not uncontrolled or unfettered. It is strictly circumscribed, and its use is conditioned and restricted. The existence or arising of a "difficulty" is the sine qua non for the exercise of the power. If this condition precedent is not satisfied as an objective fact, the power under this Clause cannot, be invoked at all. Again, the "difficulty" contemplated by the Clause must be a difficulty arising in giving effect to the provisions of the Act and not a difficulty arising aliunde, or an extraneous difficulty. Further, the Central Government can exercise the power under the Clause only to the extent it is necessary for applying or giving effect to the Act etc., and no further. It may slightly tinker with the Act to round off angularities, and smoothen the joints or remove minor obscurities to make it workable, but it cannot change, disfigure or do violence to the basic structure and primary features of the Act. In no case, can it, under the guise of removing a difficulty, change the scheme and essential provisions of the Act."

Reliance is also placed on the judgment of the Appellate Tribunal in *Ratnagiri Gas and Power Private Ltd. Uttar Pradesh Vs. Central Electricity Regulatory Commission & Another*, [2011 ELR (APTEL) 0532], wherein it has been observed that:

"10.3. In our opinion, power to remove difficulties is to be exercised when there is difficulty in effecting the Regulations and not when difficulty is caused due to application of the Regulations. Thus, the exercising of power to remove difficulties does not arise in the present case"

In view of the above discussions and in view of the fact that that procurement / collection of paddy straw is not a regulated activity and the cost of paddy straw has also been reported as Nil, without going into the minute details of component-wise cost, a liberal view on the acceptance of fuel cost of paddy straw as Rs. 3463/MT has been taken, based on the survey conducted by M/s. CDLU, for a distance up to 50 KM.

15.2 M/s. Starwire (India) Vidyut Pvt. Ltd.

M/s. Starwire has submitted as under:-

- a) That the fuel survey report submitted by M/s. CDLU erroneously considers distance of only 25 kms for collection of biomass fuel. This is an error since the data considered by CDLU is with reference to merely 4 districts of Haryana. While considering the benchmark cost of transportation upto 10 kms, 25 kms and 50 kms for paddy stubble, CDLU Report has considered 12 districts of Haryana and then recommended transportation cost for distance upto 10 kms, 25 kms and 50 kms respectively.
- CDLU Report has considered only those respondents to the questionnaire floated by CDLU, which are in the average distance of 25 kms and are insufficient to cater to the entire biomass fuel requirement of the power plants. Not a single farmer/ supplier is considered beyond the distance of 25 kms. SWIVPL respectfully submits that due to the high demand of biomass fuel, the minimum distance required to be considered for fuel catchment for a particular biomass plant is in the radius of 50 kms. The transportation cost considered in the fuel survey report ought to be accordingly amended to account for transportation cost of up to 50 kms not 25 kms.
- b) That there is a calculation error in computing the cost of mustard husk /straw, as provided in Tables 6.18 to 6.22 of the Report. In terms of Table 6.18 pertaining to district of Mahendragarh (pg. 53 of the Report), the Total Cost of Processing at Farm is provided as Rs. 3546.39/- per tonne. Further, Rs. 371.81/- per tonne is stated as the Total Cost of Loading, Transporting & Unloading. This brings the total landed cost as per the Report to Rs. 3918.20/- per metric tonne. The storage and process loss of 3% is considered as Rs.38/- per tonne in Table 6.18, whereas 3% value amounts to Rs. 117.55/- per tonne. Hence, this is a calculation error in Tables 6.18 to 6.22. It has been requested that the error as highlighted may be corrected while arriving at the total cost of mustard husk/straw.
- c) That the cost of biomass considered in the fuel survey report as well as the losses and cost of processing at the biomass power plant are low and not indicating the figures on ground. Even the losses and cost of processing at the biomass power plants, such as handling, transporting, manpower costs etc. considered in the CDLU Report are far lesser as compared to paddy straw costs considered in the same Report. The biomass fuel price suggested by CDLU is far lesser than that considered by the CERC, which is Rs. 4534/MT for FY 2024-25 with normative escalation factor of 3.45% per

annum. The same needs to be further verified and reviewed by the Commission.

- d) That the Commission has considered it appropriate to incentivize PLF above normative level of 80% for paddy straw based biomass power generators. Whereas, Paddy straw is also a biomass source, like other sources such as mustard husk/straw/stalk etc., hence, the promotional measures sought to be extended by the Ld. Commission to paddy straw based biomass power generators, may also be extended to all the other biomass based renewable energy generators, so as to maintain parity and further incentivize the biomass based renewable energy sector, without leaving out any particular type of biomass based generator.
- e) That the Hon'ble Commission earlier passed the Tariff Order dated 28.07.2023 in Case No: HERC / Petition No. 40 of 2023 (Suo Motu), *inter-alia*, determining the fuel cost for RE power plants for FY 2023-24. The fuel cost determined under the said Tariff Order dated 28.07.2023 was applicable during FY 2023-24 only. Thereafter, no new fuel cost, as yet, has been determined by the Hon'ble Commission. Hence, this is the first time the Hon'ble Commission is determining the fuel cost for FY 2024-25 under Section 62 of the Electricity Act, 2003.

In ***Chhattisgarh State Power Distribution Co. Ltd. v. Chhattisgarh Biomass Energy Developers Association*** (Appeal No. 164 of 2010 Dated- 8th February, 2011), the Hon'ble Appellate Tribunal, relying on the judgement of the Supreme Court, in ***Kannodia Chemicals &Anr. V/s State of UP &Ors.*** Reported in (1992) 2 SCC 124, held that, in a batch of appeals namely ***SEIL India, New Delhi V/s PSERC*** reported in 2007 (APTEL) 931, it had considered the question of retrospectivity; in this decision also the tariff order, though made some time after commencement of the financial year, was made effective from 1.4.2005, and the Hon'ble Tribunal had upheld the order of the Commission; it had observed that, in the event of a tariff order being delayed, it could be made effective from the date the tariff order commences or by annualisation of the tariff, so that the deficit is made good for the remaining part of the year or it can be recovered after truing up exercise by loading it in the tariff of the next year. Thus, law empowers the Commission to specify the date from which the tariff was to commence or the date when it will expire; and it was neither Section 62 nor Section 64 of the Act that constituted a bar to retrospectivity of a tariff order.

Reply of M/s. CDLU, Sirsa

The reply to the comments of M/s. Star Wire (India) Vidyut Private Ltd. on the fuel survey report submitted by Chaudhary Devi Lal University (CDLU), is as under:-

SN	Comments	Justification
1)	The fuel survey report submitted by Chaudhary Devi Lal University (CDLU) erroneously considers distance of only 25 kms for collection of biomass fuel:	CDLU has carried out an extensive survey of availability and cost of biomass in Haryana. Mustard straw is one of the key biomass resources in Haryana, with approximately 17.12 million Ton of mustard straw/Husk available annually. Data was collected from 457 farmers producing mustard husk/straw across four major biomass producing districts viz. Hisar, Bhiwani, Mahendergarh, Jhajjar. It was observed that most of the mustard straw/husk generated is consumed within a distance of 15 KM from the farm, as 9.9 MW power plant of M/s. Starwire is situated in Mahendergarh, 9.5 MW power plant of M/s. Sri Jyoti in Bhiwani and 8 MW power plant of M/s. GEMCO in Bhiwani. However, on the liberal side, the study encompassed the consumption of biomass fuel within 25 km distance from the farm.
2)	Calculation error in computing the cost of mustard husk /straw in tables 6.18 to 6.22 of the CDLU report.	It was observed that storage and process loss, is not calculated in percentage term but is given in absolute term. However, an inadvertent typographical error has been crept-in and instead of “Storage and process Loss”, it has been mentioned as “Storage and process Loss of 3%”. Accordingly, the mention of the same in tables 6.18 to 6.22, may be read as “Storage and process Loss”.
3)	Cost of biomass considered in the fuel survey report as well as the losses and cost of processing at the biomass power plant are low and not indicating the figures on ground	The cost of processing as well as losses given in the report, is as per primary study conducted by CDLU. The reference of CERC price of Rs. 4534/MT is irrelevant, as the study based prices have their own characteristics. It is also pertinent to note that dynamics of biomass fuel prices are changing, which in the present report has been arrived at Rs. 4175/MT. CDLU has observed that there were reports from certain industries regarding the cost of mustard straw as low as Rs. 2400/MT, which has been ignored just to align the same to the overall sentiments of the total cost of biomass fuel at Rs. 4175/MT, in the interest of the generators. In case of Mustard Straw/Husk, farmers themselves are playing the role of aggregators from the farm-site. Losses and cost involved is much less in case of mustard straw/husk, being consumed near to the farm-site.
4)	Incentive to promote higher utilization of biomass fuels to all biomass based renewable energy generators	It is not related to CDLU.
5)	Hon’ble commission has the necessary power to specify	It is not related to CDLU.

	the fuel cost for the FY 2024-25 w.e.f. 01.04.2024	
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Commission's view

The Commission has examined the submissions of the intervener as well as M/s. CDLU, Sirsa and decides as under:-

- a) Regarding the adequacy of survey and distance of only 25 kms for collection of biomass fuel, the Commission has considered the reply filed by M/s. CDLU that it has carried out an extensive survey of availability and cost of biomass in Haryana. M/s. CDLU, in its survey, has observed that most of the mustard straw/husk generated is consumed within a distance of 15 KM from the farm, as 9.9 MW power plant of M/s. Starwire is situated in Mahendergarh, 9.5 MW power plant of M/s. Sri Jyoti in Bhiwani and 8 MW power plant of M/s. GEMCO in Bhiwani. However, on the liberal side, the study encompassed the consumption of biomass fuel within 25 km distance from the farm.
- In this regard, the Commission is constrained to note an observation in its order dated 21.03.2022 (Petition No. 52 of 2021), wherein the submissions of M/s. Sainsons Paper Industries Ltd., a 5 MW biomass based power generator, was recorded. M/s. Sainsons Paper Industries Ltd. had submitted that actual average cost of paddy straw was in the range of Rs 1650/MT to Rs. 1750/MT, in the FY 2020-21 and Rs. 1900/MT in the FY 2021-22. However, the same was discarded by this Commission and the cost of paddy straw was determined as Rs. 3113.14/MT, based on the report of MDU, Rohtak, which was based on the detailed survey of paddy grown area in the State of Haryana. Furthermore, the ibid decision was so taken, notwithstanding the fact that the Commission in its order dated 26.10.2010 (Petition No. 68 of 2019) in the case of project specific tariff determination of the ibid power generator, had pegged Fuel Cost for FY 2017-18, 2018-19 & 2019-20 at the actual levels as claimed by the Petitioner i.e. Rs. 1985/MT, Rs. 2416/MT & Rs. 1983/MT, respectively. The Commission is conscious of the fact that dealing with the generation of electricity being vital for the economy of the State, a narrow interpretation will ignore realities, leading to irrational results.
- Subsequently, M/s. Starwire, in its affidavit dated 24.03.2025, has accepted the study done for determining the biomass fuel in Haryana for the FY 2024-25 and the cost so arrived in the report of M/s. Chaudhary Devi Lal University (CDLU), Sirsa, with a small request to adopt the cost of biomass fuel for

distance upto 50 KM by increasing the biomass fuel cost determined for distance upto 25 KM at Rs. 4175/MT by an amount of Rs. 208/MT i.e. the transportation cost for additional distance of 25 KM as determined for paddy straw fuel to arrive at the cost of biomass fuel as Rs. 4384/MT, for the existing biomass based projects (Water Cooled - TG, Biomass). M/s. Starwire is agreeable to Rs. 4384/MT as the cost of biomass fuel for the FY 2024-25.

In view of the above and as discussed in the preceding paras of this order, without going into the minute details of component-wise cost, a liberal view on the acceptance of fuel cost of biomass as Rs. 4384/MT has been taken, based on the survey conducted by M/s. CDLU, for a distance up to 50 KM.

- b) Regarding calculation error in storage and process loss, pointed out by the intervener, the Commission has considered the submissions of M/s. CDLU that it has not calculated the same in percentage term but in absolute terms. However, an inadvertent typographical error has been crept-in and instead of "Storage and process Loss", it has been mentioned as "Storage and process Loss of 3%". Accordingly, the mention of the same in tables 6.18 to 6.22, may be read as "Storage and process Loss". Accordingly, no further change is required.
- c) Regarding the extension of incentive as proposed for paddy straw-based power plants to other biomass-based power plants, it is pertinent to note that the same has been provided to promote higher utilization of paddy straw and curb the menace of burning of paddy straw. The same shall not be extended to other biomass-based power plants.
- d) Regarding the applicability of fuel cost for the FY 2024-25 w.e.f. 01.04.2024, the Commission observes that Regulations 9.1 of the HERC RE Regulations, 2021 provides that fuel cost component determined on annual basis shall be applicable prospectively, from the date of the order. However, the Commission in its order dated 26.07.2024, while disposing off Petition No. 24 of 2024 filed by M/s. Star Wire (India) Vidyut Pvt. Ltd., decided as under:-
"9.

.....the process of getting an independent State specific study for determination of the fuel cost for biomass based Renewable Energy power plants for the FY 2024-25, has already been initiated and upon the receipt of the report, the same shall be made available on the website of the Commission. The petitioner has averred that the present case can be taken

up along with the suo-moto proceedings which the Commission may initiate for determination of fuel cost of biomass for the FY 2024-25.

The Commission is of the considered view that the main contour of the present petition i.e. to get an independent State specific study, is already under its consideration. Therefore, keeping alive of the present petition and merging of the same with the future suo-moto proceedings to be initiated by the Commission for determination of fuel cost of biomass for the FY 2024-25, does not stand to logic. In any case, the study report shall be hosted on the website of the Commission inviting comments/ suggestions/ objections of all the intervenors including the petitioner herein.”

Owing to delay in determination of the fuel cost for the FY 2024-25, for the reasons not attributable to the generators, the Commission considers it appropriate to invoke its power to relax, enshrined under regulation clause 73 of the HERC RE Regulations, 2021 and decides that the fuel cost and tariff determined in the present order shall be applicable w.e.f. 01.04.2024.

In view of the above discussions and in view of the fact that that procurement / collection of biomass fuel is not a regulated activity and as reported the cost of mustard straw as low as Rs. 2400/MT, without going into the minute details of component-wise cost, a liberal view on the acceptance of fuel cost of biomass as Rs. 4384/MT has been taken, based on the survey conducted by M/s. CDLU, Sirsa.

15.3 Haryana Power Purchase Centre, Panchkula (HPPC).

HPPC has submitted as under: -

- a) The Hon'ble Commission vide its draft order has considered to incentivize the paddy straw-based biomass power projects for achieving PLF above normative level of 80%.

In this regard, it is submitted that the draft order issued by the Hon'ble Commission ought to be in four corners of the HERC (Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy Certificate) Regulations, 2021 (*"HERC RE Regulations 2021"* in short) specified by HERC. The *ibid* Regulations notified by the Hon'ble Commission does not provide any provision for incentivizing the biomass based power plants for achieving PLF above normative level of 80%. At normative PLF, all the fixed cost is recovered by a generator for its power plant. As such, any excess generation by a developer over and above its normative PLF is already an incentive for

the developer. Reference in this regard is provided to Statement of Reasons dated 17.09.2024 notified by CERC to its Central Electricity Regulatory Commission (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2024 which provides as under:-

“Analysis and Decision:

*8.13. The Commission is of the view that the tariff norms are so formulated that all the costs are recovered at the normative CUF for the respective technologies and **any excess generation is an incentive to the developers.***

It is important to note that due to the variability of the renewable energy generation, the projects may end up generating lower than the normative CUF, in which case the cost is not fully recovered by the developers through tariff. Therefore, a risk-reward mechanism is built in by way of these tariff principles so as to encourage the project developers to bring in investments in projects.

xxxxxx.”

An additional incentive to paddy straw-based power plants shall result in undue enrichment for the power developers which is ultimately to be recovered from the consumers of the State and shall be an extra burden on the consumers at large. It is worthwhile to mention here that the tariff for biomass-based power plants is already in the range of Rs. 8 -10 /kWh and any further incentive could lead to an inflated tariff, negatively affecting the electricity consumers.

Commission’s view

The Commission has examined the submissions of HPPC and agrees with their submissions that at normative PLF, all the fixed cost is recovered by a generator for its power plant. The Commission has already considered this and has allowed only the fuel cost for the paddy straw-based power generation beyond 80% PLF. The Commission is of the considered view that any excess generation by a developer over and above its normative PLF does not incentivize the developer to produce more, as the generator is able to recover only the actual cost incurred for excess generation as the generator is allowed to recover only the fuel cost. In order to address this issue so as to promote higher utilization of paddy straw and curb the menace of burning of paddy straw, the Commission has considered it appropriate to incentivize

paddy straw based power generators with PLF above normative level of 80% on annual basis, in consonance with second proviso to regulation 38 of HERC RE Regulations, 2021, which provides as under:-

“Provided that to gainfully utilize and thereby prevent burning of paddy straw / stubble in the farms, the Commission would endeavor to promote use of the same in the power projects. Hence, while determining fuel cost / GCV on a year to year basis applicable for the existing as well as to be commissioned biomass / bagasse power projects, appropriate price weightage could be considered.”

Therefore, no change in the draft order is required.

- b) That Hon'ble Commission vide ibid draft order has accepted the cost of Paddy Straw & Biomass up to cost of transportation (Rs/MT) over an average distance of 25 KMs. In this context, reference is invited to Regulation 36 (2) of HERC RE Regulations 2021 which provides as under:-

“36 (2) The Biomass Power Generating Companies shall have appropriate fuel management plan to ensure adequate availability of fuel to meet the respective project requirements.”

In view of the said provision of Regulations, it may clearly be stated in the draft order that no benefit shall be given to generator for procurement of fuel beyond specified limit (i.e. 25 Kms).

Commission's view

The Commission has considered the submissions of HPPC. The Commission has consciously accepted the cost of paddy straw and biomass fuel considering the average distance of 25 KM, based on the study report which has suggested that fuel in sufficient quantity is available within 25 KM radius of power generating plants. However, in order to promote utilization of biomass and paddy straw which are waste produced during agriculture and forestry operations, the Commission allows cost applicable for procurement from a distance up to 50 KM. However, as suggested by HPPC, the Commission makes it abundantly clear that no extra cost shall be allowed to the generators for procurement of fuel beyond specified limit of 50 KM.

- c) HPPC has submitted that for Biogas power projects, at a fuel cost of Rs.705/MT, the fuel cost (in Rs/kWh) and levelized tariff for the biogas projects works out to be as under:-

Nature of Project	Fuel Cost (Rs/MT)	Fuel Cost (Rs/kWh)	Tariff (Levelized Fixed Cost) (in Rs/kWh)	Total Tariff for the FY 2024-25 (in Rs/kWh)	Levelized (Useful life) Indicative (Rs/kWh)
Biogas	705	2.40	2.92	5.32	5.90

The Hon'ble Commission is requested to correct the table accordingly.

Commission's view

The Commission has considered the submissions of HPPC. The fuel cost (Rs./MT) for the FY 2024-25, in respect of biogas based power plants, has been determined by escalating the base cost of the FY 2022-23 i.e. Rs. 685/MT by escalation factor of 2.93% to arrive at fuel cost of Rs. 726/MT. Accordingly, fuel cost (in Rs/kWh) and levelized tariff for the biogas projects shall be read as under:-

Nature of Project	Fuel Cost (Rs/MT)	Fuel Cost (Rs/kWh)	Tariff (Levelized Fixed Cost) (in Rs/kWh)	Total Tariff for the FY 2024-25 (in Rs/kWh)	Levelized (Useful life) Indicative (Rs/kWh)
Biogas	726	2.47	2.98	5.46	5.99

- d) The Hon'ble Commission in its ibid draft order has considered the cost of transportation & storage loss for the purpose of determination of average cost of bagasse (Rs. 2462.9/MT) at generator site.

In this context, it is submitted that bagasse is a by-product of sugarcane crushing and is available in-situ to the Sugar Mills. Hence, there shall not be considered any transportation cost for the purpose of determination of cost of bagasse at generator site. Further, Sugar Mills do not operate round the year & operate only during limited period and the bagasse is not stored for a longer time as the bagasse produced by crushing of the sugarcane is used immediately for power generation. Reference is invited to Regulation 41 (2) of the HERC RE Regulations 2021 which stipulates as under:-

"41 (2) The number of operating days shall be 150 days (crushing) + 60 days (off-season) = 210 days operating days and the Plant Load Factor shall be 53%."

From perusal of above clause, it is evident that as per HERC Regulations, the operating period of Sugar Mills is 210 days (150 days of Crushing season + 60 days of off-season). As Sugar Mills operate only for a period of 60 days

during off-season for generation of power from left over bagasse, it is highly unreasonable to consider storage loss @10% for only 60 days. As such, cost of transportation (Rs. 149.46/MT) & storage loss (Rs. 247.94/MT) may be excluded from the average cost of bagasse for determination of the same. The average cost of bagasse at Sugar Mills after excluding the cost of transportation & storage loss works out to be Rs. 2065.5/MT.

Pertinent to mention that on the basis of study carried out by MDU, Rohtak, the Commission vide its order dated 21.03.2022 had fixed the cost of bagasse at Rs. 2000/MT for FY 2022-23 with an annual escalation of 2.93%. Considering the cost of bagasse as Rs. 2000/- per MT for FY 2022-23 with an annual escalation of 2.93%, the cost of bagasse for FY 2024-25 works out to be Rs. 2118.91/- per MT which is approximately in consonance with the average fuel cost of bagasse computed supra.

Commission's view

The Commission has examined the submissions of HPPC. As already discussed in the preceding paras, the fuel cost of bagasse (Rs./MT) for the FY 2024-25, has been accepted based on the study report of M/s. CDLU, Sirsa and the same has no relation with the escalation factor. Therefore, no change in the draft order is required.

- 15.4 M/s. Jind Bio-Energy LLP, vide its affidavit dated 18.03.2025, expressed satisfaction over the report of M/s. Chaudhary Devi Lal University (CDLU), Sirsa with a request to adopt the cost of paddy straw fuel, recommended by CDLU, Sirsa, for distance upto 50 KM i.e. Rs. 3463/MT instead of Rs. 3255/MT adopted in the draft order (for distance upto 25 KM). The generator has further submitted that the prevalent market price of paddy straw fuel is Rs. 3463/MT.

Commission's view

The Commission has already discussed this issue in the preceding paras of this order. Therefore, no further discussions on the same is required.

Commission's Analysis and Order

16. In order to afford an opportunity to the Interveners/General Public to present their views, a public hearing was held in the matter on 13.02.2025 followed by another hearing on 26.03.2025. The interveners present during the hearing, mainly reiterated their comments / suggestions as already reproduced earlier in the present order. Hence, for the sake of brevity the same have not been discussed herein again. The

comments filed by the interveners, have been addressed in the preceding paras in this order and the suggestions, wherever considered justifiable, have been incorporated in the present order.

17. Accordingly, the Commission approves the fuel cost (Rs./MT) and determines the tariff for the FY 2024-25, as per the discussions held in the preceding paras of this order, comprising of levelized fixed cost for the entire useful life of the projects and fuel cost for the FY 2024-25, for various technologies of biomass/bagasse/biogas, considering the escalation factor of 2.93% over the O&M cost determined for the FY 2023-24, as under:-

FY 2024-25	Fuel Cost	Tariff (Fuel Cost)	Tariff (Levelized Fixed Cost)	Total Tariff for the FY 2024-25	Levelized (Useful Life)
RE Technology	(Rs. /MT)	INR/kWh	INR/kWh	INR/ kWh	Indicative INR / kWh
Biomass (Air Cooled - TG, 100% Paddy Straw) *	3,463	5.33	2.76	8.09	9.25
Biomass (Air Cooled - AFBC, 100% Paddy Straw)*	3,463	5.24	2.75	7.99	9.12
Biomass (Water Cooled - TG, 100% Paddy Straw)*	3,463	5.21	2.61	7.83	8.96
Biomass (Water Cooled - AFBC, 100% Paddy Straw)*	3,463	5.12	2.61	7.73	8.84
Biomass (Air Cooled - TG, Biomass)	4,384	6.63	2.63	9.25	10.69
Biomass (Air Cooled - AFBC, Biomass)	4,384	6.53	2.62	9.15	10.56
Biomass (Water Cooled - TG, Biomass)	4,384	6.48	2.49	8.97	10.37
Biomass (Water Cooled - AFBC, Biomass)	4,384	6.38	2.48	8.86	10.25
Bagasse Co-generation (Sugar Mills)	2,462	4.31	2.47	6.78	7.71
Biomass / Non-Bagasse Cogeneration	4,384	5.56	1.79	7.35	8.56
Biomass Based Gasifier	4,384	6.09	2.43	8.52	9.83
Biogas	726	2.47	2.98	5.46	5.99

* A special incentive of Rs. 0.50/unit and Rs. 1/- per unit, over and above the tariff of fuel cost (Rs./kWh) determined above for 80% PLF, is applicable to paddy straw based power projects, for the annual generation achieving PLF between 80% to 90% and 90% to 100%, respectively. This incentivized tariff shall be applicable for additional generation achieved above the normative level of 80%.

The ibid fuel cost determined by the Commission shall be applicable for the RE Projects in Haryana commissioned during the previous control periods (to whom generic tariff is applicable) as well as such projects to be commissioned in the FY 2024-25 w.e.f. 01.04.2024.

It is added that the fuel cost determined herein shall continue to be in force till such time the Commission amends or re-determines the same. In such cases, say for the FY 2025-26, the fuel price escalation clause as provided in the RE Regulations in vogue shall prevail subject to adjustments vis-à-vis those determined by the Commission.

This order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 26.03.2025.

Date: 26.03.2025
Place: Panchkula

(Mukesh Garg)
Member

(Nand Lal Sharma)
Chairman

HERC