TAMIL NADU ELECTRICITY REGULATORY COMMISSION
(Constituted under section 82 (1) of the Electricity Act, 2003)
(Central Act 36 of 2003)

PRESENT:-

Thiru S.Akshayakumar .... Chairman

and

Thiru.G.Rajagopal .... Member

I.A. No.1 of 2011 in P.P.A.P. No.1 of 2011
and
P.P.A.P. No.1 of 2011

1. Sakthi Sugars Ltd.
   No.72, Mount Road
   Guindy, Chennai.

2. Tamil Nadu Newsprint and Papers Limited
   No.67, Mount Road, Guindy, Chennai.

… Petitioners
(Thiru Shivakumar
Advocate for the Petitioners)

Vs.

The Tamil Nadu Electricity Board / TANGEDCO
No.144, Anna Salai
Chennai.

.... Respondent
(S.Gunaraj,
Standing Counsel for the Respondent)

Dates of hearing: **02-03-2011, 21-04-2011, 19-08-2011**
12-10-2011, 16-04-2012, 20-11-2012
27-11-2012, 07-02-2013, 04-02-2014
25-03-2014, 29-04-2014, 21-07-2014
22-12-2014, 19-01-2015, 27-04-2015
05-10-2015, 29-12-2015 and 06-01-2016

Date of Order: **29-07-2016**

ORDER

The P.P.A.P. No.1 of 2011 came up for final hearing on 06-01-2016. The Commission upon perusal of the Petition, Counter affidavit filed by the Respondents and all other connected records and after hearing the arguments of both sides hereby make the following:

ORDER

1. Prayer of the Petitioner:

The prayer of the Petitioners in this above P.P.A.P. No.1 of 2011 is to-

(a) order a separate categorization of power plants who are supplying bagasse fibre to TNPL;

(b) order the tariff under fossil fuel based cogeneration during crushing season and normal UI Tariff during non-crushing season.

2. Contentions of the Petitioners:-

2.1. Sakthi Sugars Limited (SSL), the Petitioner-1 herein owns and successfully operates 35 MW bagasse based co-generation plant at Padamathur P.O. Sivagangai District adjoining their 4,000 TPD sugar mill at the same location. The plant was commissioned in the year 2007-08. Presently, this unit is using bagasse as fuel and supplying the surplus power to TNEB grid under the Commission's Order No.3 of 2006 and subsequent amendments as bagasse based co-generation plant.

2.2. Tamil Nadu Newsprint and Papers Limited (TNPL), the Petitioner-2 herein was promoted by the Government of Tamil Nadu in the year 1979 for manufacture of newsprint and printing and writing paper using bagasse as primary raw material. Unlike other paper mills which use wood as main source of raw material for manufacture of paper, TNPL, from inception has been using bagasse, a sugarcane residue, as main raw material for manufacture of newsprint and printing and writing paper. TNPL operates three paper machines of 4,00,000 tonnes capacity per annum at Kagithapuram in Karur District. The plant requires 13 lakh tonnes of bagasse per annum for producing the said 4 lakh tonnes of newsprint and printing & writing paper.

2.3. Bagasse was used merely as fuel in the sugar mill boiler for producing steam to meet the process requirements. As TNPL requires large quantity of bagasse, it is not possible to procure such a large quantity from the open market. TNPL has therefore, entered into long term tie up arrangements with various sugar mills operative from the year 1984. These sugar mills are under TNEB tariff orders prior to May 2006. With increase in production capacity to 4 lakh tonnes per annum from December 2010, TNPL requires additional bagasse and accordingly, TNPL has entered in to new agreement with Sakthi Sugars Limited, Sivagangai Unit.

2.4. Upon entering into agreement with TNPL, Sakthi Sugars Limited, Sivagangai Unit vide their letter dt.2.12.2010 has approached TNEB/TANGEDO for fixing the tariff. TNEB/TANGEDO vide their letter dated 21-01-2011 has asked SSL to approach TNERC for fixation of tariff.

2.5. The Commission's Order No.3 of 2006 dated 15-05-2006 states as below:

"For Bagasse/Biomass cogeneration projects: Bagasse, forestry and agro-based industrial residues, Mix of conventional and/or non-conventional fuel, upto 25 percent only, allowed in both cases to achieve extended operating days in a year.

The categorization of power plants who are supplying bagasse fibre to TNPL will be done accordingly."

The said Order further states that-

"In case of bagasse based co-generation plants, the PLF depends mostly on availability of bagasse in the crushing season. Assuming that the projects can run for 130 days during crushing season and another 100 days during non-crushing season (with the stored bagasse and other biomass fuels), the average PLF that can be achieved is around 55% when the project runs at a capacity of 90%. Hence a threshold level of PLF at 55% worked out on the basis of the availability of fuel is reasonable. If the PLF achieved in any financial year is more than 55%, then the rate for the excess energy produced over and above the 55% shall be equivalent to the rate fixed by the Commission for the fossil fuel based cogeneration".

While it implies that TNPL tie up sugar mill does not qualify under the Commission's order, it does not specifically mention that TNPL tie-up sugar mill qualifies as per the Order. Order No.4 of 2006 dated 15-05-2006 of the Commission also states as below which is similar to those in Order No.3 of 2006:

"For Bagasse/Biomass cogeneration projects: Bagasse, forestry and agro-based industrial residues. Mix of conventional and/or non-conventional fuel, up to 25 per cent only, allowed in both cases to achieve extended operating days in a year, The categorization of power plants who are supplying bagasse fibre to TNPL. will be done accordingly."

The above does not imply that TNPL tie-up sugar mill will qualify under Order No.4 irrespective of other qualifying criteria. Other qualifying criteria for Order No.4 of 2006 are:

(i) Fossil fuel based captive generation plant should have 51 % in-house consumption:

(ii) Fossil fuel based co-generation plant should supply minimum 5 MW for 250 days in a year to TNEB.

The above conditions cannot be adhered to by the sugar mill due to non-availability of cane for crushing for a minimum period of 250 days in a year. Under the said circumstances, TNEB/TANGEDCO is not in a position to fit in the request of Sakthi Sugars Limited, Sivagangai Unit either under TNERC Order No.3 or under TNERC order No.4 of 2006. However, as per the existing TNEB orders applicable for units established prior to 15-05-2006, the date of issue of first Order of the Commission, the following is the tariff:

(i) Rs.3.15 per unit for using bagasse as fuel during crushing season and Rs.3.01 per unit for using coal as fuel during non-crushing season.

(ii) Rs.3.01 per unit for using coal as fuel throughout the year for TNPL tie up sugar mills.

Thus, the tariff applicable for bagasse based co-generation units during non-crushing season is applicable for TNPL tie-up sugar mill during crushing season.

2.6. The TNPL pleaded for a separate categorisation during public hearing in December 2005. The request was not favourably considered at that time. Now, as per Commission's Order No.3 dated 15.5.2006, the sugar mills generating power in excess of bagasse based PLF of 55%, fossil fuel based co-generation rate is allowed. On the same basis, sugar mills having tie-up arrangement with TNPL to be treated as fossil fuel based co-generation units and allowed fossil fuel based co-generation rates.

3. Contentions of the Respondent:-

3.1. TNPL, the second Petitioner herein has no locus standi to file the above petition jointly with Sakthi Sugars Limited, the first petitioner inasmuch as the second

Petitioner is neither a generator nor a licensee and no dispute between the second Petitioner and the Respondent is there for the disposal of the Commission.

3.2. The 35 MW bagasse based co-generation plant of Sakthi Sugars Limited at Padamathur village, Sivganga District was commissioned on 1.2.2008. The company has entered into Energy Purchase Agreement with the Superintending Engineer/Sivaganga EDC, TANGEDCO in the format approved by the Commission in line with Commission's Order No.3 of 2009 for supplying surplus power available with them after their sugar mill and power plant's auxiliaries consumption, to the Respondent.

3.3. The power purchase price fixed by the Commission in Order No.3 of 2009 as applicable for bagasse based co-generation plants commissioned between 15.5.06 and 18.09.2008, ranging from Rs.3.08l to Rs.3.836 per unit, is being adopted by TANGEDCO for the above power plant also.

3.4. Sakthi Sugars Limited have proposed to use coal as fuel throughout the year in view of the tie up arrangement, it had with the TNPL for supply of bagasse in exchange of coal. As per Order.No.3 of 2006 of the Commission, there are two classifications under Fossil fuel based power plant.

a) Fossil fuel based Captive Generating Plants.

b) Fossil fuel based Co-generation plants.

The power plant can be classified under the category of Fossil fuel based power plant.

3.5. Sakthi Sugars Limited could not fulfill one of the conditions required to be fulfilled for gaining the captive user status. The annual captive usage which should be always more than 51% on annual generation was not fulfilled by them. Therefore, their power plant could not fit - in under the category of Fossil fuel based Captive Generating Plants.

3.6. Further the company could not fulfill one of the conditions required to be fulfilled for Co-generation plants (i.e) the co-generation facility must be available to supply at least 5 MW of power for at least 250 days in a year, their power plant could not also fit-in under the category of Fossil fuel based Co-Generation Plants. The company's power plant has to be classified separately and the power purchase tariff may have to be fixed.

3.7. TANGEDCO is adopting the power purchase price of Rs.3.01 per unit for the sugar mill co-generation plants having tie up with TNPL for supply of bagasse in exchange of coal, commissioned prior to 15.5.06. Therefore, TANGEDCO has no objection if the rate for supply of power by a sugar mill co-generation plant having tie up with TNPL for supply of bagasse and use of coal for generation of power is fixed at Rs.3.01 per unit. Terra Energy Limited, Sakthi Sugars Limited, EID Parry India Limited, having tie up with TNPL for supply of bagasse and use of coal for generation of power are being paid at the rate of 3.01 per unit for the power supplied. Fixing power purchase price at the rate more than Rs.3.01 per unit is not viable for the respondent TANGEDCO. Moreover, in the next two years, TANGEDCO would have surplus power due to capacity addition of generating stations owned by TANGEDCO and may not be in a position to buy this high cost power.

3.8. Since, TANGEDCO will not be in a position to purchase such high cost power, the power purchase period may be restricted to next one year and it may be extended by mutual consent for further period so required.

3.9. The Commission may therefore fix power purchase tariff of Rs.3.01 per unit, in respect of the first petitioner's co-generation plant which is now being adopted for sugar mill co-generation plants commissioned before 15.5.2006 and having tie up arrangement with M/s.TNPL for supply of bagasse, since the average rate of revenue realization of TANGEDCO is only Rs.3.27 per unit for the year 2008-2009.

4. The levelized tariff worked out as directly by the Commission on 21-04-2011:-

The Commission directed the Chief Engineer / Private Power Projects on 21-04-2011 to examine the cost of coal based plant of capacity 35 MW and after taking into account a reasonable margin of profit recommend a tariff for this capacity within a period of 3 months. The tariff has been worked out in respect of the 35 MW power plant, taking into account the norms in the Commission's (Terms and Conditions for Determination of Tariff), Regulations, 2005 and the financial parameters from the tariff order for Bagasse based Co-generation plants dated 06-05-2009. The levellized tariff works out to Rs.2.70 per unit. The fuel cost has been escalated at 3% annually which may not be a correct proportion for practical consideration.

5. Contentions in the Rejoinder of the Petitioners filed by the TANGEDCO:-

5.1. TNPL uses bagasse, a sugar cane residue as the primary raw material for producing paper, with a distinction of being the largest bagasse based paper mill in the world. Since the sugar mills use bagasse as fuel, bagasse is not available for sales as a regular commodity. Large quantity of bagasse is required for paper making. To source bagasse uninterruptedly TNPL developed an innovative unique barter model for getting bagasse from sugar mills in exchange of steam. This is considered as a best example for inter-industry co-generation and public-private partnership for over 25 years.

5.2. TNPL consumes one million tonnes of depithed bagasse every year by establishing a long term tie up arrangement with seven sugar mills. Consumption of one million tonnes of bagasse avoids cutting of trees in 40,000 acres of land every year, which is a tremendous step towards ecological conservation.

5.3. Sakthi Sugars Limited and TNPL had entered into such a tie-up arrangement for collection of bagasse from the Sugar mill established by the former at Sivagangai. In view of the tie-up arrangement between TNPL and Sakthi Sugars Limited for supply of bagasse in exchange of coal, both TNPL and Sakthi Sugars Limited had prayed for a separate categorization and fixing purchase price for power supplied to Grid of TNEB from Sakthi Sugars Limited, Sivagangai Co-generation Unit using coal in the place of bagasse.

5.4. It was prayed that pending disposal of the main petition, an interim rate of Rs.3.01 per unit may be fixed for the power generated by Sakthi Sugars Limited. Weighing the overall interest of all the parties and the conservance of bagasse which is the basic raw material for paper, the Commission in public interest has approved an interim tariff of Rs.3.01 per unit vide order dt.2.3.2011 subject to final orders.

5.5. The Commission vide Interim Order dated 21.04.2011, has directed the Chief Engineer, TNEB in charge of IPP to examine the cost of coal based generation of 35 MW capacity and after taking into account a reasonable margin of profit recommend a tariff for this capacity within a period of 3 months and to forward the report of the Chief Engineer to the Secretary to the Commission. The report has been filed by the TNEB.

5.6. The Petitioners have perused the report of the Chief Engineer, Private Power Projects, TANGEDCO dated 12-10-2011. The Chief Engineer has not properly applied the applicable norms and orders while submitting his calculation. The report on the cost of coal based generation of 35 MW capacity wherein the levellized charges for the 30 years life period of the plant had been worked out as below:

Fixed Charges	-	Rs.0.70 per unit
Variable Charges	-	Rs.2.00 per unit
Total Charges	--	Rs.2.70 per unit

5.7. As stated by TANGEDCO, the tariff has been worked out taking into account the norms given in the Commission's (Terms and Conditions for Determination of Tariff) Regulations, 2005 and the financial parameters from the Tariff Order for Bagasse based Co-generation plants dated 6.5.2009. The Respondent was erroneous in working out the tariff taking into account the norms given in the said Tariff Regulations, 2005. Clause 1 (6) of the said tariff regulations clearly states that they shall not be applicable to co-generation, captive power plants and generation of electricity from Renewable Source of Energy. The financial parameters from Tariff Order No.3 of 2009 for Bagasse based cogeneration plants dated 06-05-2009 has not been taken into account eventhough it has been contended that it had been taken into account.

5.8. The co-generation power plant of Sakthi Sugars Limited is basically a bagasse based co-generation plant which has a Multi-fuel-type boiler capable of firing both bagasse and coal. The plant was commissioned on 01-02-2008 and hence it is eligible for bagasse based tariff under Commission's Order No.3 of 2009 if bagasse is used as fuel.

5.9. On entering into tie-up with TNPL, the co-generation plant will use coal as fuel in the same boiler that has been used for firing bagasse and the financial parameters for arriving the fixed cost of the plant does not undergo any change in the operational norms and hence the variable cost alone will undergo change. The financial norms as considered in the workings submitted by the Chief Engineer, PPP, TANGEDCO cannot be applied directly for a sugar mill co-generation plant which is primarily designed for firing bagasse. The norms that have been extensively discussed and considered by the Commission in its Order No.3 of 2009 while arriving at the tariff for Bagasse based cogeneration plant only is applicable to this case since the Co-generation plant of Sakthi Sugars Limited is inherently a Bagasse based Co-generation power plant. The financial norms as considered in the Tariff Order No.3 of 2009 will very well be applicable even if coal is used as fuel on tie-up with TNPL.

5.10. The norms considered in the workings of TANGEDCO and as considered in Commission's Order No.3 of 2009 are as below:

Norms	As considered by TANGEDCO	As considered in Order No.3 of 2009
Cost per MW (Rs.)	3,50,00,000	4,67,00,000
Interest on Loan	9%	12%
Weighted average rate of depreciation	3.6%	4.5%
Annual depreciation	4,41,00,000	6,25,19,625

Interest rate on working capital	11%	12%
Auxiliary percentage	9%	10%
Cost of secondary fuel (per unit)	0.0625	Not considered
Return on Equity	14%	19.85%
Operation & Maintenance Expenses	1% of capital cost and escalated at 4% p.a.	4.5% for machinery on 85% of capital investment and @ 0.90% for land and civil works on 15% of capital investment with 5% escalation from 2nd year.
Insurance charges	Not considered	0.75% on 85% of capital investment and reduction of 0.5% after one year.

5.11. The cost of coal considered by TANGEDCO in the workings is not realistic and is not comparable with the prevailing market rates. The cost of imported coal as substituted for bagasse by TNPL is Rs.5.252/Kg as against Rs.2.13 per Kg considered in TANGEDCO report. The actual calorific value of the above imported coal is 5400 Kcal/Kg instead of 4000 Kcal / Kg as considered in the TANGEDCO workings.

5.12. In the workings of TANGEDCO, the Station Heat Rate is considered as 2,543 Kcal/Kwhr which is applicable for large thermal power plants and will not be relevant for a power plant of capacity 35 MW. Since the boilers of Sugar Mills are designed for bagasse as primary fuel, the Station Heat Rate (SHR) when using coal in these boilers can be arrived as below:-

SHR (of multi-fuel boilers on usage of coal) = [SHR (for Bagasse as given in Order No.3) / Boiler Efficiency for Bagasse firing of SSL, Sivagangai Boiler] x (Boiler Efficiency for Imported coal firing of SSL, Sivagangai Boiler).

The efficiency of the coal fired boiler is estimated at 84% and that of the multi-fuel fired boiler is 71%. The SHR for Bagasse fired boiler as given in Order No.3 of 2009 is 3,840 Kcal/Kwhr. The SHR of the multi-fuel fired boiler gets revised to 3,246 Kcal/Kg i.e. (3,840 x 0.71) / 0.84 = 3,246 kCal / Kwhr.

5.13. In view of the above reasons, a fresh working is made for arriving at the levellised charges both for the fixed cost and variable cost of a 35 MW bagasse based co-generation plant on usage of coal and pith as fuel. In the workings, the norms considered in the Commission Order No.3 of 2009 are taken into account for arriving the fixed charges. For the workings of variable charges, the cost and calorific value of the imported coal actually supplied by TNPL to the cogeneration plant of Sakthi Sugars is considered. Similarly the SHR of Multi fuel boiler as worked out is considered. As per the revised working, the levellised charges for 30 years life period of a 35 MW bagasse based co-generation plant on usage of coal and pith as fuel from 2008-09 works out to as below:-

Fixed Charges	-	Rs.1.41 per unit
Variable Charges	-	Rs.3.95 per unit
Total Charges	--	Rs.5.36 per unit

As per the above workings, for the financial year 2011-12, the period in which TNPL had entered into tie-up with Sakthi Sugars, Sivagangai, the variable cost of the fossil fuel based cogeneration in the multi-fuel boiler of sugar mill co-generation plant works out to Rs.3.51.

5.14. The sugar mills having tie-up with TNPL have always been treated as a separate class as evident by the TNEB Board Proceedings No.93 dated 16-05-2000. It is in this background the Petitioners have sought a separate category for determination of tariff. Sakthi Sugars would not fall either under Order No.3 of 2009 or Order No.4 of 2006. It is therefore expedient that the Petitioners are treated as a separate category for the following reasons among others:-

a. Sakthi Sugars Limited is supplying bagasse to TNPL under tie-up arrangement. This enables TNPL to save cutting of trees. The consumption of one million tonnes of bagasse per annum for paper making avoids deforestation of 40,000 acres of land every year. Thus the TNPL contributes to preservation of environment.

b. Consequent to the Electricity Act, 2003 any generating company or distribution licensee may approach the Commission. The agreement between the Petitioners would entitle TNPL to approach the Commission. In the process of determination of tariff, the public is also to be entitled to be heard. Hence, even in public interest, TNPL is entitled to approach the Commission. It is also to be noted that sugar mills having tie up with TNPL were always treated as a separate class by TNEB, even prior to the enactment of the said Act. Hence, by any rationale, the TNPL is entitled to be heard. It is also to be noted that usage of bagasse is a unique barter system, which is conserving ecology.

This conservation is in line with the promotion of co-generation and generation of electricity from renewable sources of energy, which are factors for determination of tariff in line with the National Electricity Policy and Tariff policy:

c. The barter system adopted by TNPL and the sugar mills are unprecedented in the world and stands as classic example for inter-industry co-operation. Since the bagasse collected from the sugar mills is used for papermaking with value addition and the coal substituted in place of bagasse is used for cogeneration, this can be considered as inter-industry cogeneration.

d. On tie-up with TNPL for supply of bagasse, sugar mill co-generation plants do not use fossil fuel alone as fuel in their boilers to generate steam. Bagasse consists of fibre and pith. Pith is a non-fibrous material which has no fibre value to make paper. Hence, the Pith has to be removed at the source itself. On the other hand, pith has the same heat value as that of bagasse. TNPL have installed depithing plants at the Sugar Mills and the pith separated in these plants is sent back to sugar mill's boiler for firing along with fossil fuel. About 40% - 45% of the total heat input of the sugar mill cogeneration boiler is provided by pith. Hence, the component of power generated using pith merits consideration to be accounted even as biomass based power and the tariff for a bagasse based cogeneration plant having tie-up with TNPL is to be worked out taking the above into account.

e. The efficiency of multi-fuel boilers maintained by TNPL tied-up sugar mills will be lesser than coal fired boilers during mixed firing with coal and pith. The efficiency of the coal fired boiler is estimated at 84% whereas that of the multi-fuel fired boiler will be about 71%. This lesser efficiency of multi-fuel boiler affects the SHR.

5.15. Sakthi Sugars Limited should be classified as "Sugar Mill having tie-up with Tamil Nadu Newsprint and Papers Limited" since it gives its bagasse for the production of paper and thereby conserves forests. Even though coal is used for generation of electricity throughout the year, Commission's Order No.4 of 2006 would not be applicable to Sugar Mills having tie up with TNPL due to the following reasons:-

a. It is not a captive power plant consuming 51% of electricity on an annual basis.

b. It does not fulfill one of the conditions required to be fulfilled for co-generation plants i.e. the co-generation facility must be available to supply atleast 5 MW of power for atleast 250 days in a year.

5.16. The Commission may classify Sakthi Sugars Limited as separate class / category of power plant as “Sugar mills having tie up with TNPL” and to fix tariff for the “Sugar Mills having tie-up with TNPL” as below:-

a. By taking the actual workings of variable cost as Rs.3.51 per unit at the present cost of imported coal and with suitable escalation factors for the increase in cost of coal during the subsequent years along with the fixed cost as determined by the Commission. The Commission may fix the tariff for the energy generated beyond 55% of PLF as applicable for other sugar mills.

b. Alternatively, the Commission may fix tariff retaining the fixed cost as that of Bagasse based Co-generation plants along with a variable cost 5% lesser than the variable cost fixed for other Bagasse based Co-generation plants.

6. Contentions in the Additional Affidavit dated 27-03-2013 filed by the Petitioners:-

6.1. The Commission vide order dated 22-01-2013 required the following details so as to enable the Commission to pass suitable orders.

a. Capital cost of the co-generation plant and the date of commercial operation, so that tariff can be worked out as a special case based on normative parameters, after prudence check.

The capital cost of the Cogeneration Plant is Rs.4.67 Cr. per MW as worked out as per the Commission’s Order No.3 of 2009 dated 06-05-2009, wherein the Commission had placed reliance on the figures submitted by IRDA. The date of commercial operation is 01-02-2008.

b. The cost at which bagasse is supplied by Sakthi Sugars Limited to TNPL is as per the following basis:-

TNPL supplies coal equivalent to the Bagasse lifted by TNPL from Sakthi Sugars Limited based on the calorific value of the materials adjusted for the thermal efficiencies guaranteed by the Boiler supplier for Bagasse and fossil fuel.

Heat value of Bagasse collected * = Heat value of solid fuel delivered*

(* adjusted for the thermal efficiencies of respective fuel)

The parameters considered for the above exchange are as follows:-

Bagasse GCV adopted for the exchange - 2250 Kcal / Kg at 50% moisture

Coal GCV adopted - 6030 Kcal / Kg at 10% Moisture

The thermal efficiency for Bagasse firing is 71.2% and Coal firing 83.0%

Bagasse to Fuel Ratio = (Heat value of bagasse collected*) / (Heat value of solid fuel delivered*) (*adjusted for the thermal efficiencies of respective fuel)

= {2250 x (71.2 – Correction factor for GCV i.e. 0.264%)} /

{6030 x (83.0 – correction factor for Handling

and Fines i.e. 3.6% - correction factor for

Mixed firing loss i.e. 4.0%)}

= 0.351 ton per ton of Bagasse

TNPL supplies coal as above (0.351 MT) for every MT of bagasse lifted.

Cost of coal at Sugar Mill Site = Rs.5513/-

Fuel cost of Bagasse (Cost of coal x Bagasse Fuel Ratio)= Rs.5513 x 0.351

i.e. Cost of fuel equivalent of Bagasse = Rs.1935/-

Landed cost of Bagasse at TNPL = Rs.2945/-

Workings for cost of Bagasse

Cost of Bagasse				
	Imported Coal to be supplied equivalent to 1 MT of Bagasse	MT	0.351	
1	Fuel cost of Bagasse	Rs/MT	1935	
2	Transportation cost of Bagasse from Sugar Mill to TNPL	Rs/MT	587	
3	Differential Tariff and Power expenses for TNPL equipments	Rs/MT	283	
4	Repair & Maintenance Charges	Rs/MT	46	
5	Salaries & Wages	Rs/MT	69	
6	Others	Rs/MT	25	
7	Landed Cost of Bagasse at TNPL	Rs/MT	2945	(Add:1 to 7)

c. The cost of imported coal used by Sakthi Sugars Limited and compensation if any, paid by TNPL to Sakthi Sugars Limited.

Workings for Cost of Coal				
Cost of Coal				
Sl. No.	Description	UOM	Existing	
1	C&F Tuticorin Rate per MT	USD	75.90	
2	Exchange Rate:1 USD=		54.30	
3	C & F Tuticorin Rate		4121.37	(1 x 2)
4	Add: Landing charges @ 1%		41.21	(3 x 1%)
5	Assessable Value (A.V.)		4162.58	(3+4)
6	Add: Customs Duty (C.D.) @ 3% on A.V.		124.88	(5 X 3%)
7	Add: CVD @ 5% on A V + C D		214.37	(5+6 X 5%)
8	Add: Edu Cess on CVD @ 2%		4.29	(7 X 2%)
9	Add: Sec Hr Edu Cess on CVD @ 1%		2.14	(7 X 1%)
10	Add: Edu Cess on C D + CVD @ 2%		6.91	(6+7+8+9)X2%
11	Add: Sec Hr Edu Cess on CD+CVD @ 1%		3.46	(6+7+8+9)X1%
12	Total		4518.64	(5 to 11)
13	Less: Landing charges @ 1% on C&F rate		41.21	(3 x 1%)
14			4477.42	
15	Add: Stevedoring & Handling Charges		76.11	
16	Add: Port Dues		43.73	
17	Add: Railway freight to Site		343.79	
18	Add: Clean Energy Cess		50.00	
19	Transportation Charges-TNPL to Sugar Mill		397.29	
20	Unloading Charges at Sugar Mill		25.00	
21	Handling & Crushing Losses @2%		99.82	
22	Landed Cost per MT at Sugar Mill		5513.16	(Add:14 to 22)

(This is the current cost, the lowest since June 2010 (33 months). Coal cost went upto USD 96.92 per MT during this period.)

Purchase price of coal per MT (C&F Tuticorin Port)

Period	C&F Price (USD/MT)
June 2010	77.85
November 2010	81.25
April 2011	96.92
May 2011	93.25
September 2011	90.40
January 2012	81.00
June 2012	84.90
September 2012	77.60
February 2013	75.90

d. Details of barter deal, if adopted between the parties.

TNPL supplies coal equivalent to the Bagasse lifted by TNPL from Sakthi Sugars Limited based on the calorific value of the materials adjusted for the thermal efficiencies guaranteed by the Boiler supplier for Bagasse and fossil fuel.

TNPL compensates, 75% of the difference between the tariff applicable for Bagasse based co-generation fixed by TNEB / TNERC and the one paid by TNEB for fossil fuel generation. 25% of the differential tariff to be borne by Sugar Mill subject to a ceiling of 10 paise per unit.

TNPL pays Rs.1 lakh per annum towards part of operation and maintenance charges of Boiler and Auxiliaries. 50% of the insurance charges for Boiler & Auxiliaries is borne by TNPL.

6.2. The Petitioner be classified as separate category of power plant “Sugar Mills having tie up with TNPL” and tariff fixed retaining the fixed cost as that of bagasse based cogeneration plant along with the variable cost 5% lesser than the variable cost fixed for other bagasse based co-generation plant.

7. Contentions in the Affidavit filed on behalf of the TANGEDCO dated 25-03-2014:-

7.1. The comments on the Additional Affidavit filed by the Petitioners in P.P.A.P.No.1 of 2011are as follows:-

1.	Landed Cost of Bagasse at TNPL	=	Rs.2.945/Kg
2.	Landed cost of coal at Sugar Mill	=	Rs.5.513/Kg
3.	Equivalent Calorific value of coal to 1 Kg bagasse	=	0.351 Kg
4.	Variable cost in case coal is used as fuel	=	Rs.5.513x 0.351 = Rs.1.935
5.	Variable Cost in case bagasse is used as fuel	=	Rs.2.945 x 1 = Rs.2.945
6.	Difference in variable cost (bagasse – coal)	=	Rs.1.01
7.	Difference in %	=	(1.01 x 100)/2.945= 34.3%

7.2. Sakthi Sugars Limited is getting additional benefit of Rs.1.895 (Rs.2.945-Rs.1.050) per kg of bagasse by selling it to TNPL instead of using as fuel in sugar mill co-generation plant where Rs.1.050 is the fuel cost considered by the Commission in Tariff Order No.7 of 2012 for fixation of power purchase tariff for bagasse based co-generation plants.

7.3. Apart from the above, TANGEDCO may have to purchase Renewable Energy Certificate (REC) to the extent of RPO fixed by the Commission from time to time in proportionate to the quantum of coal based power to be procured from the above referred power plant. The additional expenditure to be incurred by the TANGEDCO in purchase of such REC Certificate has to be taken into account in fixation of power purchase tariff.

7.4. The Commission may take into account the following aspects in fixation of power purchase tariff for Sakthi Sugar's bagasse based Co-generation plant in view of having tie up arrangement with TNPL for supply of bagasse on exchange of coal:

(a) The additional profit of Rs.1.895 (Rs.2.945 – Rs.1.050) per kg of bagasse of Sakthi Sugars Limited by selling it to TNPL instead of using as fuel in sugar mill co-generation plant where Rs.1.050 is the fuel cost considered by the Commission in Tariff Order No.7 of 2012 for fixation of power purchase tariff for bagasse based co-generation plants.

(b) The additional expenditure to be incurred by TANGEDCO in purchase of REC to the extent of RPO fixed by the Commission from time to time in proportionate to the quantum of coal based power to be procured from the 1st Petitioner power plant.

8. Rejoinder of the Petitioners to the Additional Counter filed by the TANGEDCO:-

8.1. TANGEDCO has tried to project that the variable cost of using coal as fuel instead of Bagasse results in a benefit of 34.3% in variable cost to Sakthi Sugars' Cogeneration Plant. The variable cost of both fuels has been worked out by TANGEDCO by considering the landed cost of Bagasse at TNPL and the landed cost of coal at Sugar Mill. As per the agreement terms, TNPL is substituting coal equivalent to the calorific value of Bagasse lifted at the Sugar Mill of Sakthi Sugars. Hence, the cost of Bagasse at Sugar Mill and the cost of coal equivalent to the Bagasse lifted at Sugar Mill have to be considered for working out the variable cost. As the cost of Bagasse at Sugar Mill and the cost of coal equivalent to the Bagasse lifted at Sugar Mill are the same, there is no difference in variable cost. In fact, the

34.3% is the cost incurred by TNPL for collection of Bagasse from Sugar Mill and is entirely absorbed by TNPL.

8.2. The contention that Sakthi Sugars is getting additional benefit of Rs.1.895 per kg of Bagasse by selling it to TNPL instead of using as fuel in Sugar Mill Cogeneration plant is subject to proof. Sakthi Sugars Limited is not selling Bagasse to TNPL on cost basis. The exchange is based on barter system. TNPL supplies imported coal equivalent to the Bagasse lifted based on calorific value of the fuels corrected to the thermal efficiencies guaranteed by the Boiler supplier for Bagasse and Fossil fuel. As there is no sale involved in this barter transaction and only Bagasse and coal are exchanged based on calorific values, Sakthi Sugars is not getting any additional benefit.

8.3. TANGEDCO has stated that they have to incur additional expenditure in purchase of REC to the extent of RPO fixed by the Commission in proportion to the quantum of coal based power purchased. The variable cost on using imported coal is much higher than the variable cost on using Bagasse as fuel. The Petitioners have further prayed to fix the variable cost at 5% lesser than the variable cost applicable for other Bagasse based Cogeneration Plants commissioned during the tariff control period of TNPL. Hence, TANGEDCO has the benefit of purchasing power at the rates with 5% reduction in variable cost which would otherwise not be available to TANGEDCO in case Bagasse is used as fuel. This additional revenue would compensate the additional expenditure incurred by TANGEDCO in purchase of RECs.

9. Additional Contentions in the Written Submission dated 27-04-2015 filed by the Petitioners:-

9.1. Recently Order No.7 of 2012 dated 31-07-2012 in the matter of Comprehensive Tariff Order for Bagasse based Co-generation plants, the Commission had stipulated that the fixation of tariff for TNPL would be considered in this present petition. Hence, it is clear that the tariff fixation can only be done by the Commission and the technical argument that the second Petitioner does not have any jurisdiction to file any application for seeking fixation of tariff is not justified.

9.2. The efficiency of multi-fuel boilers maintained by TNPL tied-up sugar mills will be lesser than coal fired boilers during mixed firing with coal and pith. The efficiency of the coal fired boiler is estimated at 84% whereas that of the multi-fuel fired boiler will be about 71%. This lesser efficiency of multi-fuel boiler affects the SHR. It is therefore submitted that the Petitioner No.1 should be classified as "Sugar Mill having tie-up with Tamil Nadu Newsprint and Papers Limited" since it gives its bagasse for the production of paper and thereby conserves forests.

9.3. The tariff to be worked out for power exported by co-generation plants of sugar mills having tie-up with TNPL will have to take into account all the factors narrated in the Petitioner's Written Submission and Rejoinder and it shall not be treated at par with the tariff for the power exported by sugar mill cogeneration plants using fossil fuel during off-season.

9.4. As per the details of purchase of non-cooking of coal clearly proves that the rate at which TNPL imports is 96.92 US$ per M.T. The price fluctuates keeping in view the dollar fluctuation. In fact, the working for landed cost for July 2011 is

Rs.5,251.82 per MT. A tariff is determined under Rule (3) of the Tariff Regulations. The regulation also provides that the factor such as capital cost, additional capitalization, debt equity ratio, return of equity, etc., should be considered for fixing the tariff price.

9.5. For the reasons stated above, the Commission may fix tariff for the "Sugar mills having tie-up with TNPL" as below:-

a. By taking the actual workings of variable cost as Rs.3.51 per unit at the present cost of imported coal and with suitable escalation factors for the increase in cost of coal during the subsequent years along with the fixed cost as determined by the Commission. The Commission may fix the tariff for the energy generated beyond 55% of PLF as applicable other sugar mills.

b. Alternatively, the Commission may fix a tariff retaining the fixed cost as that of Bagasse based Co-generation plants along with a variable cost 5% lesser than the variable cost fixed for other Bagasse based Co-generation plants.

10. Contentions of the TANGEDCO in Additional Affidavit dated 05-10-2015:-

10.1. Taking into consideration of the urgent requirement of bagasse for TNPL for paper production, the Commission has fixed power purchase tariff of Rs.3.01 per unit as interim tariff for the above referred power plant vide order dated 02-03-2011. Accordingly Sakthi Sugars Limited has executed Energy Purchase Agreement dated 25-03-2011 with the Superintending Engineer, Sivaganga EDC, TANGEDCO for supply of power to TANGEDCO.

10.2. The Commission vide order dated 21-04-2011directed the Chief Engineer, TNEB in charge of IPP to examine the cost of coal based generation of capacity of

35 MW and after taking into account a reasonable margin of profit recommend a tariff for this capacity within a period of 3 months. The TANGEDCO has worked out the tariff of Rs.2.70 per unit and submitted to the Commission.

10.3. Meanwhile Sakthi Sugars Limited had requested TANGEDCO for termination of Energy Purchase Agreement dated 25-03-2011 stating that the period of cane crushing of their power plant has been drastically reduced during last two crushing seasons. Hence, they have been forced to keep their plant idle without power generation during the non-crushing period. In order to make the plant operation commercially viable, they have proposed to operate the plant by using coal as fuel during non-crushing season and to supply power to the third party users under Intra State Open Access System.

10.4. In order to utilize the idle capacity of the power generation in the grid throughout the year, on mutually agreed basis, the Energy Purchase Agreement dated 25-03-2011 entered between the TANGEDCO and Sakthi Sugars has been terminated on 21-08-2014 on mutually agreed basis. Sakthi Sugars have supplied energy of 6,07,86,690 units to the TANGEDCO during the period from 03/2011 to 8/2014. TANGEDCO has settled the power purchase bill for the above period at the interim tariff of Rs.3.01 per unit as approved by the Commission on 02-03-2011.

10.5. For making final settlement, the power purchase tariff is required to be fixed. In the above referred power plant, coal has been used as fuel for the above said period and hence preferential tariff applicable for renewable sources of power generation could not be made applicable. Moreover on having purchased such coal based power, the TANGEDCO has to purchase non-solar Renewable Energy

Certificate and Solar Renewable Energy Certificate for the quantum in proportionate to RPO of 9% inclusive of Solar RPO of 0.05% at respective forbearance price which causes additional financial burden to the TANGEDCO.

10.6. Sakthi Sugars Limited had not given any commitment for the quantum of power supplied to grid during the above period. Hence, the entire quantum of power supplied shall have to be considered for payment at infirm power rate i.e. 90% of firm power rate (90% of UI rate of frequency interlinked tariff with a floor rate of Rs.2.10 per unit and ceiling rate of Rs.4.08 per unit. The Commission may therefore pass an order for adopting infirm power tariff i.e. 90% of UI rate of frequency linked tariff with a floor rate of Rs.2.10 per unit and ceiling rate of Rs.4.08 per unit for the quantum of energy of 6,07,86,690 units which was already sold to TANGEDCO from the power generated by 35 MW bagasse based co-generation plant.

11. Reply of the Petitioners dated 04-01-2016 with regard to the Additional Affidavit of Respondents dated 05-10-2015:-

11.1. On tie-up with TNPL for supply of bagasse, sugar mill co-generation plants do not use fossil fuel alone as fuel in their boilers to generate steam. Bagasse consists of fibre and pith. Pith is a non-fibrous material which has no fibre value to make paper. Hence, the Pith has to be removed at the source itself. On the other hand, pith has the same heat value as that of bagasse. TNPL have installed de-pithing plants at the Sugar Mills and the pith separated in these plants is sent back to sugar mill's boiler for firing along with fossil fuel. About 40% - 45% of the total heat input of the sugar mill cogeneration boiler is provided by pith. Hence, the component of power generated using pith merits consideration to be accounted even as biomass based power and the tariff for a bagasse based cogeneration plant having tie-up sugar mills will be lesser than coal fired boilers during mixed firing with coal and pith. The efficiency of the coal fired boiler is estimated at 84% whereas that of the multi-fuel fired boiler will be about 71%. This lesser efficiency of multi-fuel boiler affects the Station Heat Rate.

11.2. During the public hearing of the Commission, TNPL had raised the issue of tariff fixation. The Commission in its Order No.7 of 2012 dated 31-07-2012, in the issue of fixing tariff for cogeneration plants tied-up with other industries, has stated that the Commission is seized of the matter and orders on determination of tariff will be issued in case of the present petition P.P.A.P.No.1 of 2011. Separate petitions have also been filed by sugar mills for tariff fixation. This decision of Commission is entirely based on TNPL's submission for fixing separate tariff for TNPL tied-up Sugar Mills. Thus, fixation of tariff for any other Sugar Mill supplying power to TANGEDCO on tie-up with TNPL is primarily required for entering into such tie-up arrangements by TNPL with Sugar Mills.

11.3. As already submitted by the Petitioner, even though coal is used for generation of electricity throughout the year, TNERC Order No.4 of 2006 would not be applicable to sugar mills having tie-up with TNPL due to the following reasons:-

a. It is not a captive power plant consuming 51% of electricity on an annual basis.

b. It does not fulfill one of the conditions required to be fulfilled for co-generation plants i.e. the cogeneration facility must be available to supply at least 5 MW of power for atleast 250 days in a year.

The above views have been agreed upon by the Respondent also in their counter affidavit.

11.4. The tariff to be worked out for power exported by cogeneration plants of sugar mills having tie-up with TNPL will have to take into account all the above factors and it shall not be treated at par with the tariff for the power exported by sugar mill cogeneration plants using fossil fuel during off-season.

11.5. Sakthi Sugars has terminated the Long Term Power Purchase Agreement (PPA) executed with TANGEDCO with effect from 25-08-2014 and is under Short Term PPA executed through tendering process. Even under such circumstances, fixation of tariff by the Commission has its relevance (i) for making final settlement for the power already purchased by TANGEDCO from March 2011 to August 2014 as only an interim order has been passed by the Commission pending final orders and (ii) for making settlement for the power that may be purchased from the Sakthi Sugars by TANGEDCO under Long Term PPA, if any, that may be executed in future.

11.6. The Respondent proposed the tariff 90% of the UI rate of frequency linked tariff with a floor rate of Rs.2.10 per unit and ceiling rate of Rs.4.08 per unit for the quantum of energy sold to TANGEDCO by considering sugar cogeneration plant having tie-up with TNPL on par with fossil fuel based cogeneration plant, which is not justifiable on the following grounds:-

(i) By using Bagasse for paper making, TNPL avoids cutting of trees from 4,000 acres of land every year thus conserving ecology.

(ii) On tie-up with TNPL, sugar mill cogeneration plants use 40-42% of Pith on calorific value basis, a non-fibrous biomass material removed from Bagasse.

(iii) The efficiency of multi-fuel boilers owned by TNPL tied-up sugar mills will get reduced during mixed firing with coal and pith than on using coal alone.

(iv) The fixed cost for the sugar mill cogeneration plant that has already been determined by the Commission in its Tariff Order applicable for the sugar mills will not get altered.

12. Findings of the Commission:-

12.1. We have gone through the prayers and submissions of the Petitioners and that of the Respondent.

Originally, the petitioner's plant was a Bagasse based co-gen plant with 35 MW capacity commissioned on 1.2.2008. Commission has issued a generic tariff order fixing a cost plus single part average tariff of Rs.3.15/unit for Bagasse based co-gen plants in its Order No. 3 dt. 15.5.2006 for the respective tariff period. Hence, the petitioner and the Respondent have entered into a PPA under the above generic tariff order. As this single part cost plus average tariff of Rs.3.15/unit has become unviable in view of huge increase in the Variable Cost, Commission in the year 2009, while issuing the generic tariff order No. 3 of 2009 dt. 6.5.2009 has split this single part tariff into a two part tariff by segregating Fixed Cost (FC) and Variable Cost (VC) and prescribed the payment of two part tariff with effect from 6.5.2009 as given below:

Year	Fixed cost Rs/unit)
1	1.956
2	1.975
3	1.945
4	1.916
5	1.888
6	1.861
7	1.835
8	1.810
9	1.786
10	1.764
11	1.743
12	1.399

Year	Variable cost per unit (Rs/unit)
2009-10	1.856
2010-11	1.948

Hence, with effect from 6.5.2009 onwards, FC as given above and the VC as fixed by the Commission from time to time, is to be taken into account for payment for purchase of power from these co-gen plants. The above is applicable for the Petitioner's plant also.

12.2. The Petitioner subsequently entered into a barter agreement with TNPL for supply of Bagasse for production of paper at TNPL in exchange of coal for generation of power in its co-gen plant. Upon entering into the above said agreement the Petitioner in their letter dt. 2.12.2010 approached the Respondent TANGEDCO for fixing of Tariff. The Respondent TANGEDCO should have rejected this proposal because it is no more a Bagasse based co-gen plant as the generation is with 100% coal obtained from TNPL in exchange of Bagasse for the same. However, the Respondent TANGEDCO, in view of shortage of power and in view of the fact that similar plants were being operated from prior to Electricity Act, 2003, chose to allow the Petitioner to continue the power supply from their plant but advised the Petitioner to approach this Commission for fixing of tariff and hence the Petitioner filed this petition.

Further, on request by the Petitioner, the Commission has issued an interim order on 2.3.2011 for payment at Rs.3.01/unit. Based on the Interim orders, the Respondent TANGEDCO has been making payment of Rs.3.01/unit as this tariff was being paid by them for TNPL tied up plants commissioned prior to 15.5.2006.

12.3. Subsequently, on 21.4.2011, the Commission has directed the Respondent TANGEDCO to examine the cost of coal based generation of capacity of 35 MW, assuming a reasonable profit margin and treating this 35 MW co-gen plant as an independent coal based generation plant, since 100% coal is used in the plant for the generation of power. Accordingly, the Respondent TANGEDCO furnished a cost sheet suggesting a tariff of Rs.2.70/unit (FC Rs. 0.70/unit and VC Rs.2.00/unit). The Petitioner contended that the parameters specified in the Bagasse based co-gen tariff order of 2009 should have been considered as they use multi fuel boiler and the Petitioner on their part recalculated the tariff at Rs. 5.36/unit (FC-Rs.1.41/unit and VC-Rs.3.95/unit).

12.4. The Respondents further contended that the purchase of power from these plants will not account for their RPO compliance and therefore the tariff is to be appropriately discounted for the same.

12.5. The Petitioner in response to the above contention has suggested the following:

> a. *"By taking the actual workings of variable cost as Rs.3.51 per unit at the present cost of imported coal and with suitable escalation factors for the increase in cost of coal during the subsequent year along with the fixed cost as determined by the Hon'ble Commission, the Hon'ble Commission may be pleased to fix the tariff for the energy generated beyond 55% of PLF as applicable for other sugar mills.*
>
> b. *Alternatively, the Hon'ble Commission may be pleased to fix a tariff retaining the fixed cost as that of Bagasse based Co-generation plants along with a variable cost 5% lesser than the variable cost fixed for other Bagasse based Co-generation plants."*

The Respondent in their additional Affidavit dt. 5.10.2015 has stated the following:

> *"8. Meanwhile M/s. Sakthi Sugars Limited had requested TANGEDCO for termination of Energy Purchase Agreement dt. 25.03.2011 stating that the period of cane crushing of their power plant has been drastically reduced in the last two crushing seasons. Hence, they have been forced to keep their plant idle without power generation during the non-crushing period. In order to make the plant operation commercially viable, they have proposed to operate the plant by using coal as fuel during non-crushing season and to supply power to the third party users under Intra State Open Access system.*
>
> *9. In order to utilize the idle capacity of the power generation in the grid throughout the year, on mutually agreed basis, the Energy*

Purchase Agreement dt. 25.03.2011 entered between the TANGEDCO and M/s. Sakthi Sugars Limited, has been terminated on 21.08.2014 on mutually agreed basis.

10. M/s. Sakthi Sugars Limited have supplied energy of 6,07,86,690 units to the TANGEDCO for the period from 03/2011 to 8/2014. The TANGEDCO has settled the power purchase bill for the above period at the interim tariff of Rs.3.01 per unit as per Energy Purchase Agreement dt. 25.03.2011 as fixed by the Hon'ble TNERC in order dated 21.04.2011 passed in I.A. No.1 of 2011 in P.P.A.P. No. 1 of 2011.

11. For making final settlement the power purchase tariff is required to be fixed. In the above referred power plant, coal has been used as fuel for the above said period and hence preferential tariff applicable for renewable source of power generation could not be made applicable. Moreover on having purchased such coal based power, the TANGEDCO has to purchase non solar Renewable Energy Certificate and Solar Renewable Energy Certificate for the quantum in proportionate to RPO of 9% inclusive of Solar RPO of 0.05% at respective forbearance price which causes additional financial burden to the TANGEDCO.

12. M/s. Sakthi Sugar Limited had not given any commitment for the quantum of power supplied to grid during the above period. Hence, the entire quantum of power supplied shall have to be considered for payment at infirm power rate i.e. 90% of firm power rate (90% of UI rate of frequency interlinked tariff with a floor rate of Rs.2.10 per unit and ceiling rate of Rs.4.08 per unit).

For the reasons stated above, it is prayed that the Hon'ble TNERC may be pleased to pass on order for adopting infirm power tariff, i.e, 90% of UI rate of frequency linked tariff with a floor rate of Rs.2.10 per unit and ceiling rate of Rs.4.08 per unit for the quantum of energy of 6,07,86,690 units which was already sold to TANGEDCO from the power generated by 35 MW bagasse based co-generation plant of at Padamathur Village, Sivagangai District for the period from 03/2011 to 08/2014."

12.6. Commission in its Order dt. 31.3.2016 in PPAP No. 8 of 2011 has categorically stated that "*Regarding the co-gen plants tied up with TNPL, it is observed that Commission has been issuing tariff order for sources like Wind, Biomass, Bagasse based co-gen sugar plants, Solar plants, CPP, etc., from time to time and then licensee can purchase power after entering into the contract (PPA) within the scope* of *these orders but in the case* of *TNPL tied up co-gen plants,* a *barter system* of *exchange* of *Bagasse with coal is made between sugar mills and TNPL and therefore it is beyond the scope* of *any* of *the tariff orders* of *the Commission and therefore the Commission is not inclined to determine the tariff for these plants. However,* as *these contracts have been entered into prior to Electricity Act, 2003 and continued for years after 2003 also, Commission proposes to concede to the prayer* of *TANGEDCO to fix the tariff for TNPL tied up co-gen plants."*

12.7. Accordingly, Commission assumed a capital cost of Rs.2.5 crores per MW for all these 13 number old plants even though the vintage, Boiler configuration, etc were different between those plants and fixed a uniform tariff. But the Petitioner's plant is neither before Electricity Act, 2003 nor before the Commission's NCES tariff Order dt. 15.5.2006 and therefore it is beyond the scope of the Commission for determination of tariff. Hence Commission is not inclined to create a separate categorization of power plants who are supplying bagasse fibre to TNPL as it is beyond the scope of powers and functions of the Commission.

12.8. Let us further analyse the applicability of Order No.3 dt. 15.5.2006 of this Commission. The said order relates to power purchase and allied issues in respect of non-conventional energy sources based generating and co-generation plants. The Petitioner had infact entered into agreement with respondent under this order alone since at that time the Petitioner was proposing to generate power using the Bagasse as the fuel subject to the restriction of use of fossil fuel of 25% stipulated therein. However, with the unilateral agreement with TNPL, the Petitioner started using coal as the main fuel and hence altogether lost the status of being a non-conventional energy sources based co-generation plant. Hence, we may conclude for certain that the said Order No.3 dt. 15.5.2006 is not applicable in this case which fact has been admitted by the Petitioner himself. The Petitioner does not qualify criteria required, namely, 51% of the generation ought to have been consumed captively and 5MW power should have been supplied to the grid for a minimum of 250 days in a year, to be considered under Commission's Order No. 4 dt. 15.5.2006 for fossil fuel based captive generating plants. This fact has also been rightly admitted by the Petitioner.

12.9. In the original petition the Petitioner has sought for a tariff of fossil fuel based co-generation during crushing season and normal UI Tariff during non-crushing season. Per contra, the Respondent has contended that the Petitioner has not given any commitment for the quantum of power to be supplied to the grid during the above period and therefore the entire power supplied between March 2011 to August 2014 has to be treated as infirm power only. Admittedly, the Petitioner has failed to qualify the satisfying condition & in respect of both Order No. 3 dt. 15.5.2006 and Order No.4 dt. 15.5.2006. In Order No. 4 dt. 15.5.2006 it is also stipulated that if the generator fails to qualify the criteria in any year the entire electricity generated shall be treated as if it is a supply of electricity by a generating company.

12.10. In view of the facts stated as above Commission considers that it will be more appropriate to classify the supply of electricity to the respondent from the Petitioner's Bagasse based generating plant as supply of electricity by a generating company. As contended by the respondent the entire power during the period is to be considered as infirm power.

Hence the tariff for this plant is to be fixed at 90% of UI rate linked to frequency with the floor rate of Rs.2.10/unit and a ceiling rate of Rs.4.08/unit for the power supplied during March 2011 to August 2014.

With these orders, the above M.P. is disposed of.

12.11. Commission directs TANGEDCO that they should not enter into any PPA which is not backed by any of the tariff orders of this Commission or not satisfying any of the conditions made thereof and apply for post facto approval and tariff determination as the Commission is not vested with powers for such tariff determination. The Commission also directs that prior approval shall be obtained from the Commission for any cancellation of PPA during the operating period.

13. Appeal:-

An appeal against this order shall lie before the Appellate Tribunal for Electricity under section 111 of the Electricity Act, 2003 within a period of 45 days from the date of receipt of a copy of this order by the aggrieved person.

(Sd…….)
(**G.Rajagopal)**
Member

(Sd…….)
(S.Akshayakumar)
Chairman

/ True Copy /

Secretary
Tamil Nadu Electricity
Regulatory Commission