



TELANGANA STATE ELECTRICITY REGULATORY COMMISSION
5th Floor, Singareni Bhavan, Red Hills, Hyderabad-500 004

O. P. No. 1 of 2014
&
I. A. Nos. 7 & 8 of 2016

Dated: 23.12.2016

Present

Sri. Ismail Ali Khan, Chairman
Sri. H. Srinivasulu, Member

Between:

Shalivahana (MSW) Green Energy Limited,
7th Floor, Minerva Complex, 94, S.D. Road,
Secunderabad – 500 003.

... Petitioner.

And

Northern Power Distribution Company of Telangana Limited,
H.No. 2-5-3`1/2, Corporate Office, Vidyuth Bhavan,
Nakkalgutta, Hanamkonda, Warangal – 506 001.

... Respondent.

This petition came up for hearing on 16.12.2014, 09.08.2016, 04.10.2016 and 13.12.2016. Sri. M. Komaraiah, Managing Director, Sri Narayan Reddy, G.M., and Sri. T. Vizay Babu, Advocate representing Sri Challa Gunaranjan, appeared for the petitioner, Sri Y. Rama Rao, with Smt. Priya Iyengar, Advocate were present on 09.08.2016 and 13.12.2016. Sri. N. Kiran Kumar, Asst, General Manager and Sri. D. Gopinath, Senior Liaison Officer of the petitioner and Sri. V. Buchi Reddy, A.A.O. / IPC on behalf of the respondent were present on 04.10.2016 & 13.12.2016. The petition having stood for consideration to this day, the Commission passed the following:

ORDER

M/s. Shalivahana (MSW) Green Energy Limited (hereinafter known as petitioner), filed a petition under section 62 (1) (a) read with 86 (1) (a) of the Electricity Act 2003 for determination of tariff for its power project before the erstwhile APERC

on 19.05.2011 and the same was transferred to this Commission after the bifurcation of the State.

2. The petitioner is a public limited company registered under the Companies Act, 1956 having its registered office at 7th Floor Minerva Complex, 94, S D Road Secunderabad and is engaged in the business of generation of electricity from the Municipal Solid Waste (MSW). The erstwhile Government of Andhra Pradesh had permitted the setting up of a power project of 7.6 MW capacity based on MSW and biomass at Rebladevpalli Village, Sultanabad Mandal, Karimnagar District, by its order dated 27.11.2006 in G.O.Ms.No. 613. Later on the capacity was enhanced to 10 MW by its order dated 02.03.2009 in G.O.Ms. No. 236. It was further enhanced to 12 MW by its order dated 20.11.2010 in G.O.Ms. No. 514.

3. The then Government of Andhra Pradesh vide G. O. Ms. No. 168, MA dated 15.04.2006 had allotted 11 municipalities to the petitioner in the districts of Adilabad, Medak and Karimnagar and permitted the petitioner for utilising the MSW in the respective municipal dump yards for the power generation. Further, the Government had allocated additional two Municipalities viz., Kamareddy and Armoor and five Urban Local Bodies (ULBs). The petitioner stated that the 12.0 MW power project set up by it at the above location had achieved Commercial Operation Date (COD) on 14.04.2010.

4. The petitioner claimed that the project is based on the Refuse Derived Fuel (RDF) produced from the processing of MSW. The petitioner stated that the MSW is collected in two forms, namely, organic and inorganic, segregated and transported from different locations to the project involving huge expenditure on labour for segregation and transport.

5. The petitioner stated that the cost of generation worked out to a sum of Rs. 6.34 per kWh. For this purpose, a calculation sheet is enclosed to the petition and relied on the following Government Orders:

- i) G.O.Ms. No.168 MA dt. 15.04.2006.
- ii) G.O.Ms. No.236 dt. 02.03.2009.
- iii) G.O.Ms. No. 514 dt. 20.11.2010.

6. The petitioner has raised the following points for consideration of the Commission:

- a) The Commission may be pleased to pass an order by fixing a tariff as per the oil equivalent i.e. the price of the diesel with a calorific value of 10,800 Kcal / Kg and at a price which is declared by the Government of India time to time.
- b) The petition is filed for kind indulgence of this Commission for fixation of tariff so as to proceed further by Petitioner Company to have PPAs with the DISCOMs if the tariff is just, reasonable and viable to the Petitioner Company.
- c) The crucial and painful job involved in segregation of MSW by engaging labor which job is heinous and not liked by majority of labor, for which the Petitioner Company has to pay attractive labor wages. The said job is one of the processes for generating power by the Petitioner.
- d) MSW tariff cannot be compared to any other unit as this is special and unique one which unit is not liked by many of the entrepreneurs and fixing of the tariff to petitioner MSW unit has no comparison with the plants of biomass, hydel, co-generation etc., as this is a separate set of generation of power to be considered on special circumstances involved in the process of generation of power.
- e) The energy generated through MSW be kept outside the ambit of merit order dispatch and it should be on 'Must Run Principles' and hence not be subjected to levy of UI charges.

7. The petitioner has filed two interlocutory applications before the Commission seeking the expeditious disposal of the original petition as well as an interim order fixing the tentative tariff for the power project so as to enable it enter into a PPA.

8. The petitioner submitted that the Commission passed a suo-moto order vide O.P.No.18 of 2016 dated 13.06.2016 determining the generic tariff for MSW / RDF based power plants for the control period 2016 – 17 to 2018 – 19 and the order is made applicable for the projects which have achieved CoD on or after 13.06.2016. Further, the Commission has disallowed the utilization of any other supporting fuels

other than RDF / MSW for those projects which are to be newly commissioned. The petitioner has commissioned its power plant in the year 2010 – 11 and the Commission has not given clarity on the applicability of the tariff to the petitioner power plant in the referred tariff order.

9. The petitioner stated that the Commission had issued a public notice on 22.01.2016 for determining the generic tariff by proposing the fixed and variable costs for MSW and RDF based power plants in the State of Telangana. In the public notice, the Commission opined that the petitioner's project had already completed 5 years of operations, determination of fixed charges can be taken from the generic tariff according to the number of operational years and the variable charge as per the levelised tariff order. During the public hearing, a study conducted by the exclusive agency, the technical parameters of the petitioner power plant were also considered for preparation of tariff report. Even during the public hearing, the petitioner had submitted its comments and made the submissions on the tariff to be determined for its projects. The Commission had neither adverted to nor gone into the specific case of the petitioner and specified or determined any tariff to its power plant.

10. The petitioner submitted that there is no specific tariff for the petitioner and is unable to enter into a PPA with the DISCOM and sell the power. The power plant has been shut down in the month of June, 2016 and the company has been declared as NPA by the lenders and they are initiating the steps under SARFAESI Act.

11. The respondent has filed a counter-affidavit in I.A.No. 7 of 2016 and briefly the submissions are:

- a) the sanction was accorded by the then NEDCAP to set up 7.5 MW Power Project based on MSW (Municipal Solid Waste) and not RDF (Refuse Derived Fuel) at Rebeldevepally (V), Sultanabad (M) in Karimnagar District. Further, the capacity was enhanced to 12 MW based on MSW and not on RDF.
- b) The project was approved as MSW based Power Project and not as RDF based Power Project.
- c) The contention raised by the Petitioner stating that the petitioner made submissions on the tariff to be determined to its projects and the same was

not adverted to nor gone into response of the case of the petitioner and verified by this Commission itself is a judgment / order rejecting the prayer of the petitioner for the determination of general tariff on par with other MSW based power projects. This is neither an apparent error on the face of the order or any omission by this Commission while determining and deciding the issues. Hence, it required no rectification or review of the order and the petition is liable to be dismissed.

d) The Commission may be pleased to:

a) Determine the type of fuel to be used by the developer since sanction was accorded by the then NEDCAP to power project based on MSW and not RDF.

b) M/s. Shalivahana (MSW) Green Energy Limited has attained COD on 14.04.2010 and has been selling power from the said power plant since 5 years through open access / short term route and the fixed cost for the said period has already been realized and hence the same cannot be passed on to the consumers again.

While arriving the fixed cost of the petitioner, the Fixed Cost corresponding to the year of operation and variable cost applicable for the financial year may be appropriate with project cost duly considering the discount factor, based on year of commissioning.

12. The Commission heard the representatives of the petitioner and the counsel for the respondent. Since the hearing has been held finally, the prayers in the interlocutory applications have worked out themselves and accordingly, they are closed as infructuous.

13. During the course of hearing, one significant issue that has been contested by the respondent is with regard to nature of the fuel that is required for generation of power. It is stated by the petitioner that the plant is originally a Refuse Derived Fuel (RDF) plant and at the time of obtaining the sanction for the project, there was no distinction between the RDF plants and the MSW plants. While the technology was of RDF, as commonly understood, the permission was accorded treating the petitioner's plant as MSW. The subtle distinction between the MSW plants & the RDF plants came about in the technology and recognized in the recent years.

14. On the other hand, the respondent contended that it is an MSW project and not a RDF project and sought to reject the request of the petitioner that the petitioner be given the RDF tariff as has been determined by the Commission by order dated 13.06.2016 in O. P. No. 18 of 2016. To support its contention, the petitioner filed a letter dated 03.09.2016 issued by TNREDCL based on an order of the State Level Environment Impact Assessment Authority (SEIAA). The same is contested by the respondent stating that it is not valid order and so also the communication of the TNREDCL is not valid one.

15. The SEIAA order was valid for a period of five years from the date of the order i.e., 09.01.2009. Treating a particular certificate issued by an authority as the basis for determining the tariff, which has lapsed, *prima facie* may not be appropriate. Accordingly, the Commission directed both the parties to conduct a joint inspection of the plant and file a report before us. In view of this direction, a report is filed before the Commission by the respondent which shall be dealt with in subsequent paragraphs.

16. The Commission in its generic tariff order dated 13.06.2016 in O. P. No. 18 of 2016, took the percentage of RDF fuel to be 100% for generating power, in the present case, the certificate issued, though not valid one, pegged the figure of RDF at 75% with other fuels at 25%. The ground reality as noticed from the report of the respondent that the fuel percentage of RDF is only 56%.

17. After conclusion of the hearings before the Commission, the petitioner has filed a decision of the APTEL in the case of M.P.Power Management Company Ltd., vs Madhya Pradesh Electricity Regulatory Commission (Appeal No. 211 of 2015 dated 04.05.2016) and submitted that Station Heat Rate (SHR) in its case should be taken at 4200 k.Cal/kWh for the purpose of determination of fixed cost and variable cost. In view of the fresh claim of the petitioner, a fresh opportunity was given to both the parties and the case was heard on 13.12.2016. During the course of hearing, the petitioner and the respondent advanced the following arguments.

18. Petitioner: Sri Komaraiah, M.D., and Sri Narayan Reddy, G.M., advanced various arguments which are briefly as under:

- (i) The petitioner produces the power by using the RDF and the plant is basically a RDF based plant. Various local bodies solid waste dumps were allotted by the government and after processing such waste in its plants located at Karimnagar and Ramagundam, the RDF is produced and the same is used for the generation of electricity. The fact that it is a RDF based plant and the same is also confirmed by the TNREDCL vide letter dated 03.09.2016. When the power plant was set up there was no distinction between the MSW based plants and the RDF based plants and the distinction between them is a very recent phenomena. Basically, it is a RDF based plant
- (ii) The Station Heat Rate of 4200k.cal/kWh has been approved by CERC vide order dt.17.10.2015 for financial year 2015-16 and the same should be adopted by the Commission for determination of tariff and relied on the ratio laid down by the APTEL in the case of M.P.Power Management Company Ltd., vs Madhya Pradesh Electricity Regulatory Commission. In its filing, the Station Heat Rate was mentioned as 4000 k.Cal/kWh because inadequate data were available at the time of filing of the petition and the claim of 4200 k.Cal/kWh was made before the Commission during the course of public hearing. In response to a query from the Commission, it was clarified that the decision of the APTEL on which it relied upon relates to the Biomass based projects and not with reference to MSW / RDF based projects.

19. Sri Y.Rama Rao, learned counsel for the respondent made the following submissions:

- (i) It is not a RDF based plant as claimed by the petitioner. It is an MSW based plant and the tariff applicable to the RDF as determined in the generic tariff order of the Commission cannot be extended to the petitioner. The plant of the petitioner generating power is closed and the respondent is not in a position to ascertain whether it is a RDF based plant or an MSW based plant. Further, the RDF utilized in FY 2015-16 was 56% in respect of the plant located at Rebladevapalli, Sultanabad, Karimnagar. Therefore, the tariff that is applicable to MSW projects may be applied. The processing plants located at three places are closed and the petitioner did not establish

that it has adequate RDF as fuel to claim as RDF based plant. In response to a query from the Commission pointing out that in the report of the respondent dated 14.10.2016 it is stated that the petitioner has one RDF processing plant at Karimnagar whereas in the counter filed before the Commission, it was submitted that the petitioner's plant is based on MSW. The learned counsel replied that the processing facilities of the petitioner are partly RDF and partly MSW. He also submitted all the processing plants of RDF are closed and the processing plant of MSW located at Ramagundam and Nizamabad are not operational and it is not known from where the RDF shall available to the petitioner for the purpose of generation of power. It is basically an MSW based project and the fact of RDF based plant requires to be established by the petitioner.

- (ii) Coming to Station Heat Rate (SHR), the learned counsel submissions are:
 - a. The findings of CERC are not binding on the Commission and the local conditions need to be considered.
 - b. An independent agency may be directed to ascertain the SHR
 - c. The petitioner itself admitted SHR 4000 k.Cal/kWh in its petition and a revision without any evidence cannot be considered by the Commission
 - d. The finding given in the generic tariff order passed by the Commission dated 13.06.2016 (O.P.No.18 of 2016) are applicable and in response to a query from the Commission, he submitted that no appeal has been filed against the generic tariff order for energy generated from MSW and RDF dated 13.06.2016. The generic tariff order has become final.
 - e. The APTEL order to which the petitioner referred to is not applicable as the facts are different in that case and that decision is applicable to projects wherein power is produced from the Biomass and not from the RDF fuel.
- (iii) The learned counsel also submitted that the petitioner has to establish that it is a RDF based plant.

20. The Commission heard the submissions of the petitioner and the respondent and examined the material on record very carefully.

21. The petitioner is a company established under the Companies Act, 1956 and is engaged in the business of generation of electricity from the Municipal Solid Waste popularly known as MSW. The petitioner filed a petition for the determination of tariff before the erstwhile APERC on 19.05.2011 and after bifurcation of the state, the petition was transferred to this Commission. There is no applicable tariff for the MSW to energy projects in the State of Telangana as no specific norms are determined for such projects as compared to biomass, bagasse and other non-conventional energy sources. A single part tariff was computed for FY 2013-14 and for the subsequent years the tariff was computed for such projects considering the base tariff of Rs.2.25 per unit in FY 1994-95 with a simple escalation of 5% per annum. The petitioner's power plant runs on the MSW and was allotted various municipalities by the erstwhile Government of A.P., for the purpose of protection of environment and promotion of the MSW based projects. The petitioner's main plant of generation of electricity is located at Rebladevapalli (V), Sultanabad (M), Karimnagar. The petitioner claims that it had established three processing centres for the purpose of conversion of MSW into RDF at Karimnagar (where power plant is located), Ramagundam and Nizamabad. In the petition, the total cost of generation was claimed at a sum of Rs.6.34ps per unit. It is claimed that CoD of the plant was on 14.04.2010 and since then the petitioner had been selling power to third parties and DISCOMs under the short term / through power exchange. As per the detailed project report, the project comprises of the following:

- a. Compost facilities at Nizamabad, Ramagundam and Rebladevpally
- b. RDF plants at Nizamabad, Ramagundam and Rebladevpally
- c. Power plant at Rebladevpally, Karimnagar

The Capital Cost per MW as claimed by the petitioner is a sum of Rs.6.33 crores per MW.

22. This Commission passed an order dated 13.06.2016 (O.P.No.18 of 2016) wherein the generic tariff order for energy generated from the MSW and the Refuse Derived Fuel (RDF) based power projects in the State of Telangana achieving COD during the period from 13.06.2016 to 31.03.2019. In this generic tariff order, the tariff was determined for the projects based on MSW and RDF separately. Thus, a distinction was made in the tariff order in respect of projects generating power from the MSW and the RDF. As per the Commission order dated 13.06.2016, a power plant using the MSW as fuel shall receive only levelised fixed cost whereas those using

the RDF shall receive a levelised fixed cost and variable cost determined by the escalation mechanism stipulated by the Commission. However, escalation mechanism for variable cost shall be restricted to the remaining years of the 3rd control period. The tariff applicable to all the MSW based power plants whose Commercial Operation Date (COD) is declared during the balance period of third control period i.e., (w.e.f the date of the order in FY 2016-17 to FY 2018-19) shall be a sum of Rs.5.90/kWh. The levelised fixed cost for complete life of RDF based projects whose COD is declared during the remaining control period i.e., (w.e.f. the date of the order in FY 2016-17 to FY 2018-19) shall be a sum of Rs.3.83/kWh. Further, the same fixed cost i.e., Rs.3.83/kWh shall be applicable for the entire life of the plant. The first-year variable tariff for FY 2016-17 shall be a sum of Rs.3.24/kWh. Hence, the tariff for FY 2016-17 is Rs.7.07/kWh.

23. The Commission has perused the cost computation sheet filed by the petitioner. The generic tariff order passed by the Commission on 13.06.2016 is not totally applicable to the petitioner because the petitioner's COD was prior to the date stipulated in the order. However, while giving the findings in this order, the Commission relies upon the generic tariff order dated 13.06.2016 for the purpose of determination of tariff except the following issues which were either raised by the petitioner or by the respondent during the course of hearings.

- I. Whether the petitioner's project generating power is based on MSW fuel or RDF fuel?
- II. The Station Heat Rate is claimed at 4200 by the petitioner on the basis of an order passed by Hon'ble APTEL
- III. Capital cost of the petitioner
- IV. Other conditions as stipulated in the generic tariff order dt.13.06.2016
- V. Tariff applicable to the petitioner

I. Whether the petitioner's project generating power is based on MSW fuel or RDF fuel?

24. Before we deal with the issue, in the generic tariff order dated 13.06.2016, the Commission stipulated separate parameters for the Refuse Derived Fuel(RDF) based projects and the Municipal Solid Waste (MSW) based projects. Separate tariffs were

fixed for each category and the tariff fixed for the RDF based projects is more than the tariff for the MSW based projects. Thus, a distinction was made between the RDF based power projects and the MSW based power projects.

Definition of a RDF based project.

25. This Commission has defined a RDF based project at para 19 of the generic tariff order dated 13.06.2016 and the same is reproduced as under:

- A. *“Refuse Derived Fuel (RDF) based power project – A project shall qualify to be termed as a Refuse derived fuel (RDF) based power project, if it is using the new plant and machinery based on the Rankine Cycle Technology (RCT) and using the RDF as fuel sources.*

- B. *“Refuse Derived Fuel” means segregated combustible fraction of solid waste other than chlorinated plastics in the form of pellets or fluff produced by drying, de-stoning, shredding, de-hydrating and compacting combustible components of solid waste that can be used as fuel*

- C. *The new plant & machinery installed in a RDF based project using the RCT should not have been used for generation of power in a project anywhere in India prior to its installation in a RDF based power project in the state of Telangana.”*

26. Further, the definition of an MSW based project for the purpose of determination of tariff from the generic tariff order of this Commission dated 13.06.2016 from para 95 is reproduced as under:

- A. *“Municipal Solid Waste (MSW) based power project – A project shall qualify to be termed as a Municipal Solid Waste (MSW) based power project, if it is using the new plant and machinery based on the Rankine Cycle Technology (RCT) and using the Municipal Solid Waste (MSW) as fuel sources.*

- B. *“Municipal Solid Waste” means commercial and residential wastes generated in a municipal or notified areas either in solid or semi-solid form including treated biomedical waste but excluding industrial hazardous wastes.*

C. *The new plant & machinery installed in a MSW based project using the RCT should not have been used for generation of power in a project anywhere in India prior to its installation in a MSW based power project in the State of Telangana.*”

27. With the above definitions, the Commission examines the rival contentions to ascertain whether the generation of power by the petitioner is from the RDF or from the MSW. In the generic tariff order a restriction was placed on the usage of secondary fuels. Further, in the generic tariff order a company claiming the tariff relating to the RDF projects must use 100% RDF as fuel and the usage of secondary fuel is restricted to the startup operations and this issue shall be dealt in subsequent paras of this order as the petitioner’s usage of RDF is not to the extent of 100% of the entire fuel used for the generation of power from the RDF.

28. The petitioner claimed that it is generating power from the RDF and not from the MSW directly. This stand of the petitioner is disputed by the respondent stating that the petitioner is generating power from MSW and not from RDF. Presently, the petitioner is not generating any power and the plant has been shut down. The petitioner filed an affidavit dated 18.05.2011 before the erstwhile APERC on 19.05.2011 wherein at para (3) it is stated “ *in pursuance of G.O.Ms.No.514 dated 20.11.2010; permitting petitioner company to set up MSW based power project, the petitioner company had spent huge capital of nearly Rs.6.33crores for one (1) MW, out of which major amount is borrowed by petitioner company from financial institutions, apart from own equity contribution for establishing MSW processing units as sanctioned and permitted by the Government of Andhra Pradesh.*” A letter dated 03.09.2016 was filed by the petitioner from the Telangana New & Renewable Energy Development Corporation Ltd (TNREDCL) to prove that its project is RDF based power plant and the relevant portion from this letter is reproduced as under:

“with references to the cited above, based on the establishment of required processing plants by the power plant management for making fluff from MSW and to utilize the same in concerned plant (75%) and also clearance from the State level Environment impact assessment authority (SEIAA) vide reference order No.SEIAA/AP/KRM-1/2009 dated 09.01.2009, it is clarified that the project is RDF based power plant.”

29. In the above letter TNREDCL referred to the order of the State Level Environment Impact Assessment Authority (SEIAA) dated 09.01.2009. On a perusal of this order dated 09.01.2009, it is noticed that one of the conditions in this order stipulates that such order shall be valid for a period of five (5) years. In other words, the order relied upon by TNREDCL is valid up to 08.01.2014 and it is not known on what basis it has clarified that it is a project based on RDF when all the processing plants are not operational. However, it is noticed from the order of SEIAA dated 09.01.2009 that it is a RDF based plant and the relevant portion from this order is reproduced as under:

“The MSW is completely processed in the processing plant at Rebladevpalli and converted into Refuse Derived Fuel Fluff (RDFF) 273 TPD. The RDFF is used as fuel in the boiler of capacity 50TPH. The steam is routed through a turbine to generate electricity.”

30. The order dated 09.01.2009 of SEIAA also reveals that the RDF usage can be 75% as fuel and the balance fuel can be from Biomass i.e., rice husk and cotton stalks. Thus, the petitioner, *prima facie*, established that it is generating power by using the RDF. However, the respondent claimed that it is an MSW based project. To resolve the issue, the Commission directed the petitioner and the respondent to conduct a joint inspection of the plant and resolve the issue and submit a report to the Commission. In response, the respondent vide letter dated 14.10.2016 submitted a report which is reproduced as under:

“I am directed by the Chairman and Managing Director / TSNPDCL to submit a report on the type of fuel being used by M/s. Shalivahana (MSW) Green Energy Limited, Rebladevpally (V), Sultanabad (M), Karimnagar for their power plant.

In this regard, it is to submit that the undersigned has inspected the power plant of M/s. Shalivahana (MSW) Green Energy Limited, Rebladevpally (V), Sultanabad (M), Karimnagar on 10.10.2016 and noticed that the plant is under shut down. It is to further submit that the firm has one RDF processing plant in Karimnagar Town and at present it is not working. As per records produced by the developer regarding the fuel used for the FY 2015-16, the percentage of RDF used is 56%.”

31. Thus, in the above report, the respondent has taken a different stand and submitted that it is a RDF based project but the usage of RDF as fuel for generation of power is 56% as against 75% stipulated in the order of SEIAA. During the course of hearing also, the learned counsel for the respondent contended that the project of the petitioner is based partly on MSW and partly on RDF as fuel for the generation of

power. As observed earlier, the petitioner established three MSW processing plants at Karimnagar, Ramagundam and Nizamabad. For the purpose of determination of generic tariff order an independent consultant namely, KPMG was engaged by the Commission for assisting the determination of tariff for the MSW / RDF based plants. The independent consultant visited the plant of the petitioner and reported that MSW processing facility at Karimnagar was operational, processing facility at Ramagundam dump yard was closed due to local population opposition and processing facility at Nizamabad has been delayed due to pollution clearance. On a perusal of the annual financial statements of the petitioner for the FY 2014-15 it is noticed that work-in-progress of plant & machinery for a sum of Rs.5.95 crores is reflected in the balance sheet. During the course of hearing, the petitioner clarified that the work in progress of plant & machinery specified in the balance sheet related to the processing facilities of MSW at Nizamabad. Currently, the power generation plant of the petitioner has been shut down.

32. The petitioner during the course of generation of power from the financial year 2012-13 has not been using atleast 75% of the fuel from the RDF as two processing plants were not in operation either fully or partly and apparently the third processing plant is yet to come into operation. As reported by the respondent, the processing plants and the power generation plant have been shut down by the petitioner and a conclusion cannot be drawn that the petitioner is using 75% RDF as fuel as stipulated in the SEIAA order dated 09.01.2009.

33. During the course of enquiry by the Commission, the petitioner furnished the details of RDF consumption and secondary fuel consumption details with the supporting documents and the details from FY 2010-11 to FY 2015-16 as collated are as under:

Year	RDF	Agro waste	Coal	Total	RDF	Agro waste	Coal	Total	
	Quantity used in MT					Quantity used in %			
2010-11	--	--	--	57146	--	--	--	100%	
2011-12	--	--	--	78962	--	--	--	100%	
2012-13	47083	43196	8895	99174	47%	44%	9%	100%	
2013-14	28274	51796	6530	86600	33%	60%	8%	100%	
2014-15	17539	48262	4089	69890	25%	69%	6%	100%	
2015-16	22860	54333	2330	79523	29%	68%	3%	100%	

34. The above details furnished by the petitioner clearly established the fact that the petitioner had used the RDF as fuel for power generation from FY 2012-13 to FY 2015-16 varying from 25% to 49%. Further, the fuel consumption details furnished by the petitioner reveal that it has been using the Agro Waste and Coal predominantly for the generation of power from FY 2012-13 to 2015-16 and presently, the power plant is shut down. The fuel consumption details furnished support the petitioner's claim partly that RDF is also being used for the generation of power varying from 25% to 69%. In the last four years, the utilisation of RDF as fuel is not to the extent of 75% as stipulated by the SEIAA in its order dated 09.01.2009. The project of the petitioner supports the endeavor of protecting the environment and for claiming the tariff relating to the RDF plants, the petitioner is hereby directed to fulfill the following conditions before entering into a PPA with the respondent:

- (i) Make operational the MSW processing plants located at Karimnagar and Ramagundam and they must process 75% of RDF as fuel required for the generation of power in the power plant.
- (ii) The power plant has been closed by the petitioner and the same should be made operational. The power plant should be inspected by the respondent and should ensure that out of the total fuel required for generation of power from the plant, atleast 75% of the total quantum of fuel required should be from the RDF and the balance can be from Biomass as stipulated in SEIAA order dated 09.01.2009. The petitioner has to demonstrate in the presence of the representatives of the respondent through continuous operation of the power plant at 80% PLF using 75% RDF and 25% Biomass and other fuels.
- (iii) After conducting the inspection, if the respondent is satisfied that the power is being generated from the RDF, then a PPA can be entered into at a tariff determined in this order by following the due procedure as is being followed in the cases of other power generators.

35. In the generic tariff order for claiming the tariff of RDF plant, the RDF utilized for generation of power should be 100% as against the 75% RDF stipulated in this order to the petitioner. For appreciating the issue, the Commission findings from the generic tariff order relating to secondary fuel consumption are reproduced as under:

“125. The Government of India as well as State Governments have been issuing guidelines in respect of non-conventional / renewable energy projects providing for various functional, operational and tariff guidelines / policies set out to encourage such non-conventional / renewable energy projects. One of the parameters that is considered is that of usage of secondary fuels. In order to encourage the RDF and the MSW projects the Commission proposed not to allow secondary fuels in the operation of these projects.

Comments Received

126. M/s. Hema Sri Power Projects Limited suggested the use of secondary fuels to the extent of 25% as GCV of MSW or RDF on a standalone basis is not sufficient for combustion. Originally the plant was envisaged at the time when Ministry of New & Renewable Energy has allowed for mixing of Biomass to the extent of 25% based on GCV. The detailed project report was prepared considering the usage of secondary fuel.

127. M/s. Shalivahana Green Energy requested for the usage of secondary fuels up to 25% as the plant was operational since 2010. Secondary fuel is essential for the combustion to sustain in a boiler and therefore 100% of RDF usage is practically not possible with the current boiler design.

128. M/s. I L & F S suggested to allow secondary fuels for the existing and near completion plants as their boilers have been designed taking into account the 25% secondary fuels allowance and it is difficult to operate the power plant on 100% MSW.

Commission's Order

129. The Commission is of the view that while passing a generic tariff order, the most competitive practices should be encouraged. The developers using older technology have no reason to seek reduction of the bench marking of parameters for all the developers so as to allow themselves the use of secondary fuels when better technical alternatives are available and such alternatives should benefit the end consumer. Therefore, in order to sustain and attract investment in favour of renewable sources, the Commission is not inclined to allow any secondary fuels by this order.

130. Having said that no secondary fuel usage is allowed, the Commission cannot be aloof to the technical constraints faced by such plants during the start of a plant. Accordingly, secondary fuel may be used for giving necessary support during the start-up operations only. The recent National Tariff Policy issued in January 2016, mandates the must-run status for the waste to energy projects and to demonstrate this requirement, the developer is required to maintain the records of such start-up operations including the secondary fuel consumption for such operations.”

36. The petitioner's plants COD was achieved on 14.04.2010 and the claim of the petitioner is that at the relevant point of time there was no distinction between the MSW plants and the RDF plants. The power project with main plant & machinery was

commissioned in the year 2010 with one processing plant. The petitioner has planned three processing plants for conversion of MSW to RDF upto 75% of the total fuel requirement in the form of RDF. As per the Audit Certificate, dated 5th July, 2016 for FY 2015-16 issued by M/s. Nisar & Kumar, Chartered Accounts, additional capital cost to the tune of Rs.5.95crores has been incurred by the petitioner mainly on plant & machinery to establish one more processing plant which is shown as work in progress.

37. The petitioner has to use 75% of the total fuel used from the RDF for generation of power from time to time. Whereas, in the generic tariff order dated 13.06.2016, the Commission held that except for the startup operations the entire fuel (100%) has to be from the RDF. Except the petitioner's plant, all other plants using MSW / RDF have achieved COD after 13.06.2016 and the petitioner's only plant is not covered by the generic tariff order for MSW/RDF dt. 13.06.2016. Considering the fact that the petitioner had generated power in the past, to promote green energy and to protect the environment in this State, as an exceptional and extraordinary case the Commission reduces the fuel consumption of RDF from 100% to 75% RDF for the following reasons.

- (i) The capital cost of the petitioner is a sum of Rs.5.78 crores per MW. Whereas, in the generic tariff order the capital cost of RDF based project was determined at a sum of Rs.9 crores per MW. Further, the Commission has reduced the depreciation from the capital cost of the project from the date of COD to arrive at the fixed cost. Thus, the project cost of the petitioner is lower as compared with the developers covered by the generic tariff order.
- (ii) The design of the boilers and other machinery is not latest as compared to the projects which are covered by the generic tariff order.
- (iii) The benefit of 75% RDF fuel out of total consumption of fuel is not perennial. The petitioner is hereby directed to compete and utilize 100% RDF like other projects which have achieved COD after June 2016 in a reasonable period of time.

38. To conclude, the petitioner's plant is treated as RDF based power plant subject to the above conditions and the respondent shall ensure that the petitioner utilizes

75% of the fuel used for power generation is from RDF before entering into a PPA and paying the tariff as determined in this order.

II. The Station Heat Rate is claimed at 4200 k.Cal/kWh by the petitioner on the basis of an order passed by Hon'ble APTEL

39. The petitioner during the course of hearing claimed the Station Heat Rate (SHR) at 4200 for the purpose of determination of Fixed Cost and Variable Cost. SHR means the heat energy input in k.Cal required to generate one (1) kWh of electrical energy. The petitioner relied on the decision of the APTEL in M.P.Power Management Company Ltd vs. M.P.E.R.C & Ors in Civil Appeal No. 6547/2016 dt.25.07.2016 and SLP filed thereon has been dismissed by the Hon'ble Supreme Court. The Commission has considered the rival contentions and retains the SHR 4000 k.Cal/kWh as laid down in the generic tariff order for MSW dt.13.06.2016 for the following reasons:

- (i) The petitioner itself admitted SHR of 4000 k.Cal/kWh in the petition filed before the erstwhile APERC on 19.05.2011. Without any evidence the petitioner claimed SHR of 4200 k.Cal/kWh.
- (ii) Before the erstwhile APERC, Hemasri Power Projects Ltd filed a petition for determination of tariff on 19.05.2011 wherein, the SHR admitted was 4000 k.Cal/kWh and this project is also based on MSW. Further, RDF projects Ltd also filed a petition before the erstwhile APERC on 04.06.2011 admitting SHR of 4000 k.Cal/kWh and this project is also based on MSW/RDF project. Thus, SHR declared by the petitioner is on par with the SHR declared by the other projects in the State of Telangana and they also appeared in the public hearing in respect of the generic tariff order before the Commission.
- (iii) In the generic tariff order, this Commission has determined the SHR at 4000 k.Cal/kWh and the relevant portion from paras 73 to 76 are reproduced as under:

“Station Heat Rate (SHR)

73. In the consultative paper Station Heat Rate (SHR) for power projects using the Refuse Derived Fuel was proposed to be 4000 K.Cal/kWh.

Comments Received

74. *M/s.Hema Sri Power Projects Ltd., M/S. Shalivahana Green Energy, M/S. Sri Venkateshwara Green Power, M/S. IL&FS, M/S. RDF Power Projects Ltd and M/S. Hyderabad Integrated MSW suggested that the SHR should be 4200 k.Cal/kWh as per the CERC norms.*

Commission's Order

75. *The Waste-to-Energy developers in this state have requested for a SHR of 4000 k.Cal/kWh in their petitions filed before the Commission. The CERC in the final regulation stipulates that as per the data provided by the Ministry of Urban Development Authority, SHR is in the range of 3500 k.Cal/kWh to 4200 k.Cal/kWh.*

76. *The erstwhile Govt. of Andhra Pradesh had allocated various municipalities to power projects using the MSW as fuel. Thus, a power project is assured of supply of raw material. Considering, the totality of facts, the Station Heat Rate for power plants using the Refuse Derived Fuel at 4000 k.Cal/kWh as per the norms proposed in the Consultation Paper.”*

After considering the totality of facts, this Commission determines the SHR at 4000 k.Cal/kwh and the decision of CERC upon which the petitioner relied upon is not binding on this Commission.

- (iv) Coming to the decision of the APTEL in the case of M.P.Power Management Company Ltd and Ors (Appeal No.211/2015) dated 04.05.2016. In our considered view, this decision of APTEL is in respect of projects which are using biomass as fuel. Whereas, the petitioner uses the RDF as fuel. The sample tests in the case before the APTEL were conducted on samples of rice husk, wheat husk, mulberry and coal. Therefore, the decision of APTEL does not apply to the facts of this case. Moreover, the SHR in respect of biomass plants as laid down by APTEL shall be applicable to power plants located in the state of Madhya Pradesh using biomass as fuel. This decision is to be seen in the context of petitioner's own admission of SHR. Further, the determination of SHR varied from one State Electricity Regulatory Commission to another State Electricity Regulatory Commission for e.g., Maharashtra ERC adopted 3800 k.Cal/kWh, GERC 3800 k.Cal/kWh, TNERC 3840 k.Cal/kWh in respect of the biomass power plants.

40. To conclude, this Commission does not agree with the submissions of the petitioner and follows the SHR which has been laid down in the generic tariff order of this Commission dated 13.06.2016.

III. Capital Cost:

41. The petitioner submitted the details of the cost of the project to the Commission. The total cost of the project reported by the petitioner is for a sum of Rs.75.75 crore comprising of Rs.59.51crores of capital expenditure incurred upto FY 2010-11, Rs.9.82crores additional capital expenditure incurred during FY 2011-12 and Rs.5.95crore expenditure towards work in progress for processing equipment cost for collection of municipal waste from various municipalities and processing at the three identified processing plants. The Commission examined the capital cost of the project of the petitioner and considered the capital expenditure of Rs.69.33crore which works out to a capital cost of Rs.5.78crore per MW.

42. The expenditure of Rs.5.95crore shown against the capital work in progress relates to the expenditure towards setting up of facilities and equipment for collection of municipal waste from various municipalities and processing of the same at three identified locations. It is reported that the company is able to run only one processing unit and the work on the other sites is yet to be completed. Hence, the Commission is not inclined to consider this capital expenditure at this stage.

43. The Commission has adopted the same financial parameters which were adopted in the generic tariff order dated 13.06.2016 (like interest rate, depreciation rate, O&M cost etc.) for calculation of the fixed cost component of the tariff except the capital cost as stated above while determining the fixed cost component of the petitioner. The project of the petitioner was commissioned in the year 2010 and the Commission is not inclined to deviate from the adopted parameters of generic tariff for MSW and RDF based projects in the order dated 13.06.2016.

44. Based on the capital cost per MW computed above and in the light of all tariff parameters decided in the TSERC generic tariff order dated 13.06.2016, the Commission determined the tariff for the RDF based power plant of petitioner in the

Annexure attached to this order. The levelised fixed charge per unit is a sum of Rs.2.39 per unit.

45. The levelised fixed charge of Rs.2.39 per unit shall be applicable for the period from FY 2016-17 to FY 2029-30 unless revised by the Commission on filing of latest audit reports showing the completion of the processing plant and due scrutiny thereof.

IV. Other conditions as stipulated in the generic tariff order dt.13.06.2016 of this Commission

46. In the generic tariff order dated 13.06.2016 of this Commission, certain conditions were stipulated to RDF based projects and such conditions are equally applicable to the petitioner. The conditions stipulated in the generic tariff order dated 13.06.2016 as applicable to the petitioner are as under:

(i) Inspection of the project regularly:

The TSNPDCL in whose jurisdiction, the project is located shall make an inspection of the power project regarding the usage of the fuel by a team of three Engineers' once in four months and submit a report that no fossil fuel other than the RDF is being used as a fuel by the generator to the extent of 75%. Further, the DISCOM shall ensure that the team which conducts the inspection in the next quarter shall not comprise of the same Engineers' who had conducted the previous inspection. In other words, the team should comprise of different Engineers' among its employees other than the Engineers' who conducted the earlier inspection and a copy of the report prepared by such a team shall also be sent to the Commission for its perusal and verification.

If the petitioner is found to be using coal, or biomass or diesel or any fossil fuel for running the power projects in excess of 25% of the total consumption of fuel for generation of power, (except for starting operations), the DISCOM shall be at liberty to cancel the Power Purchase Agreement with the petitioner by giving two months' notice or any period as per the suppliers' default covenant in the Power Purchase Agreement entered into by the petitioner with the DISCOM.

(ii) Incentives:

While the incentives and other measures announced by the Government of India or the Government of Telangana are for the promotion of the WTE projects, it is pertinent to note that the electricity consumers should not be unduly burdened with the higher tariffs and the preamble of the Act, 2003 which enjoins upon the Commission to ensure that the consumer interest is protected. Therefore, the same needs to be factored in the determination of

the tariff. On the same length, the Commission is also to ensure environmentally benign policies. Thus, the effort of the Commission is to balance the interest of the industry and the consumers. This shall ensure reasonable returns to the project developer and also shall not pose any undue burden to the consumer.

The Commission determines that any incentives, including but not limited to tipping fees, interest rates, Government grants, generation based incentives shall be passed on to the Distribution Company (DISCOM).

(iii) Scheduling and Dispatching:

The Waste-to-Energy Power Projects in the state of Telangana shall be treated as must-run i.e., not subjected to the Merit Order Despatch. The generating company, i.e., petitioner has to furnish the Day-Ahead Schedule and maintain it. However, for the purpose of Grid stability and discipline in the event of contingencies arise and when no other means of Grid discipline is available, the schedule can be changed by the State Load Despatch Centre (SLDC) keeping in view the CERC (Indian Electricity Grid Code) Regulation, 2010 (as amended up-to- date) and CERC (Un-scheduled Interchange and related matters), Regulations, 2009 including amendments thereto.

(iv) Income Tax liability:

In order to encourage investment, the Commission determines the Return on Equity to be 16% post tax and the income tax paid has to be reimbursed by the DISCOM against the submission of original challans of the payment of tax to the Income Tax department. The DISCOM shall reimburse the income tax liability on the income derived from the power project and it shall not reimburse any tax on income not derived from the power project. In other words, income tax on any income other than the income derived from the power project shall be borne by the generating company i.e., petitioner.

V. Tariff of the petitioner:

47. The Commission has adopted a levelised fixed cost for the complete life of the project which shall be a sum of Rs.2.39ps per unit (the details of the tariff are enclosed in the Annexure to this order). The variable charges / tariff are same as determined in the generic tariff order dated 13.06.2016. However, for clarity sake, the tariff applicable to the petitioner (using indicative 5% fuel price escalation) for the 3rd control period i.e., from FY 2016-17 to FY 2018-19 is as under:

**Tariff in Rs./kWh for RDF based power plant using indicative
5% fuel price escalation**

Year	FY 2016-17	FY 2017-18	FY 2018-19
Fixed Cost	2.39	2.39	2.39
Variable Cost	3.24	3.40	3.57
Total cost	5.63	5.79	5.96

This order is corrected and signed on this the 23rd Day of December, 2016.

**Sd/-
(H. SRINIVASULU)
MEMBER**

**Sd/-
(ISMAIL ALI KHAN)
CHAIRMAN**

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