



**ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION**

4<sup>th</sup> Floor, Singareni Bhavan, Red Hills, Hyderabad - 500 004

Present

**Sri Justice G. Bhavani Prasad, Chairman**

**Dr. P. Raghu, Member**

**Sri P. Rama Mohan, Member**

SATURDAY, THE TWENTY SEVENTH DAY OF JULY, TWO THOUSAND AND NINETEEN

In the matter of

**Determination of tariff for**

**M/s. Richmond Power Pvt Ltd, Vizianagaram District.**

**O.P.No.2 of 2017**

**BETWEEN:**

M/s. Richmond Power Pvt Ltd, Vizianagaram District

... Petitioner

**AND**

Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL) ... Respondent

A petition under Section 86(1)(a) of the Electricity Act, 2003 and the APERC (Conduct of Business) Regulations 2 of 1999, to fix the tariff for M/s. Richmond Power Private Ltd's power plant, located in Vizianagaram District and direct the respondent to sign the PPA and purchase the power from the said power plant of M/s. Richmond Power Pvt Ltd, came up for final hearing on 30-03-2019 in the presence of Sri P. Vikram, learned counsel for the petitioner, Sri G.V. Brahmananda Rao, learned counsel representing Sri P. Shiva Rao, learned standing counsel for the Respondent and Sri M. Venugopala Rao, learned objector. After carefully considering the material available on record and after hearing the arguments of the learned counsel for the petitioner, learned standing counsel for the respondent and the objector, the Commission passed the following:

## **ORDER**

1. M/s. Richmond Power Private Ltd, the petitioner, has made, inter alia, the following submissions in the petition:
  - i. M/s. Richmond Power Pvt Ltd is a company incorporated under the Companies Act, 1956 on 23.03.2010. The main object of the company is to encourage power production and it is involved in Renewable Energy production by using Industrial Waste.
  - ii. It is well positioned with long-term fuel access to its power plants and its power projects which are under planning and was formed with a vision to be one of the leading players in Industrial Waste to power.
  - iii. It has set up an industrial waste based Renewable Energy power plant with installed capacity of 6 MW near Vizianagaram and the Plant is ready for “charging and undertaking synchronization process” with the Grid and the Plant is connected to Garividi substation of APTRANSCO and willing to sell the entire power generation from the plant to APEPDCL, Visakhapatnam, the respondent.
  - iv. It engaged a 6 MW Palm waste and Agri residues Fired Boiler for steam generation and the total steam will be used in steam turbine for power generation. A total sum of 6 MW of electricity will be generated & injected into the grid. A sum of approx. 200 Tons per day (TPD) of Industrial Waste will be processed at the said location to produce fuel to be utilized as main fuel for power generating unit. The palm waste processing and treatment is intended to reduce the amount of industrial waste to be disposed of as well as to change its composition in a way that prevents adverse effects on the environment.
  - v. Industrial waste based power projects provide many social benefits. They not only provide environmentally clean electricity but also encourage efficient and economically favorable utilization of industrial waste.

- vi. The Electricity Act, 2003 aims to bring about substantial reforms in the Indian Electricity sector. Consequent to the enactment of the Act, the process of approval of retail tariffs is vested with the State Commission. And the object of the Electricity Act, 2003 is to promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify a percentage for purchase of electricity from such sources.
  
- vii. National Tariff Policy 2016 dated 28.01.2016, recommended that States shall endeavor to procure power from renewable energy sources through competitive bidding to keep the tariff low, except from the waste to energy plants. The relevant provisions of National Tariff Policy, 2016 are produced below:

*“6.4 Renewable sources of energy generation including Co-generation from renewable energy sources:*

- (i) Pursuant to provisions of section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of a distribution licensee for purchase of energy from renewable energy sources, taking into account availability of such resources and its impact on retail tariffs. Cost of purchase of renewable energy shall be taken into account while determining tariff by SERCs. Long term growth trajectory of Renewable Purchase Obligations (RPOs) will be prescribed by the Ministry of Power in consultation with MNRE.

Provided that cogeneration from sources other than renewable sources shall not be excluded from the applicability of RPOs.

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

- viii. The Central Electricity Regulatory Commission (CERC) vide its Order dated 29-04-2016 in Suo Motu Petition No. SM/03/2016, determined the levelled generic tariff for FY2016-17. It also notified the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) (Fifth Amendment) Regulations, 2016 on 30.03.2016. This provides terms & conditions and the procedure for determination of tariff of all Renewable Energy (RE) generating stations including Biomass Power Projects.
- ix. In view of above circumstances and encouragement of the policies by the government, it has established the power generating plant at Garividi, Vizianagaram district for generation of 6 MW with palm residues which are readily available from nearby processing plants. The cost of the fuel is economically viable for power generation, by using said industrial waste.
- x. At present, since the NREDCAP (earlier NEDCAP) had already issued a large number of sanctions for setting up of biomass based power plant, no further biomass based power is allowed to be purchased by the distribution licensees except the PPAs already entered into. It is pertinent to note that the petitioner company is an industrial waste based power plant proposing to use industrial waste i.e., (EFB) empty fruit bunch (of oil palm) as fuel for boiler. As such the petitioner is eligible to sell the power to the DISCOMs.
- xi. The petitioner made representations to the APPCC, DISCOMs and Ministry of Energy, I&I Department that the plant is ready and willing to sell the entire power generation to DISCOMs. Based on the representations and after careful consideration of the project report submitted by the petitioner, the Ministry of Energy, I & I Department has directed (vide letter No. 505/POWER.II.2/2016 dated 26.09.2016) the APEPDCL to file a petition to fix tariff. Accordingly, the petition was filed by the Respondent vide O.P. No. 23 of 2016 before the Andhra Pradesh Electricity Regulatory Commission (APEREC) for purchase of power and to fix the tariff for the above plant of the

petitioner. But the APEPDCL had withdrawn the said O.P. on 17.12.2016 on technical reasons with leave of APERC with liberty to file an appropriate petition at later date.

- xii. Subsequently, the APEPDCL, Visakhapatnam had addressed a letter dated 06.01.2017 vide Lr. No. CGM/Planning, PPA & RA/EPDCL/VSP/GM/Plg. & PP/F/D.No,I/70803/17 to APERC that as per National Tariff Policy dated 28.01.2016, the distribution licensees shall compulsorily purchase 100% power produced from all the Waste to Energy plants in the State, at the tariff determined by the appropriate Commission.
- xiii. The Respondent APEPDCL is willing to purchase power from its power plant subject to the condition that same shall be as per the tariff that may be determined by APERC.
- xiv. The APERC had passed orders in R.P.No.84 of 2003 in O.P.No.1075 of 2000, dt.20.03.2004 for purchase of power from non-conventional projects, while determining tariff for industrial waste to energy projects, the APERC reiterated that “these projects are identifiable more with Biomass based power projects and hence treated the Industrial Waste based power projects on par with Biomass based power projects”. In pursuance thereof in the said order dt.20.03.2004, the APERC authorized purchase of energy by APTRANSCO from Industrial Waste based power projects at the rates permitted for sale of power from Biomass power projects.
- xv. APERC in O.P.No.32 of 2014, determined the Variable Cost for the period from 01-04-2014 to 31-03-2019 in respect of the existing plants based on Non-Conventional Energy (NCE) sources in the State of Andhra Pradesh, the relevant Paras are extracted hereunder:

**Industrial Waste based Power Projects:**

3.1. The Commission would like to continue with the existing mechanism, i.e., the norms proposed for Biomass power projects shall be applicable to Industrial Waste based power projects also.

3.2. The following table lists down the norms considered by the Commission for computing the variable cost for the period FY2014-15 to FY 2018-19 for Industrial waste based power projects.

<i>Variable cost Norms for Industrial waste based Power Projects Industrial waste based Power Projects</i>		
	<i>Units</i>	<i>Norms</i>
<i>Applicability (Variable Cost)</i>	<i>Period</i>	<i>FY 14-15 to FY 18-19</i>
<i>SHR</i>	<i>kCal/kWh</i>	<i>4,200</i>
<i>Auxiliary</i>	<i>Consumption %</i>	<i>10%</i>
<i>GCV</i>	<i>kCal/kg</i>	<i>3,100</i>
<i>Fuel Price (FY 2014-15)</i>	<i>Rs./tonne</i>	<i>2,843</i>
<i>Fuel Price escalation</i>	<i>%</i>	<i>Computed*</i>
<i>Specific Fuel Consumption</i>	<i>Kg/kWh</i>	<i>1.35</i>

*\*Based on fuel price escalation methodology*

3.3 The Variable cost for Industrial waste based power projects for the period from FY 2014-15 to FY 2018-19 is determined as indicated below:

<i>Indicative Variable Cost for Industrial Waste based Power Projects for the period FY 2014-15 to FY 2018-19 (Rs. /Unit)*</i>	
<i>Financial Year</i>	<i>Variable Cost (Rs./Unit)</i>
<i>FY 2014-15 **</i>	<i>4.28</i>
<i>FY 2015-16</i>	<i>4.54</i>
<i>FY 2016-17</i>	<i>4.81</i>
<i>FY 2017-18</i>	<i>5.10</i>
<i>FY 2018-19</i>	<i>5.40</i>

*\* The fuel price escalation is indicative (6%). Actual fuel price escalation would be notified by the Commission before the start of each financial year starting from FY 2015-16.*

*\*\* This is the rate APDISCOMs have to pay.*

- xvi. The petitioner has already made investment on the power generation plant and the plant is ready and functional and the Respondent is also ready and willing to purchase the power from the company.
- xvii. Therefore, in view of the above, APERC may fix the tariff for the petitioner's 6MW Industrial Waste based power Plant in terms of the orders of CERC dated 29-04-2016 in Suo Motu Petition No. SM/03/2016 and order dated 16-05-2014 passed by APERC in O.P.No.32 of 2014. As the petitioner's power plant is in a similar

situation, said orders of the CERC and APERC are squarely applicable to the petitioner. The cause of action for filing the present petition arose on 06-01-2017, when the Respondent addressed a letter to APERC, stating that the Respondent is ready and willing to purchase power from the company and also decided to enter into a power purchase agreement and the cause of action is still continuing and subsisting.

2. The petition submitted by the petitioner has been admitted by the APERC, hereinafter referred to as the Commission, assigned O.P.No.2 of 2017 and placed the petition along with public notice on the website of the Commission for seeking views/objections/suggestions from all the stakeholders. It is also notified in the public notice that public hearing is scheduled on the subject petition on 20-05-2017 at 11 a.m. in the court hall of the Commission, Hyderabad for the stakeholders desired to be heard in person or to submit their views in writing to the Commission directly. The Commission also directed the licensee to place the petition and public notice on its website and submit responses to the views/objections/suggestions received from various stakeholders on or before 17-05-2017.
3. In response to the public notice, the Commission received views/objections/suggestions from various stakeholders at its Office and during the public hearing.
4. Sri M. Venugopala Rao, Senior Journalist & Convener, Centre for Power Studies, Hyderabad, Sri Penumalli Madhu, State Secretary, CPI(M), Vijayawada, Sri A. Punna Rao, Vijayawada and Sri CH. Narasingarao, Visakhapatnam have requested the Commission to reject the petition taking into account following submissions.
  - i. When bagasse, a residue waste of sugarcane used for production of sugar by sugar industries, is being used for generation of power and not considered as industrial waste, there is no legal or aphoristic or rational basis for considering palm waste, a residue waste that comes out in the process of palm oil produced by industries, as industrial waste. In terms

of variable cost, too, the tariffs for industrial waste and bagasse, as determined by the Commission for the year 2017-18, are vastly different. For industrial waste, the Commission determined a variable cost of Rs.4.41 per unit, while for bagasse; it determined a variable cost of Rs.2.81 per unit.

- ii. The national tariff policy says: “States shall endeavour to procure power from renewable energy sources through competitive bidding to keep the tariff low, except from the waste to energy plants. Procurement of power by Distribution Licensees from renewable energy sources from projects, above the notified capacity shall be done through competitive bidding process, from the date to be notified by the Central Government.” When AP Discoms had gone in for competitive bidding for selecting municipal solid waste based power plants and the PPAs signed with selected plants have been pending before the Commission for its consideration and consent, the decision of the Govt. of AP in directing EPDCL to enter into a PPA with the Company on the basis of generic tariff determined by the Commission is questionable. It goes against the letter and spirit of the national tariff policy insofar as it goes against competitive bidding and the resultant “significant benefits to consumers through reduction in capital costs and also efficiency of operations.”
- iii. Simply because the national tariff policy says that the distribution licensees shall compulsorily procure 100% power produced from all the waste-to-energy plants in the State, it would be a gross misinterpretation to claim that whoever sets up such plants, entire energy generated by them shall be purchased by the Discoms at generic tariffs determined by the Commission. Adhering to such misconceived approach would lead to disastrous consequences which will ultimately affect larger interest of consumers of power and orderly development of the power sector. Irrespective of the Discoms already meeting or even exceeding the obligations under RPPO and availability of substantial surplus power, as has been the case earlier and now in 2017-18, already saddling the consumers of power with payment of fixed charges



for backing down a huge quantum of installed capacity under PPAs, if the Discoms have to enter into PPAs with any plant set up in the State to generate power using undefined waste, it will further precipitate the prevailing disastrous situation in the State. Such a situation would lead to imposition of dual burdens on consumers of power for purchasing high-cost NCE on the one hand, and backing down relatively cheaper power from thermal plants and paying fixed costs for such non-generation. It would further lead to keeping a significant part of installed capacity already created idle, wastage of resources and creating problems for such generators who had long-term PPAs with the Discoms in terms of confining to lower percentage of plant load factors, which affects useful life span of their plants. In case of power plants which remain idle for want of demand, the danger of their plants becoming so-called non-performing assets, unable to pay back loan instalments to banks and financial institutions, is already looming large. On the whole, it will lead to criminal wastage of national resources and assets created with investments of thousands of crores of Rupees. An ultra simplistic view of environmental protection, national policy, State policy, diplomatic approaches, etc., cannot justify, much less conceal, these disastrous consequences that arise as a result of indiscriminate entering into PPAs between the Discoms and generators for purchasing unwarranted power, including renewable energy, and giving consents to the same.

- iv. The very fact that AP Discoms have gone in for competitive bidding for selection of municipal solid waste based power plants confirms that selection of waste-based power plants based on generic tariffs fixed by the Commission is outdated, affects larger consumer interest and leads to wastage of resources, besides serving vested interests of developers. So is the case with other non-conventional energy plants. AP Discoms have already filed a petition before the Commission with a request to limit the control period of Regulation No.1 of 2015 up to 31.3.2017, instead of 2019-20, relating to generic tariff fixed for wind power to be

purchased by them and allow them to go in for competitive bidding for selection of wind power units in consonance with the guidelines of MNRE, GoI, and National Tariff Policy, 2016.

- v. In view of availability of a surplus power of more than 12,000 MU during 2017-18, which can be around 20,000 MU, APDISCOMs have already started the process of requesting the Commission to allow them to withdraw the PPAs they had already signed with NCE developers, including NTPC, and submitted for the consideration and consent of the Commission and the latter started returning the same. When such is the case, the decisions of the GoAP in forcing the DISCOMs to enter into long-term PPAs with NCE generators of the choice of the powers-that-be and submit the same for consideration and consent of the Commission as in the subject case, and the Commission giving consents to such PPAs even without holding any public hearing, as was the case with Vishnu Vidyuth India Ltd. earlier, are simply intended to do undue favour to NCE developers of the choice of the powers-that-be, whatever be the considerations, and sacrificing larger consumer interest.
- vi. The projected availability of NCE during 2017-18 to AP Discoms to the tune of 10,317 MU works out to 18.23% compared to their requirement of purchase of power at 56,583.51 MU as determined by the Commission in its tariff order for 2017-18. In its Regulation No.1 of 2017 dated 31.3.2017, the Commission directed the Discoms to purchase 9% of NCE under RPP0 during 2017-18. Availability of 18.23% under obligations of PPAs to the Discoms is more than double the percentage fixed by the Commission for 2017-18. In such a situation, entering into long-term PPAs with NCE developers would be an act of irresponsibility and perversity on the part of the people in the seats of power and decision making. There is absolutely no justification for giving consent of the Commission to such PPAs or for directing the Discoms to enter into such PPAs.
- vii. The Commission has already started the process of taking up long-term load forecast, resources plan and electricity plan submitted by the

DISCOMs and APTRANSCO for public hearing. In view of scope for availability of abnormal quantum of surplus power, when requests of the Discoms for consents to some of the PPAs they had with generators, including public sector utilities, already under consideration of the Commission and in the process of public hearing, are questionable, giving consents to fresh PPAs with NCE developers by the DISCOMs for purchasing power from them on long-term basis and at higher costs would turn out to be adding new albatross round the neck of consumers of power at large.

5. On request of learned standing counsel for the respondent Sri P. Shiva Rao, the Commission has directed the petitioner to furnish the details of the capital cost to enable the respondent to take a stand on this matter during public hearing on 20.05.2017.
6. Accordingly, the petitioner has filed the details of capital cost vide memo dated 15.07.2017 that the total cost of the project as 38.77 Cr and the plant capacity is shown at 5.5 MW as per invoice.
7. A counter has been filed by the Respondent during public hearing held on 26.08.2017 on the memo dated 15.07.2017 filed with regard to capital cost filed by the petitioner. Inter alia, the submissions by the Respondent in his counter are as hereunder:
  - i. The petitioner has assured the respondent that the project is waste based project. Therefore, the respondent considering the mandate of tariff policy agreed to purchase power.
  - ii. The petitioner has submitted the total cost of the project (6 MW) as Rs.38.77 Cr. Earlier, APERC had adopted the tariff for the Industrial waste Projects on par with Biomass Projects. The capital cost is Rs.4 Cr. /MW as directed by APTEL for the Biomass Projects commissioned up to 31.03.2009. Whereas the petitioner has estimated the project cost as Rs.38.77 Cr. Thus, capital cost works out to Rs.6.46166 Cr. /MW, which is on much higher side and thus unjustified. Therefore, the

Commission is requested to examine the details of the capital cost projected by the petitioner.

- iii. The Petitioner at para 8 of the petition stated that *“The petitioner is engaged in 6 MW Palm Waste and Agri residues fired Boiler for steam generation and the total steam will be used in steam turbine for power generation. A total sum of 6 MW of electricity shall be generated and injected to grid. A sum of approx.200 Tons per day of Industrial waste shall be processed at the said location to produce fuel to be utilized as main fuel for power generating unit. The palm waste processing and treatment is intended to reduce the amount of Industrial waste to be disposed of as well as to change its composition in a way that prevents adverse effect on the environment”*. As such, the petitioner will use the fuel as waste from its own co-generation unit/Palm oil processing unit. Therefore, absolutely the question of variable cost doesn't arise and the fixed cost alone is involved.

8. Sri N. Satyanarayana, Learned counsel representing Sri P. Vikram, Learned standing counsel for the petitioner has filed Reply affidavit to the counter filed by the respondent on 26.08.2017 during the public hearing held on 16.09.2017 .Inter alia, the submissions by the petitioner in his reply affidavit are as hereunder:

- i. The averment of respondent that palm residues are readily available to the petitioner from the nearby processing unit is not true and correct. The averment of the respondent that the petitioner will use the fuel as waste from its own “co-generation unit/palm oil processing unit” and therefore the question of variable costs of the project does not arise and fixed cost alone is involved is not true and correct. The petitioner's plant is not a co-generation plant and it is an independent power plant. As such, the very approach of the respondent treating the petitioner's plant as co-generation plant/palm oil processing unit is erroneous. The permission issued by NEDCAP is given for independent power plant, as such, the

contentions made by the respondent is contrary to the record and liable to be rejected.

- ii. As a matter of fact, the petitioner collects the basic raw material from nearby industries in and around 100 kms located from the petitioner's plant. After collecting the basic raw material at one place then the basic raw material is once again processed and treated and further mixed with agricultural waste to improve its composition (i.e., Agro Industrial Waste Derived Fuel) and making it usable in the petitioner's power plant. The basic Industrial Waste is being converted into Agro Industrial Waste Derived Fuel for the power plant is a process which involves time and costs. The detailed process for the time it is collected till the time it is converted into fuel is given hereunder in a tabular form and also the costs involved for the same.

STAGES	PARTICULARS
1 <sup>st</sup> Stage	Industrial Waste(i.e., palm oil bunch residue) and Biomass i.e., (palm oil leaves, husk & Agri waste) are collected from Palm oil extraction units, Palm plantations, Rural agriculture areas in and around the power plant.
2 <sup>nd</sup> Stage	The said Industrial Waste is processed to make it suitable for fueling the furnace by Inert & Moisture removal process, shredding, Blending /mixing of different fuels for homogenisation, necessary briquetting, Transportation and storage at the feeding bunker.
3 <sup>rd</sup> Stage	Final product "Industrial Agro Waste".

- iii. The averment of the respondent that the Capital costs works of Rs.6.46166 Cr. /MW is on higher side and thus unjustified is not true and correct. As a matter of record, the entire capital cost of the petitioner and the details were furnished by the respondents vide letter dated 15-07-2017 wherein, it was mentioned that the electrical equipment -132 kV Line IN Line OUT (LILO) Sub-Station was set-up

by the petitioner on the request of the APTRANSCO. The entire costs for setting of the same were borne by the petitioner which had come to Rs.6.25 Cr. Initially the petitioner had planned to evacuate the power through the existing 132 kV Line to Garividi Sub-Station by extending the Bay at the existing Sub-Station. Once the entire plant was ready and the project was being commissioned, APTRANSCO informed the petitioner that there was no Bay extension possible at the Garividi Sub-Station and thereafter the APTRANSCO requested the petitioner to go for 132 kV LILO Sub-Station and also construct a control room with all facilities for future expansion and also give additional Bay provision to provide power to other entrepreneurs who require in future. The costs incurred for construction of this 132 kV LILO Sub-station was around Rs. 6.25 Cr. which is estimated by APTRANSCO vide letter dated 19.08.2016.

9. At request, Sri P. Vikram, Learned standing counsel for the petitioner, filed a detailed report on the variable cost and details of the procedure involved in converting raw material into fuel in memo dated 30.12.2017.
10. Inter alia, the submissions by the petitioner in the memo dated 30.12.2017 are that:
  - i. The petitioner approached the NEDCAP that they are willing to set up power plant based on industrial waste from their palm oil mill however it was not sufficient to have a sizable plant to justify the investment.
  - ii. Palm residues and other biomass products are used to generate the steam to achieve 6 MW power generation from 23 Tons Per Hour (TPH) boiler.
  - iii. The biomass received has to be stored and needs: 1.Shredding, 2.Briquetting, 3.Warehousing at various locations, 4.Transportation, 5.Man power which all are contributing to the cost of the plant.
  - iv. The power plant is situated in industrial area and is well connected by Road, Telephone, Transport & other infrastructure.
  - v. Fuel is available within 3 km of the processing plant or locally within 100 km. The cost of the fuel is Rs.2000 per MT at site.
  - vi. The material requirement is biomass and annual requirement of biomass is estimated at 38719.2 MT.

- vii. The biomass is primarily from palm leaf, palm husk briquettes and rice husk. Weighted average price is Rs.2079 per MT. It is expected that the prices of fuel will increase 3% every year.

11. Additional submissions in response to the petitioner's memo dated 30-12-2017 are filed by the respondent. Inter alia, the submissions of the respondent are hereunder:

- i. The petitioner has submitted the total Variable Cost per unit is Rs.4.63 in the variable cost calculations on 30.12.2017 to APERC. In the Variable Cost calculations, Petitioner has stated that Palm Residues and other biomass products are used to generate the steam to achieve 6 MW power generation from 23 TPH boiler and that petitioner has included the Biomass Cost in the Total Variable Cost Calculations. In fact, such biomass cost is not relevant to this project as this project is purely industrial waste as per the sanction it got from NREDCAP and by acting upon the same established the project.
- ii. The NREDCAP had sanctioned the industrial waste (oil palm) based power project of 10 MW capacity to M/s. Richmond Power Private Limited for generation of power, subject to the following condition:  

“M/s. Richmond Power Private Limited has to set up 6 MW capacity Industrial Waste Power Project at Koduru Village, Garividi Mandal, Vizianagaram Dist for generation of power for their captive use”.
- iii. Further, the Petitioner at para 8 of its petition before the Commission stated that *“The petitioner is engaged in 6 MW Palm Waste and Agri residues fired Boiler for steam generation and the total steam will be used in steam turbine for power generation. A total sum of 6 MW of electricity shall be generated and injected to grid. A sum of approx.200 Tons per day of Industrial waste shall be processed at the said location to produce fuel to be utilized as main fuel for power generating unit. The palm waste processing and treatment is intended to reduce the amount of Industrial waste to be disposed of as well as to change its composition in a way that prevents adverse effect on the environment”*. As such, the petitioner has to use the fuel as waste from its own co-generation unit/Palm oil

processing unit. This was already submitted by Respondent on 22.08.2017 to the Commission. Based on the said project profile, the respondent intended to purchase. Now contrary to the said assurance, the petitioner is canvassing their project as biomass based project.

iv. In view of the above facts, the question of variable cost for this project doesn't arise, and the fixed cost alone is involved and accordingly the Commission is requested to determine the capital cost and consequential tariff to supply power to DISCOMs.

12. Sri P. Vikram, Learned counsel for the petitioner filed a reply to the additional submission of the respondent. Inter alia, the submissions in reply are hereunder:

i. The averment of the respondent that the petitioner contrary to the assurances made to the respondent is canvassing its project as a biomass based project and that the petitioner has to use the fuel as waste from its own "co-generation unit/palm oil processing unit" and therefore the question of variable costs of the project does not arise and fixed cost alone is involved is not true and correct.

ii. The petitioner's plant is not a co-generation plant and it is an independent power plant. As such, the very approach of the respondent treating the petitioner's plant as co-generation plant/palm oil processing unit is erroneous. The permission issued by NEDCAP is given for independent power plant (Industrial waste) and petitioner has never canvassed the project as a biomass based project as such, the contentions made by the respondent is contrary to the record and liable to be rejected.

13. During the public hearing held on 01.09.2018, Sri. P. Shiva Rao, Learned standing counsel for the respondent has represented that a committee has been constituted by the Government to look into the matter.

14. Accordingly, during the public hearing held on 19.01.2019, Sri. P. Shiva Rao, Learned standing counsel for the respondent, filed additional submissions along with a copy of the minutes of the meeting of Committee constituted by



the State government dated 22-11-2018 and the petitioner stated that he has no objection to the report of the Committee.

15. Inter alia, the submissions of Respondent in additional submissions dated 19.01.2019 are hereunder:

- i. During the course of pendency of these proceedings, the APPCC/APDISCOMs have decided to refer the proposals of developer to the negotiation Committee constituted by GOAP vide G.O. Rt No.26, Energy, I&I (Power-II) Department, dated:21-02-2018 to negotiate with developer and to recommend reasonable tariff (variable and fixed cost) duly considering the cost of processing of palm waste.
- ii. As per the G.O. Rt. No.26, Energy, I&I ( Power-II) Department, dated.21-02-2018, the following are the Committee members :
  - (1) Vice Chairman & Managing Director, NREDCAP – Convenor
  - (2) Managing Director, Andhra Pradesh Solar Power Corporation Limited (APSPCL)
  - (3) Director (Projects), Transmission Corporation Limited of Andhra Pradesh Limited (APTRANSCO)
  - (4) Advisor to Principal Secretary to Government, Energy, I&I Department
- iii. On 19.12.2018, the VC& Managing Director (Convenor), NREDCAP, Guntur Dist has enclosed the minutes of meeting of the negotiation committee constituted by Government of Andhra Pradesh vide G.O. Rt. No.26, dated.21.02.2018 held on 22.11.2018 at Vidyut Soudha, Gunadala, Vijayawada on the subject reference to said Committee.
- iv. As per the minutes of Committee, the following members were present on 22.11.2018 :
  - 1) Sri K. Ranganatham, Adviser to Secretary, Energy, GoAP.
  - 2) Sri G. Adishesu, Managing Director, APSPCL
  - 3) Sri J.V.Rao, Director(Projects), APTRANSCO
  - 4) Sri M. Kamalakar Babu, VC&MD, NREDCAP & Convenor
- v. After detailed discussions, the committee has observed that the fixed cost may be taken as per APERC Order dated.22.06.2013 for

Biomass/Industrial Waste based power projects. The year wise fixed cost of the said projects is given below :

<b>Year of operation since commencement of unit</b>	<b>Fixed Cost (Rs. per units)</b>	<b>Year of operation since commencement of unit</b>	<b>Fixed cost (Rs. per unit)</b>
1 <sup>st</sup>	1.77	11 <sup>th</sup>	1.25
2 <sup>nd</sup>	1.74	12 <sup>th</sup>	1.31
3 <sup>rd</sup>	1.72	13 <sup>th</sup>	1.37
4 <sup>th</sup>	1.69	14 <sup>th</sup>	1.43
5 <sup>th</sup>	1.67	15 <sup>th</sup>	1.49
6 <sup>th</sup>	1.67	16 <sup>th</sup>	1.56
7 <sup>th</sup>	1.65	17 <sup>th</sup>	1.64
8 <sup>th</sup>	1.64	18 <sup>th</sup>	1.71
9 <sup>th</sup>	1.59	19 <sup>th</sup>	1.80
10 <sup>th</sup>	1.23	20 <sup>th</sup>	1.89

vi. Regarding the variable cost, the Committee observed that, the cost @Rs.4.81 per unit fixed by APERC vide O.P.No.6, dated.15.03.2018 for the year 2018-19 in respect of Biomass/Industrial waste power projects may be taken in to account for the financial year 2018-19, and in future the variable cost as may be decided year on year by APERC for Industrial Waste Power Projects may be adopted.

vii. Based on the above, the Committee recommended the following tariff for consideration for the Industrial Waste based Power Project of M/s. Richmond Power Pvt Ltd.

- 1) Variable Cost - Rs.4.81/unit
- 2) Fixed cost for 1<sup>st</sup> year - Rs.1.77/unit
- 3) Recommended total tariff - Rs.6.58/unit

16. Sri. Venugopala Rao, Convener, Centre for Power Studies, Learned objector has submitted the following on 29-01-2019 in addition to his earlier submissions:

- i. A Committee constituted by GoAP and its recommendation to consider a tariff of Rs.6.58 per kWh (Rs.4.81 as variable cost and Rs.1.77 as fixed for kWh) for 2018-19 and to decide variable cost in future on year on year basis, treating Richmond Power Private

Limited as a industrial waste power project are sheer baloney. While the GoAP had appointed the negotiation committee on 21.2.2018, the latter met on 22.11.2018, i.e., after a gap of nine months and made the said recommendations. The whole exercise is a mockery by GoAP. That the Discom has dragged on the subject petition for more than one-and-a-half years to convey the decision of the Government shows utter lack of seriousness on the part of GoAP. The final recommendations got from the negotiation committee also show that the GoAP has directed the Discom to seek consent to the PPA with Richmond on the basis of the recommendations of the committee, unmindful of imposing unwarranted power at very high cost on consumers of power, and giving undue benefit to a private developer.

ii. The subject petition and consent to the PPA between APEPDCL and Richmond should be rejected by the Commission for the following reasons, among others:

a) As per the interim order issued by APTEL, the Discoms have to purchase power from the project of HNPCL (1040 MW), if it fits into merit order, and the Discoms already started purchasing power from this plant. APERC has already given its consent to the PPA the Discoms had with Simhapuri project (400 MW) and energy of 2803.20 MU per annum is available to them from this project. As and when supply of natural gas to the four gas-based power projects of GVK extension (220 MW), GMR Vemagiri (370 MW), Gautami (464 MW) and Konaseema (444.08 MW) to generate power with a PLF of 80% recommences, 4835 MU would be available to the Discoms. Even if availability of power from HNPCL and Simhapuri only is taken into account, it works out to 9091.52 MU per annum (7288.32+2803.20 MU). Then, total availability of energy, including from HNPCL and Simhapuri, as per the latest load forecast and resource plan submitted by the Discoms for the 4<sup>th</sup> control period, be as follows (in MUs):

FY→	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Total availability	82,956	87,089	94,294	91,291	89,295	89,749
State energy input	60,971	66,313	71,355	76,951	83,152	90,033
Surplus/(deficit)	21,985	20,776	22,939	14,340	6,143	(284)
Surplus/deficit % on requirement	36.05	31.33	32.14	18.63	7.38	(0.31)

- b) In view of availability of abnormal surplus energy, there is no need to purchase power from any power project, whether conventional or NCE, even if PPA is signed. Moreover, availability of surplus energy would increase further when supply of natural gas recommences to the above-mentioned four gas-based power projects and when thermal power projects with whom the Discoms had long-term PPAs generate power at threshold levels of PLF.
- c) The Discoms have far exceeded, with consents already given by the Commission, in meeting their obligations under Renewable Power Purchase Obligation orders, by entering into PPAs with NCE units, of course, at the behest of GoAP, indiscriminately, doing irreparable damage to larger consumer interest on long-term basis. As per long term load forecast, etc. of the Discoms, the following NCE is available:

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Availability of NCE (MU)	14,310	18,351	20,325	20,257	20,034	19,808
% of NCE on requirement	23.47	27.67	28.48	26.32	24.09	22.00

*Therefore, even from the point of view meeting the obligations under RPPO, the Discom does not require power from Richmond. On the other hand, there is need to avoid purchasing of power from private power plants, conventional and non-conventional, even if PPAs are signed, by rejecting consents of the Commission to the same and also for proposals of the Discoms to go in for competitive bidding for purchasing power on medium-term or long-term basis till the end of the 4<sup>th</sup> control period.*

- d) When NCE, especially solar and wind, is available at a lower tariff of about Rs.2.50 per kWh, as the tariffs discovered through competitive biddings in the country show, purchasing power from Richmond @ Rs.6.58 per kWh is an absurdity of unimaginable kind. The effrontery with which GoAP has directed the Discom to seek consent of the Commission to purchase power from Richmond @ Rs.6.58 per kWh betrays its unscrupulousness and utter insensitivity to do undue favour to a private developer and damage larger consumer interest. It would be equally absurd to try to justify purchase of power from NCE units, including Richmond, afresh under the pretext of encouraging NCE and protection of environment, etc. If at all NCE is required by the Discoms, with justification, the option of going in for competitive bidding to get the benefit of competitive tariffs is always open to them.
- e) APGENCO, in its filings on tariff fixation for the 4<sup>th</sup> control period pending before the Commission, has pointed out that “in addition to the ageing of units, most of the times the units are running at partial loads on account of increased must-run non-conventional energy generation in the State and the consequent backing down instructions issued by the SLDC. On account of backing down, the percentage (of) auxiliary consumption is also increasing” (8.2 of volume 1 of 2). Purchasing power from Richmond would lead to forcing APGENCO to further back down its thermal plants and increasing the burden of payment of fixed charges for such backing down on the consumers of the Discoms. It will impose dual burdens on consumers of power, in the form of purchasing power from Richmond at a very high tariff, on the one hand, and in order to purchase that power, asking APGENCO to back down its projects and paying fixed charges therefore, on the other.
- iii. To meet peak deficit for power, if any, options for meeting the same by purchasing power through power exchanges or short-term purchases through competitive bidding are always open to the

DISCOMs, certainly at a tariff much lower than the proposed tariff to be paid to Richmond.

- iv. In the tariff order for 2018-19, the Commission has directed that *“the distribution licensees shall avoid entering into any power purchase agreements which may burden them with unwarranted power”* (page 79). This direction has come in response to the objections raised by us, that, too, after giving consents to the proposals of the Discoms to purchase NCE on a larger scale indiscriminately far exceeding the minimum percentage of NCE the Discoms have to purchase under RPPO and need for power to meet demand, leading to increase in availability of surplus power which is not required.
- v. The Commission, incidentally, for the first time, has returned the proposal of the Discoms seeking its consent for initiating tender process for purchasing 1000 MW distributed solar power, pointing out, in its letter dated 15.5.2018 addressed to the CMDs of APEPDCL and APSPDCL, that *“justification for need for power purchase is conspicuously missing and it appears as though without regard to any need for power purchase, the plants are being sought to be established, which is not in the interest of the State, if plants are established indiscriminately without first establishing the need for power.”* This position taken by the Commission is in the right direction, eminently justifiable and lends added credibility to our valid objections on this ground raised from time to time in our submissions on various petitions filed by the Discoms, RPPO proposals made by the Commission and in our letters addressed to the latter over the years. In its letter, the Commission has further maintained that *“unless and until the need for power for this 1000 MW distributed solar power at the interconnection point of 33/11 kV substations covering the entire State is first established in terms of the Resource Plan, Load Forecast, Power Procurement Plan and Distribution Plan (Capital Investment Plan) and State Electricity Plan for 4th Control Period, no further action can be taken on the proposal of*

*APDISCOMs.*” The Commission has returned the proposal of the DISCOMs for taking further necessary action as deemed fit while submitting the above-mentioned plans for the 4<sup>th</sup> control period.

- vi. In the Commission’s order dated 13.7.2018 in O.P.No.5 of 2017, it is observed: “Even if PPAs were entered into by the DISCOMs with wind generators they are not enforceable under law unless they are specifically approved by the Commission u/s 86(1)(b). As seen from the ARR proposals for FY2017-18 & 2018-19 submitted by the DISCOMs, the State achieved surplus power generation, met and even exceeded the RPPO obligation and unless and until there is a need to purchase power the Commission is not obliged to approve the Power Purchase Agreements.” (para 8.22 and page 42). The subject petition is a test case for applying this eminently justifiable stand taken by the Commission.
- vii. For the reasons explained above - availability of surplus energy abnormally, higher tariff to be paid to Richmond, increasing backing down and paying fixed charges, Discoms far exceeding their obligations under RPPO, options open to the Discoms to purchase power through power exchanges or short-term purchases through competitive biddings to meet peak deficit, if any, and above all, need for protecting larger consumer interest and orderly development of power sector, including APGENCO.

17. Sri P. Shiva Rao, Learned Standing Counsel for the utilities filed a memo dated 23-02-2019 in public hearing held on 23.02.2019 along with information relating to industrial waste based projects in APDISCOMs. The information filed in a memo dated 23.03.2019 is as hereunder:

Certain Information of Industrial Waste based projects in APDISCOMs														
AP DISCOMs	Name of the Industrial Waste Based Project	Installed Capacity in MW	Auxiliary Consumption	Captive Consumption	Sale to Grid	Potential 11/33/132 KV	COD	PPA Dt	Expiry of PPA dt.	Present Year Opn	Fixed Cost	Variable Cost	Total Cost	Remarks
APEPDCL	Sai Renewable Power(Pvt) Ltd., Kamavarapukota (V&MD), W.G.Dist	4.5	0.45	-	4.05	33 KV	8.4.2004	12.09.2001, Amended on 13.01.2004	07.04.2024	15	1.49	4.81	6.30	No generation
	3 F Industries Ltd (Formerly M/s Food Fats & Fertilisers Ltd.), Parthipadu(V), Tanuku Road, TPGudem, W.G Dist.	6	0.6	1.2	4.20	33 KV	4.5.2006	14.05.2002, Amended on 24.04.2004	03.05.2026	13	1.37	4.81	6.18	-
	RAUS Power Ltd, Duppalapudi (V), Anaparthi (M), E.G Dist	3.66	0.33	-	3.33	33 KV	27.02.2009	18.02.2002, Amended on 06.08.2002 and 27.01.2003	26.02.2029	10	1.23	4.81	6.04	No generation
APSPDCL	REDAN Infra Pvt Ltd, Gangavaram (V), Chittoor Dist	7.5	0.675	-	6.825	33 KV	01.04.2015	20.12.2014	31.3.2035	4	1.49	4.81	6.30	-

18. Further, on behalf of the respondent, another memo dated 16.03.2019 is filed during public hearing held on 16.03.2019 furnishing information relating to industrial waste based projects in Telangana State and informed that there are no tariffs for industrial waste based projects in Kerala and Tamil Nadu states. The information furnished is hereunder:

Certain Information of Industrial Waste based projects in TELANGANA State															
Sl.No	TS DISCOMs	Name of the Industrial Waste Based Project	Location of the Industrial Waste Based Project	Installed Capacity in MW	Name of the interfacing SS	Potential 11/33/132 KV	Commercial Operation of Date (COD)	PPA Dt	Term of Agreement (Years)	Expiry of PPA dt.	Present Year Opn	Fixed Cost	Variable Cost	Total Cost	Condition
1	TSSPDCL	M/s. SLT Power & Infrastructure Projects (P) Ltd.	Pochampally (V) & (M), Nalgonda Dist., TSSPDCL	3.5	33/11 KV B.Ppally SS	33KV	20.12.2007	28.07.2004	20	19.12.2027	12	1.31	4.796	6.11	No Generation
2	TSSPDCL	M/s.Shravana Power Pvt. Ltd	Tekkalapalli(V), Yacharam(M), Ranga Reddy Dist., TSSPDCL	7.5	132KV Yacharam SS	132KV	11.06.2010	03.02.2003	20	10.06.2030	9	1.59	4.796	6.39	No Generation
3	TSNPDCL	M/s.MSR Mega Bio Power Private Limited	Nidigonda(V), Raghunathapally(M), Warangal(D), TSNPDCL	7.5	33/11KV Raghunathpally SS	33KV	01.06.2016	30.04.2016	20	31.05.2036	3	1.72	4.796	6.52	No Generation



**Commission's decision:**

19. The considerations before the Commission are to determine the tariff for the power generation from the petitioner's power plant and to direct the Respondent to enter into a power purchase agreement with petitioner's power plant.
20. The Commission has examined all the submissions made by the petitioner, respondent and other stakeholders in detail while arriving at the conclusions as in the following paragraphs.
21. The cause of the petition is the willingness expressed by the Respondent to purchase power from petitioner's power plant in accordance with the mandate of National Tariff Policy, 2016 and as per the directions of the Government to APEPDCL. The respondent has expressed that it is willing to purchase the power at the tariff determined by the Commission based on the tariff application filed by the petitioner. The petitioner has requested to determine the tariff in terms of the orders of CERC dated 29-04-2016 in Suo Motu Petition No. SM/03/2016 and order dated 16-05-2014 passed by APERC in O.P.No.32 of 2014.
22. The CERC has determined the levellised generic tariff for FY2016-17 under Regulation No.8 of CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2012, in its order dated 29-04-2016. The levellised tariff determined by the CERC for the biomass power plants in the State of Andhra Pradesh for the FY2016-17 is given below:

State	Levelling Fixed Cost	Variable Cost (FY2016-17)	Applicable Tariff Rate (FY2016-17)	Benefit of Accelerated Depreciation (if availed)	Net Levellised Tariff (upon adjusting for Accelerated Depreciation benefit) (if availed)
	(Rs./kWh)	(Rs./kWh)	(Rs./kWh)	(Rs./kWh)	(Rs./kWh)
Biomass Power Projects [other than Rice Straw and Juliflora (plantation) based project] with Water Cooled Condenser and travelling grate boiler					
Andhra Pradesh	3.07	4.10	7.17	0.18	6.99
Biomass Power Projects [other than Rice Straw and Juliflora (plantation) based project] with Air Cooled Condenser and travelling grate boiler					
Andhra Pradesh	3.25	4.20	7.45	0.20	7.25
Biomass Power Projects [Rice Straw and Juliflora (plantation) based project] with Water Cooled Condenser and travelling grate boiler					
Andhra Pradesh	3.21	4.10	7.31	0.20	7.11
Biomass Power Projects [Rice Straw and Juliflora (plantation) based project] with Air Cooled Condenser and travelling grate boiler					
Andhra Pradesh	3.40	4.20	7.59	0.22	7.38

23. The Commission in its order dated 16-05-2014 in O.P. No.32 of 2014, has determined the variable cost for the period from 01-04-2014 to 31-03-2019 in respect of the existing plants based on non-conventional energy (NCE) sources in the State of Andhra Pradesh. The variable Cost determined in this order following the same norms for bio-mass power projects and industrial waste based power projects is given in the table below:

<b>Indicative Variable Cost *</b>	
<b>Financial Year</b>	<b>Variable Cost (Rs. / Unit)</b>
FY 2014-15**	4.28
FY 2015-16	4.54
FY 2016-17	4.81
FY 2017-18	5.10
FY 2018-19	5.40

\* The fuel price escalation is indicative (6%). Actual fuel price escalation would be notified by the Commission before the start of each financial year starting from FY2015-16.

\*\* This is the rate APDISCOMs have to pay.

24. The fixed cost recommended by the Committee constituted by the Government of Andhra Pradesh is given below:

<b>Year of operation since commencement of unit</b>	<b>Fixed Cost (Rs. per units)</b>	<b>Year of operation since commencement of unit</b>	<b>Fixed cost (Rs. per unit)</b>
1 <sup>st</sup>	1.77	11 <sup>th</sup>	1.25
2 <sup>nd</sup>	1.74	12 <sup>th</sup>	1.31
3 <sup>rd</sup>	1.72	13 <sup>th</sup>	1.37
4 <sup>th</sup>	1.69	14 <sup>th</sup>	1.43
5 <sup>th</sup>	1.67	15 <sup>th</sup>	1.49
6 <sup>th</sup>	1.67	16 <sup>th</sup>	1.56
7 <sup>th</sup>	1.65	17 <sup>th</sup>	1.64
8 <sup>th</sup>	1.64	18 <sup>th</sup>	1.71
9 <sup>th</sup>	1.59	19 <sup>th</sup>	1.80
10 <sup>th</sup>	1.23	20 <sup>th</sup>	1.89

The variable cost recommended by the Committee is Rs.4.81 per unit fixed by APERC vide O.P.No.6, dated.15.03.2018 for the year 2018-19 in respect of Biomass/Industrial waste power projects. Further, it is recommended that the variable cost as decided year on year by APERC for Industrial Waste Power Projects may be adopted for future years.

Therefore, the total tariff recommended by the Committee for FY2018-19 for the Industrial Waste based Power Project of M/s. Richmond Power Pvt Ltd is:

- 1) Variable Cost - Rs.4.81/unit
- 2) Fixed cost for 1<sup>st</sup> year - Rs.1.77/unit
- 3) Recommended total tariff - Rs.6.58/unit

25. After examination of the above by the Commission, it has decided not to adopt the generic tariff recommended by the Committee or the generic tariff determined by the CERC since these tariffs are applicable for existing plants. Therefore, the Commission has decided to determine the Tariff of the petitioner's power plant specifically based on norms in the earlier orders of CERC & APERC and latest Regulations of CERC in the absence of the total information as required in the formats specified by the Commission or CERC which would be appropriate for the new plants

to be commissioned. The Commission has considered the following while adopting the norms for determination of Tariff.

1. CERC order dated 29-04-2016.
2. APERC order dated 16-05-2014 in O.P. No.32 of 2014
3. CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2017 dated:17-04-2017
4. The variable cost details furnished by the petitioner specific to his plant with escalation rate for future.

26. Accordingly, the Commission has determined the tariff. The norms of biomass power plants are adopted for Industrial waste based power plants also as followed by the Commission in earlier orders for determination of Tariff. The year wise tariff determined for the life period along with norms adopted is enclosed as Annexure to this order. The levellised tariff determined is given below:

Levellised Tariff	Rate (Rs./kWh)
Fixed cost	1.81
Variable Cost	3.64
Total cost	5.45

27. As regards the prayer of the petitioner to direct the respondent herein to purchase the power under a long term power purchase agreement at the tariff determined by this Commission, the Commission's stand expressed in its order dated 08.09.2016 in O.P.No. 27 of 2015 is reiterated below:

“useful reference can be made to the order in O.P.No.27 of 2004 dated 21-04-2007 of the erstwhile Andhra Pradesh Electricity Regulatory Commission, which was confirmed by the Appellate Tribunal for Electricity in Appeal Nos. 92 of 2007 and 138 of 2007 by the judgment dated 19-12-2008. The principle laid down by the Appellate Tribunal for Electricity is that the parties being commercial entities have to take their decisions with regard to purchase of power depending upon their requirements and availability of power at competitive rates, which cannot be influenced by a third party as the consequences of the agreement have to be borne by the parties to the agreement”

Therefore, it is concluded that it is for the petitioner and the respondent to agree to enter into a Power Purchase Agreement or not and the Commission cannot direct or force the respondent into signing an agreement, which is purely a matter of choice, discretion and volition of the parties concerned.

28. The objections/suggestions of Sri M. Venugopala Rao and others against the stand taken by the respondent also referred to the implications of considering the petitioner's power plant under waste to energy category, the probable imposition of heavy burden on the consumers due to determination of tariff under section 62 of Electricity Act 2003 without following competitive bidding, exceeding the renewable power purchase obligation by the Discoms, the availability of surplus power in FY2017-18 as per the ARRs, surplus power shown in load forecasts and resource plans submitted by the Discoms before the Commission for the fourth control period etc. Further, from the information submitted by the petitioner, the Commission has observed that about 50 percent of total fuel requirement is going to be met from biomass and agri waste. The petitioner's contention that it is a biomass plant and not industrial waste plant is needed to be investigated. The Commission has also approved "Load Forecasts and Resource Plans (Distribution Plans, Power procurement Plans & Transmission Plans), comments on the State Electricity Plan for the 4<sup>th</sup> Control Period (FY2019-20 to FY2023-24) and Indicative Forecasts & Plans for the 5<sup>th</sup> Control Period (FY2024-25 to FY2028-29)" vide its order dated 15.04.2019. All these factors may be relevant factors which the Respondent may take into consideration while taking an appropriate decision but as it is the Respondent who has to take a decision one way or the other, any expression of opinion by the Commission in this order on such aspects may prematurely prejudice the rights and interests of the parties. It is for the Respondent to consider the merits and demerits of these aspects and come to an appropriate decision.
29. Therefore, it is only at the stage of any power purchase agreement coming up before the Commission, for consent either under section 21 (4) of A.P. Electricity Reform Act, 1998 and / or section 86 (1) (b) of the Electricity Act,

2003 that this Commission will have to take an appropriate decision on merits within the scope of its jurisdiction duly following the procedure in this regard in accordance with the law.

30. The tariff determined in this order is only a bench mark price which provides guidance to the respondent to arrive at an appropriate decision. However, the Respondent is at liberty to negotiate for a tariff below this price with the petitioner. Both parties are at liberty to negotiate the terms and conditions of any agreement they may enter into in this regard independent of any observations made in this order in arriving at a bench mark tariff for the petitioner's unit under consideration.
31. The Petition is ordered accordingly. No costs.

**Sd/-**  
**P. Rama Mohan**  
**Member**

**Sd/-**  
**Dr. P. Raghu**  
**Member**

**Sd/-**  
**Justice G. Bhavani Prasad**  
**Chairman**

## ANNEXURE

TARIFF DETERMINATION FOR M/s.RICHMOND POWER PVT LTD - NORMS										
Capacity		5.5	M.W.				Debt			0.7
Cost per MW		5.59	Rs. Cr.				Equity			0.3
Less: Govt. subsidy		0					Debt moratorium			0
Project cost		30.745	Rs. Cr.				Debt equity ratio			2.333333
Transformation losses		0					Debt amount			21.5215 Rs. Cr.
Auxiliary consumption		10.00%					Debt repayment			13 years
PLF		80%								
Depreciation rate	(1-13 Yrs)	5.40%	SLM	(13-20 Yrs)	2.86 %		Interest rate			12%
							Return on equity			14%
O&M Expenditure	(1-10 Yrs)	4.00%	of PC	(11-20 Yrs)	4 %		Equity amount			9.2235 crores
O&M Escalation	(1-10 Yrs)	4.00%		(11-20 Yrs)	4 %		Interest on W.C.			12%
<b>Working Capital Schedule</b>							<b>Fuel Related Information</b>			
Fuel		1	month				GCV of fuel			3174 Kcal
O&M Expenditure		1	month	Useful Life	20	Years	Station Heat Rate			4063 Kcal/kwh
Receivables		2	months	Discount factor	9.50	%	Fuel cost			2079 Rs/ton
Spares		1%	of PC				Fuel cost escalation			3%

**M/s. Richmond Power Pvt Ltd - Tariff**

Year of operation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Capacity in MW	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
PLF	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Gross Generation in MU	38.544	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54	38.54
Less: Auxillary consumption, MU	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85
Less: Transformation losses @ 0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Delivered Energy, MU	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69	34.69
(I) Fixed Charges																				
Interest on Term Loans, (Rs. Cr.)	2.58	2.38	2.19	1.99	1.79	1.59	1.39	1.19	0.99	0.79	0.60	0.40	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working capital,(Rs. Cr.)	0.50	0.51	0.52	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60	0.61	0.60	0.62	0.63	0.65	0.66	0.68	0.69
O&M Expenditure,(Rs. Cr.)	1.2298	1.28	1.33	1.38	1.44	1.50	1.56	1.62	1.68	1.75	1.82	1.89	1.97	2.05	2.13	2.21	2.30	2.40	2.49	2.59
Loan, (Rs. Cr.)	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation, (Rs. Cr.)	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Return on Equity, (Rs. Cr.)	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.17	1.05	0.92	0.80	0.68	0.55	0.43
Total Fixed costs (Rs. Cr.)	7.26	7.12	6.98	6.84	6.71	6.57	6.44	6.31	6.19	6.07	5.95	5.84	5.73	4.70	4.67	4.65	4.63	4.61	4.60	4.59
(II) Energy Charges																				
Station Heat Rate (Kcal/Kwh)	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063	4063
GCV of Fuel (Kcal/kg)	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174	3174
Fuel requirement per annum/MKg	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34	49.34
Fuel cost Rs./ton	2079	2141	2206	2272	2340	2410	2482	2557	2634	2713	2794	2878	2964	3053	3145	3239	3336	3436	3539	3646
Energy charges (Rs. Cr.)	10.26	10.57	10.88	11.21	11.55	11.89	12.25	12.62	12.99	13.38	13.79	14.20	14.63	15.06	15.52	15.98	16.46	16.95	17.46	17.99
Total charges (Rs. Cr.)	17.52	17.68	17.86	18.05	18.25	18.46	18.69	18.93	19.18	19.45	19.74	20.04	20.35	19.76	20.19	20.63	21.09	21.57	22.06	22.58
Fixed charges (Rs./kWh)	2.09	2.05	2.01	1.97	1.93	1.89	1.86	1.82	1.78	1.75	1.72	1.68	1.65	1.35	1.35	1.34	1.33	1.33	1.33	1.32
Energy/ Variable charges (Rs./kWh)	2.96	3.05	3.14	3.23	3.33	3.43	3.53	3.64	3.75	3.86	3.97	4.09	4.22	4.34	4.47	4.61	4.75	4.89	5.03	5.19
Total charges (Rs./kWh)	5.05	5.10	5.15	5.20	5.26	5.32	5.39	5.46	5.53	5.61	5.69	5.78	5.87	5.70	5.82	5.95	6.08	6.22	6.36	6.51
PV Factor	1.00	0.913	0.834	0.762	0.696	0.635	0.580	0.530	0.484	0.442	0.404	0.369	0.337	0.307	0.281	0.256	0.234	0.214	0.195	0.178
levelised Tariff																				
Fixed cost (Rs./kWh)	1.81																			
Energy/Variable Cost (Rs./kWh)	3.64																			
Total cost (Rs./kWh)	5.45																			

**M/s. Richmond Power Pvt Ltd - Working Capital (WC) (Rs. Cr.)**

Year of operation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M - one month	0.10	0.11	0.11	0.12	0.12	0.12	0.13	0.13	0.14	0.15	0.15	0.16	0.16	0.17	0.18	0.18	0.19	0.20	0.21	0.22
Fuel -One month	0.85	0.88	0.91	0.93	0.96	0.99	1.02	1.05	1.08	1.12	1.15	1.18	1.22	1.26	1.29	1.33	1.37	1.41	1.46	1.50
Receivables- two months	2.92	2.95	2.98	3.01	3.04	3.08	3.12	3.16	3.20	3.24	3.29	3.34	3.39	3.29	3.36	3.44	3.51	3.59	3.68	3.76
Maintenance spares	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Working Capital	4.18	4.24	4.30	4.37	4.43	4.50	4.57	4.65	4.73	4.81	4.90	4.99	5.08	5.03	5.14	5.26	5.39	5.51	5.65	5.79
Inst on WC	0.50	0.51	0.52	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60	0.61	0.60	0.62	0.63	0.65	0.66	0.68	0.69