

**PUNJAB STATE ELECTRICITY REGULATORY COMMISSION  
SCO NO. 220-221, SECTOR 34-A, CHANDIGARH**

**Petition No.44 of 2011  
Date of Order: 19.09.2012**

In the matter of: Petition under Section 86 read with Section 94(f) of the Electricity Act, 2003 for the revision of tariff rates fixed by the Commission vide Order dated 13.12.2007 after the year 2011-12 in respect of Biomass Co-generation Power Plant with aggregate capacity of 5.5 MW.

AND

In the matter of: A.B. Grain Spirits Pvt. Ltd., Village Kiri Afgana, Tehsil Batala, Distt. Gurdaspur (Punjab)-143527.

VERSUS

1. Punjab State Power Corporation Limited  
The Mall, Patiala.
2. Punjab Energy Development Agency, Solar Passive  
Complex, Plot No.1-2, Sector 33-D, Chandigarh.

Present: Smt.Romila Dubey, Chairperson  
Shri Virinder Singh, Member  
Shri Gurinderjit Singh, Member

**ORDER**

This petition has been filed by A.B. Grain Spirits Pvt. Ltd., Village Kiri Afgana, District Gurdaspur under Section 86 read with Section 94(f) of the Electricity Act, 2003 (Act) for the revision of tariff rates fixed by the Commission vide Order dated 13.12.2007 after the year 2011-12 in respect of Biomass Co-generation Power Plant with aggregate capacity of 5.5 MW. The petitioner has submitted that the power plant was commissioned on 8.4.2008 wherein surplus power of the order of 3 MW was sold to erstwhile Punjab State Electricity Board(PSEB) [now Punjab State Power Corporation Ltd. (PSPCL)] by injection at

their 66 KV Sub-station, Rajoa. Since then the surplus power has been sold to PSEB (except for a small period when it was sold to third parties) at the rates prescribed by NRSE Policy, 2006 of Government of Punjab (GoP) and subsequently adopted with modifications by the Commission vide its Order dated 13.12.2007. As per the said Order, the basic rate of tariff for biomass based co-generation project was fixed for the year 2006-07 @ Rs.3.49 per kWh to be enhanced annually @ 3% till 2011-12 after which the last escalated tariff was to continue and the Commission was to determine the manner in which further enhancement in tariff, if any, by way of encouragement to the sector is to be allowed. The petitioner has further submitted that Commission's notification dated 16.12.2009 [Punjab State Electricity Regulatory Commission (Harnessing of Captive Power Generation) Regulations, 2009] in para 5.1, provides that a captive power plant (CPP) seeking to sell power to a licensee will enter into a contract with the licensee on mutually agreed terms and conditions and that tariff for the sale of power from CPP to a licensee will be equivalent to tariff rates of large supply (general category) consumers. These rates will be applicable for a period upto five years.

2. The petitioner has further submitted that as per sections 61 and 86 (1) (e), the Commission would be guided by the need to promote co-generation from renewable sources of energy. Similarly, para 6.4 of the Tariff Policy provides for determination of preferential tariff and para 5.2.20 of the National Electricity Policy provides for encouraging generation from renewable sources of energy through suitable promotional measures. The petitioner further points out that the Commission, while disposing of the petition filed by Green Planet Energy (P) Ltd. vide Order dated 13.1.2011 had concluded that Power Purchase Agreement (PPA) signed between the Board (PSEB now PSPCL) and the petitioner would not stand in the way of considering appropriate tariff for an NRSE project and that tariffs as provided in the NRSE Policy, 2006 are currently unrealistic and unviable for NRSE units in the State. The petitioner has stated that a power purchase agreement between the petitioner and PSPCL was renewed w.e.f.

1.4.2011 incorporating a tariff rate of Rs.4.04/kWh without any enhancement for further seventeen years. The petitioner has submitted that it was only willing to sign a short term PPA or a long term for a period of five years, which is defined minimum period for a long term supplier by the Commission as per clause 7 (i) of Punjab State Electricity Regulatory Commission (Open Access) Regulations, 2005 dated 9.8.2005.

3. It has been submitted by the petitioner that PSPCL has adopted a minimum period of twenty years for long term PPA on the basis of Punjab Energy Development Agency (PEDA) letter No.5720 dated 7.3.2011. PEDA has based it upon Central Electricity Regulatory Commission Renewable Energy Tariff Regulations dated 26.4.2010 adopted by the Commission in Order dated 30.9.2010 in Petition No.32 of 2010 (suo-motu). The petitioner has submitted that Central Electricity Regulatory Commission (CERC) Order dated 26.4.2010 only laid down the useful life of a co-generation project as twenty years and has nowhere laid down the minimum period of twenty years for a power purchase agreement. The petitioner has further submitted that the Commission had adopted basic rate of Rs.2500 per MT for bio-fuel vide Order dated 30.9.2010, whereas the rate of biomass varies from place to place and on the type of agriculture waste like paddy husk, cotton-waste and other agriculture wastes. While computing the rate of biomass fuel as Rs. 2500 per MT for FY 2010-11 (mentioned in this petition as FY 2009-10), weighted average of all different types of waste was considered. The petitioner has stated that mainly rice husk is used as fuel in its plant which is the costliest of all wastes. The petitioner has further submitted that as per analysis sheet attached the variable cost as per last three years' data works out to be Rs.5.07 per kWh. The fixed cost for the project is Rs.2.48 per kWh. The total cost works out to Rs.7.55 per kWh and taking auxiliary consumption @ 10%, net tariff works out as Rs.8.30 per kWh. The petitioner prayed that the petition be decided on the following issues:-

- i) The minimum period for a long term agreement be restricted to five years and maximum period upto 20 years.

- ii) The tariff rate of NRSE projects w.e.f. 1.4.2012 be fixed at Rs.8.30 per kWh with suitable fuel escalation formula for deciding the tariff rate for future period.
- iii) A suitable control period be laid down for the above.

4. The petition was admitted vide Order dated 8.7.2011 and respondents Punjab State Power Corporation Limited and Punjab Energy Development Agency were directed to file replies by 30.8.2011.

5. PEDDA filed its reply vide No.4227-29 dated 26.8.2011. PEDDA submitted that the petitioner signed only short term agreements with PSEB for obtaining grid connectivity and thereafter sold the power under open access. PEDDA has stated that the sale of power under short term agreement is not provided in the NRSE Policy, 2006 and the petitioner avoided signing long term PPA. PEDDA further submitted that Regulations for harnessing of surplus power from captive power plants notified on 16.12.2009 are not applicable in case of petitioner. PEDDA further submitted in its reply that the averment made by the petitioner regarding term of PPA has no basis whatsoever and there is no minimum or maximum period of the agreement. When the purchasing agency is committing payment of all normative fixed charges and assuring a reasonable rate of return on equity through preferential tariff, the term of the agreement has to be for useful life of the project. PEDDA further submitted in its reply to the petition that the petitioner has brought out data regarding cost of the fuel being used by the petitioner for generation of power. The issue had been discussed in detail by the Commission in its Order dated 30.9.2010. Every generator will have its own data for the variable fuel and tariff can not be determined for each project. The petitioner's project is based on distillery where a lot of bio-fuel is generated which is almost free of cost and there is practically very little or no variable cost for such bio-fuel generation. PEDDA submitted that the Regulations provide for the determination of tariff based on technology and not specific project data and the

term of PPA has to be the useful life of the project, therefore the petition be dismissed.

6. PSPCL filed reply vide C.E/ARR & TR memo No. 5761/Sr.Xen/TR-5/480 dated 8.9.2011 and submitted that the petitioner is not in the business of generation of power but is running a distillery. PSPCL has also submitted that the Open Access Regulations, 2005 are applicable only to open access customers and not applicable for sale of power to PSPCL under a long term PPA. The PPA with the petitioner was signed in line with PEDAs letter dated 7.3.2011, CERC RE Regulations and Order dated 26.4.2010. The same was adopted by the Commission vide Order dated 30.9.2010. The same was agreed and accepted by the petitioner without any discussion / arguments / pleadings and was signed with the consent of both the parties. PSPCL further submitted in its reply that the petitioner's project is a co-generation project and steam is a by-product used for power generation. This fact has not been brought out in the petition. Biomass fuel is available in abundance in the State of Punjab and petitioner should have designed his generation facility based upon multi-fuel technology to avoid the use of the costliest fuel i.e. rice husk. PSPCL has prayed that there is no ground for the petitioner for claiming higher tariff which shall put additional financial burden on PSPCL and in turn on the consumers and the petitioner be directed to abide by the terms and conditions of the PPA.

7. The petitioner vide rejoinder dated 27.9.2011 to PEDAs reply submitted that it is incorrect that as per MoU with PEDA they were to sign PPA with PSPCL on long term basis for the useful life of the project. The Implementation Agreement dated 7.1.2008 was valid for a period of 6 months from the date of commissioning of the plant and did not have any provision for signing of PPA for 20 years with PSEB (now PSPCL). The petitioner has submitted that PEDA has wrongly stated that the NRSE Policy, 2006 does not provide for short term agreement. The petitioner has further submitted that it is incorrect on part of PEDA to suggest that Commission's observations while disposing of the petition

of Green Planet Energy (P) Ltd. were specific only to that party. The Commission's observations cover everybody/anybody who might have entered into an agreement with the Board (PSEB now PSPCL) and asking for a more realistic tariff rate. The petitioner has also submitted that data regarding the present day cost of the fuel is based upon what has been paid during the recent years. The biogas generated in the distillery is hardly sufficient to meet the needs of the distillery unit, generation is totally dependent upon biomass fuel. Further, the petitioner vide another rejoinder of the same date to PSPCL's reply has stated that it is incorrect to say that PPA was signed willingly. The petitioner has submitted that PSPCL has not refuted that cost of biomass fuel available in the market is about Rs.4000 per MT and PSPCL has incorrectly stated that the rates offered earlier were as per NRSE Policy, 2006. The PPA was signed in compliance of the Commission's Order dated 13.12.2007.

The petitioner requested for acceptance of the prayer in the main petition.

8. The arguments of the petitioner and respondents were heard by the Commission on 4.10.2011 and after hearing the arguments, the Commission decided to close hearing vide Order dated 7.10.2011. The final Order was reserved. The Commission observed vide Order dated 17.11.2011 that the parameters for fixing tariff for renewable energy projects (RE Projects) for FY 2012-13 were yet to be decided and thus the petition would be finally decided after parameters for fixing the tariff for RE projects for FY 2012-13 are finalized by the Commission. The Order dated 17.11.2011 being an interim Order, the issue of tariff period shall also be decided at the time of final disposal of the petition.

9. The petitioner filed a request dated 30.4.2012 and prayed that till such time the final Order in the petition filed by the petitioner for upward revision of tariff is passed by the Commission, an interim Order be issued immediately allowing 3% escalation on the previous year's rate as was being done during the last over four years period based upon Order dated 13.12.2007 of the

Commission, so that the petitioner is partially compensated in the matter of rising cost of production of electricity. This would, however, be without prejudice to the final Order in the petition. PSPCL and PEDDA were directed to file reply to the application dated 30.4.2012 of the petitioner by 29.6.2012 vide Order dated 30.5.2012. PSPCL filed reply vide C.E./ARR & TR memo No.5530/TR-5/480 dated 6.7.2012 and submitted that the rates applicable to the petitioner in the PPA dated 25.4.2011 were as per the NRSE Policy, 2006 since the project was commissioned in the year 2008. PSPCL prayed that there was no ground for the petitioner for claiming higher tariff.

10. PEDDA filed its reply to the aforementioned request of the petitioner dated 30.4.2012 vide no.2427-29 dated 23.7.2012 and reiterated that petitioner's project was a co-generation plant as rightly indicated in the preamble of the PPA and notification dated 16.12.2009 of the Commission pertaining to harnessing of captive power generation was not applicable to the petitioner's project as already pointed out in its reply dated 26.8.2011 to the petition and, therefore, the petition may be dismissed.

11. The petitioner filed rejoinder dated 24.7.2012 to the reply of PEDDA's letter dated 23.7.2012 and submitted that since the petitioner has already signed agreement upto maximum life of 20 years, the issue of minimum or maximum period for signing long term PPA ceases to exist so far as the petitioner is concerned. The petitioner reiterated for fixing the revised rate for sale of power from the project applicable from 1.4.2012 with suitable provisions to take care of future escalation in variable cost. The petitioner has further confirmed that petitioner's project is a co-generation plant and all agreements were executed and implemented accordingly and stated that referring to corresponding provision for CPP for fixing a minimum period of 5 years for long term PPA is only for drawing an analogy.

12. After hearing the case on 24.7.2012, the Commission directed the parties vide Order dated 1.8.2012 to file written submissions by 7.8.2012. The written submissions dated 7.8.2012 were filed by the petitioner in compliance to Order dated 1.8.2012. The Commission again directed PEDDA vide Order dated 30.8.2012 to file written submissions regarding availability of the rice straw around the area of the project site and also confirm whether the rice straw can be used as fuel at the power plant or not. PEDDA was also directed to confirm whether 20% bio-gas as per Detailed Project Report (DPR) was being used as a fuel or not for generation of power at this co-generation power plant.

13. PEDDA filed submission on 3.9.2012 in compliance to the Order of the Commission. PEDDA has submitted that 571499 MT approximately rice straw would be available in District Gurdaspur as per data based on Kharif 2011-12 obtained from Agricultural Department, Punjab. PEDDA has further submitted that the boiler of the petitioner's project is a multi-fuel boiler with design specifications as Thermax make, 36 TPH, 87kg/cm<sup>2</sup>, 540°C, fluidized bed and suitable for using rice husk, biogas, bagasse and coal but it is difficult to use rice straw at this temperature and pressure. During the hearing of the Commission on 4.9.2012, PEDDA informed that it can also use rice straw with design modifications. PEDDA has also submitted in the reply that as per information gathered during site visit, the petitioner's plant is using 90% rice husk and 10% biogas which is generated from the distillery effluent, which otherwise shall go waste.

14. The petitioner, in its submission dated 3.9.2012, has submitted that the plant is located in area where paddy is grown but because of use of combine harvesters, most of the rice straw left behind is burnt. Thus not much quantity is left for use. The petitioner has submitted that straw contains 50% moisture and its effective cost is about Rs.2000 per MT, also the calorific value being only 1200 kCal/kg against 3300 kCal/kg of rice husk, net cost of straw would be about Rs. 6000 per MT. Besides the high cost, there are a lot of operational problems involved in use of rice straw in the boilers. The petitioner has further submitted

that PSPCL has the experience of rice straw as a fuel at their 10 MW Jalkheri power plant. There are inherent problems associated with burning straw in the boiler like collection, storage, transportation, bailing and large quantity of fly ash etc. The petitioner has further submitted that as per project report approved by PEDDA, the boiler is designed to use fuels like coal, biomass, bagasse and biogas, but the petitioner is using 90% rice husk and balance biogas as fuel. Rice husk is available at Rs. 4000 to 6000 per MT and small usage of biogas is not having much impact on fuel cost. The petitioner has also submitted that methodology adopted to work out the biomass fuel cost of Rs. 2750 per MT is flawed, firstly on account of all types of fuels not available everywhere and secondly not bringing the calorific values of different fuels to a common base.

15. The Commission after the hearing on 4.9.2012 closed further hearings in this petition and reserved the final Order vide its Order dated 6.9.2012.

16. After going through the petition, replies, rejoinders, additional submissions and written submissions filed by the petitioner and the respondents and hearing the arguments put-forth by the parties, the Commission with regard to the prayer of the petitioner, give its findings as under:

The petitioner has prayed as under:

- i) The minimum period for a long term agreement be restricted to five years and maximum period upto 20 years.
- ii) The tariff rate of NRSE projects w.e.f. 1.4.2012 be fixed at Rs.8.30 per kWh with suitable fuel escalation formula for deciding the tariff rate for future period.
- iii) A suitable control period be laid down for the above.

17. For deciding the petition, the Commission finds it more appropriate to deal with the prayer at Sr. No.(ii) above prior to taking up the issue at Sr. No.(i). With regard to prayer at Sr. No.(ii), the Commission observes that the petitioner has submitted the tariff calculations for its co-generation project, working out the tariff as Rs.8.30 per kWh w.e.f. 1.4.2012. The calculations are based on the

petitioner's own data for various components of the fixed cost, for which, however, no supporting documents have been furnished. Only paddy husk as the biomass fuel has been considered for working out the variable cost. The capital cost of the 5.5 MW plant has been considered by the petitioner as Rs.33.41 crore alongwith additional combined annual charges of 26% on account of interest, return on equity, depreciation and operation & maintenance expenses, amounting to Rs.8.69 crore. The Annual generation has been taken as 35 MU thereby working out the fixed cost as Rs.2.48 per kWh. The variable cost has been calculated on the basis of Rs.4000 per MT as the cost for paddy husk, the only fuel stated to being used and consumed @ 1.2 Kg per kWh alongwith additional annual miscellaneous charges comprising interest on working capital, insurance, temporary labour etc. amounting to Rs.90 lac, thereby working out the variable cost as Rs.5.07 per kWh. The total tariff demanded by the petitioner is Rs.8.30 per kWh after taking into account 10% auxiliary consumption.

18. The Commission, however, determines the tariff for the renewable energy projects in accordance with its Regulations. For the purpose, the Commission in its Order dated 19.7.2012 adopted the Central Electricity Regulatory Commission (Terms & Conditions for tariff determination from Renewable Energy Sources) Regulations, 2012 with State specific modifications in respect of non-fossil fuel based co-generation projects (RE Regulations, 2012). A perusal of these Regulations would reveal that the Regulation 2, 'Definitions and Interpretation' brings out all the relevant definitions and Regulation 3 provides the 'Scope and extent of application' stating that these Regulations shall apply in all cases where tariff, for a generating station or a unit thereof based on renewable sources of energy, is to be determined by the Commission under Section 62 read with Section 79 (Section 86 in respect of State Commission) of the Act. Further, for the purpose of determination of tariff, these Regulations provide the General Principles in Chapter-1, Financial Principles in Chapter-2 and Technology specific parameters in Chapter-3 to Chapter-10 for various technologies including non-fossil fuel based co-generation projects in Chapter-6. In addition, these

Regulations also specify in Regulation 7 'Project Specific tariff' the types of projects, for whom project specific tariff, on case to case basis, shall be determined by the Commission. The Commission notes that the petitioner's project has been specifically referred to as the "Co-generation Facility" in the Power Purchase Agreement (PPA) dated 25.4.2011 and so brought out in the petition and confirmed in the subsequent filings. Rightly so, the petitioner's project is not covered under Regulation 7. Accordingly, the Commission in the subsequent paras, has determined the tariff for the petitioner's project as per the provisions in the RE Regulations, 2012 for non-fossil fuel based co-generation projects.

19. The Commission notes that clause 2.1.1 in the PPA provides the rate for sale of power to PSPCL as Rs.3.49 per kWh (base year 2006-07) with 3% annual escalation on yearly basis upto 2011-12 after which the last escalated tariff shall continue and the Commission will determine the manner in which further enhancement in tariff, if any, by way of encouragement to the sector is to be effected. The petitioner has stated that the tariff rate for FY 2011-12 is Rs.4.04 per kWh.

20. The Commission notes that the power plant of petitioner was commissioned on 8.4.2008 with a capacity of 5.5 MW and since then, till the signing of this PPA, has been selling the surplus power of 3 MW to PSPCL through short term contracts (except for a short period when it was sold to third parties) at the rates prescribed by Govt. of Punjab in the NRSE Policy, 2006. Incidentally the rate specified in the PPA is the same as provided the NRSE Policy, 2006 which was also adopted by the Commission vide its Order dated 13.12.2007 with certain amending provisions.

21. The Commission further notes that the PPA provides for determination of tariff after 2011-12 by the Commission w.e.f. 1.4.2012. The Commission is mandated under Section 61, 62 read with Section 86 of the Act to determine the

tariff for the generating stations. The petitioner has in one of its filings requested for allowing 3% escalation as a relief as an interim measure till the tariff is decided by the Commission. The Commission notes that the very fact that the petitioner opted to sign the PPA on 25.4.2011 upto 7.4.2028 i.e. for a period of nearly 17 years and at the rate mentioned above, in the last year of the tenure of the NRSE Policy, 2006, indicates thereby that the said tariff is viable. However, considering the principles of natural justice, equity and good conscious and the provisions in the Tariff Policy and National Electricity Policy, encouraging generation from renewable energy sources and the mandate for promotional tariff to be given for such projects, the Commission decides to work out the tariff for the petitioner's project afresh, as done in case of petitions filed by other eligible renewable energy generating companies, wherein the Commission had concluded that tariffs as provided in the NRSE Policy 2006 are currently unrealistic and would prove unviable for NRSE units located in the State.

22. Earlier, in its Order of 13.12.2007, the Commission while accepting the tariff as proposed in the NRSE Policy 2006 had observed that

“These rates will be considered the minimum rates that a NRSE developer can claim. It is entirely possible that NRSE projects adopting different technologies and/or fuels might need enhanced rates for their encouragement. Therefore, individual developers would be free to approach the Commission for determination of such rates. The Commission will, at that stage, decide whether rates are to be approved individually in each case or generically for a category of cases.”

23. The Commission is also mindful of several provisions both in the Electricity Act, 2003 and the Tariff Policy/National Electricity Policy framed under Section 3 of the Act, which enjoins the Central Govt, to prepare the National Electricity Policy and the Tariff Policy with a view to developing the power system based on optimal utilization of resources such as coal, natural gas, nuclear substances, hydro and renewable sources of energy. Sections 61 and 86 (1) (e)

of the Act further mandate that the Commission while determining tariffs would be guided by the need to promote co-generation and generation of electricity from renewable sources of energy. Furthermore, para 6.4 of the Tariff Policy provides for preferential tariffs to be determined by the Commission for renewable energy projects while para 5.2.20 of the National Electricity Policy requires adoption of suitable promotional measures for encouraging higher generation from renewable energy sources.

24. The Commission notes that as per RE Regulations, 2012, the tariff, for renewable energy technologies/projects where biomass fuel mix is to be used, is to be determined in two parts i.e. levelled fixed cost and variable cost.

25. As brought out in the foregoing paras, the tariff for petitioner's project is mandated to be determined as per the relevant provisions of RE Regulations 2012 for non-fossil fuel based co-generation projects. The Commission has already determined the generic tariff for various RE technologies for the year 2012-13 in its Order dated 19.7.2012 in accordance with the RE Regulations 2012.

26. For working out the levelled fixed cost of the petitioner's project for the year of applicability of tariff i.e. FY 2012-13, the Commission intends to determine the capital cost of petitioner's co-generation project commissioned in 2008-09 for that year by applying the capital cost indexation mechanism as specified in the RE Regulations, 2012, on the normative capital cost of Rs.420 lac per MW for non-fossil fuel based co-generation projects for the year 2012-13 and then depreciate it to the applicable year of tariff i.e. 2012-13. Accordingly, the normative capital cost for the year 2008-09 comes to Rs.374.96 lac per MW which, after depreciation at the standard book depreciation rate of 5.28% per annum upto 2012-13, works out to Rs.301.82 lac per MW for the year 2012-13. With this capital cost and using normative parameters for FY 2012-13, the levelled fixed cost works out to Rs.1.60 per kWh.

27. The Commission notes that as already brought out in preceding paras, the tariff rate in the PPA is the same as specified in NRSE Policy 2006 which was also adopted by the Commission in its Order dated 13.12.2007 with certain amending provisions. In the NRSE Policy 2006, there was no distinction with regard to the fuel to be used i.e. bagasse or biomass and a singular rate for 'bagasse/biomass based co-generation projects' was specified i.e. the same tariff was applicable irrespective of the fuel to be used. Thereafter, the Commission adopted the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations 2009 for the control period 16.9.2009 to 31.3.2012 in its Order dated 30.9.2010 with State specific modifications. The modifications were in respect of re-fixing the price of biomass fuel mix as Rs.2500 per MT for FY 2010-11 after a detailed exercise was carried out by the Commission for rationalising the price of biomass fuel mix as specified by CERC for the State. Secondly, the Commission also rationalised the Plant Load Factor (PLF) for non-fossil fuel based co-generation projects as 80% (instead of 53% fixed by CERC) with a view to optimize the generation from these power projects besides providing additional benefits for the developer, implying thereby that such units will work for a total of 292 days in a year out of which 155 days would be bagasse based generation and remaining 137 days on biomass fuel mix. The price of bagasse fixed by CERC as Rs.1443 per MT for FY 2010-11 was adopted, as the Commission in its exercise, found the same to be close to that fixed by CERC. The Commission worked out a singular/composite tariff for the non-fossil fuel based co-generation projects and calculated the variable cost and the levellised fixed cost based on the weighted average of prices of bagasse & biomass fuel mix and various parameters respectively. Thereafter, for FY 2011-12, the tariff for non-fossil fuel based co-generation projects was similarly fixed by the Commission after allowing normative escalation of 5% for the bagasse and biomass fuel mix prices and working out the weighted average fuel price.

28. Recently, the Commission, vide its Order dated 19.7.2012 has adopted Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations 2012 for the control period 2012-13 to 2016-17 with State specific modifications in respect of the number of operating days on bagasse and biomass fuel mix for non-fossil fuel based co-generation projects. The Commission, after analysing the data received from the Cane Commissioner, Punjab with respect to the number of operating days of the cooperative as well as private sugar mills in the State and considering the comments/suggestions/objections received in response to the public notice, rationalised the number of operating days for operation of non-fossil fuel based co-generation projects on bagasse to 100 days and the remaining period during the year on biomass fuel mix for operation of such plants at a PLF of 80%. A normative escalation of 5% has been allowed on the bagasse price of Rs.1515 per MT and biomass fuel mix price of Rs. 2625 per MT for FY 2011-12 i.e. Rs. 1591 per MT and Rs. 2756 per MT respectively and accordingly the weighted average price of the fuel comprising bagasse and biomass fuel mix worked out to Rs.2357 per MT for FY 2012-13 and adopted by the Commission for calculating the variable component of the composite/singular tariff for non-fossil fuel based co-generation projects irrespective of the fuel to be used by the developers. The Commission has allowed the same fuel cost for such projects in the generic tariff as well.

Interestingly, the criterion adopted by CERC for fixing the biomass fuel mix price is the median value of the three costs i.e. equivalent heat value approach for landed cost of coal for thermal stations at respective States, SERCs specified norms for FY 2011-12 escalated with 5% and MNRE recommended prices. In case of Punjab, the median value came out to be the SERC specified price for FY 2011-12 i.e. Rs.2625 per MT escalated at 5% working out to Rs.2756 per MT, which has been fixed by CERC in its Order dated 27.3.2012 as also adopted by the Commission.

29. The Commission notes that the petitioner has submitted that it is using only rice husk as the fuel. The Commission also notes that Regulation 53 (2) of RE Regulations, 2012 provides that for use of biomass other than bagasse in non-fossil fuel based co-generation projects, the biomass prices as specified under Regulation 44 shall be applicable. The Regulation 44 pertains to fuel cost for biomass based projects. Since the Commission has already specified a composite/singular tariff irrespective of fuel to be used for non-fossil fuel based co-generation projects in the State as brought out in the foregoing paras, the Commission does not find any applicability of Regulation 53 (2) for such projects to be set up in the State. Moreover, the Commission notes that PEDDA in its reply dated 3.9.2012 filed in compliance to the Order of the Commission dated 30.8.2012, submitted that the petitioner's project is using a multi-fuel boiler suitable for using rice husk, biogas and bagasse. In reply to the query of the Commission to confirm whether 20% biogas as per DPR is being used as a fuel or not, PEDDA submitted that as per information gathered after visiting the plant, it has been found that biogas digesters are installed and 10% biogas is being used alongwith 90% rice husk, which is generated from the distillery effluent and if not used in the plant itself, will go waste. The flow meters for biogas measurement were found not working during the site visit by PEDDA and the said information regarding percentage of biogas being used is as per the information given by the petitioner's representative.

The Commission notes with concern that in its submission dated 27.9.2011, the petitioner informed the Commission that the biogas generated in the distillery is hardly sufficient to meet the needs of the distillery unit and generation is totally dependent upon biomass fuel. However, on the asking of the Commission for a report in this regard by PEDDA, the petitioner in its submissions dated 3.9.2012 has admitted small usage of biogas not impacting the fuel cost much. On the contrary, the Commission opines that even 10% use of biogas is significant considering that the GCV of biogas is considerably (almost 70-80%) higher than that of rice husk. Summarizing, there is no merit in the claim of the petitioner that its generation is totally dependent upon rice husk.

PEDA further stated in the hearing of the Commission held on 4.9.2012 that in the DPR of the petitioner, fuel combinations comprising rice husk & bagasse and rice husk & biogas were provided and further stated that the boiler in the petitioner's plant, with design modifications, can use rice straw also which is available in the area. With regard to the contention of the petitioner that it is difficult to use rice straw as fuel due to inherent problems, the Commission observes that it has recently determined the Tariff for a renewable energy power plant setup in the State having a long term PPA with PSPCL operating mainly with rice straw as fuel.

The Commission opines that the developers need to design their generating plants including boilers after a detailed study of the cheaper fuels available in the area of the proposed projects so as to optimize the fuel mix and minimize their cost of generation. This is necessary to keep the cost of power purchase by PSPCL minimal in the interest of the consumers of the State. As per PEDA's submissions, a significant quantum of rice straw is available in the area where the petitioner's project has been setup. It should have been the endeavour of the petitioner for keeping this fact in view while designing its boiler. The petitioner should conduct necessary design modifications in its boiler to enable the use of rice straw as a fuel.

Further, with regard to the petitioner's apprehension that calorific value of different types of biomass fuel has not been considered for the purpose of fuel cost and in respect of its filing dated 3.9.2012 stating that the GCV of rice/paddy straw is 1200 kCal/kg, the Commission clarifies that in its Order dated 30.9.2010 it was stated that as per inputs from developers and stakeholders, the GCV of biomass fuel varies from 3000 kCal/kg to 3411 kCal/kg. This included the data for GCV of paddy/rice straw also and the same on the average was within this range. The Commission had further stated in the said Order that CERC while giving its findings in this respect relied on data provided by the Indian Institute of Science, Bangalore which took into account the GCV of the weighted average of different biomass fuel available in the State after determining the GCV of each type. Accordingly, the Commission had adopted the GCV of 3368kCal/kg for

biomass fuel as specified by CERC in the RE Regulations 2009. The Commission notes that in the CERC RE Regulations, 2012, also adopted by the Commission in its Order dated 19.7.2012 as brought out in para 18 above, the GCV of biomass fuel mix has been rationalised to 3300kCal/kg by CERC on the basis of the recommendations of MNRE, NPC and CEA. Accordingly, the apprehensions of the petitioner are unfounded.

30. Keeping in view the above, the Commission is not inclined to allow the variable cost worked out on the basis of single fuel of rice husk, incidentally, stated to be the costliest fuel by the petitioner. This would unduly burden the distribution utility and consequently the consumers of the State. The Commission notes that under the Electricity Act, 2003, it is settled law that the Commission has to balance the equities between the generator, the distribution licensee and the consumers and neither one of the parties should be made to unduly benefit or suffer because of the other. The tariffs allowed to the generators as per the RE Regulations 2012 are preferential tariffs and hence further burdening the consumers is not desirable at all. The Commission further notes that the petitioner set up its project in 2008-09, when the composite/singular tariff for co-generation projects was in place as per the NRSE Policy, 2006 and as adopted by the Commission with certain amending provisions in its Order dated 13.12.2007. The petitioner kept on supplying the power upto 2010-11 to PSPCL on the rates as specified in the NRSE Policy, 2006/ Order dated 13.12.2007, so much so that it opted to sign the long term PPA on 25.4.2011 for a period of 17 years on the same tariff, that too without any provision for future escalations. Also at the time of signing the PPA on 25.4.2011, the petitioner was well aware of the Order of the Commission dated 30.9.2010 which specified a composite/singular tariff for non-fossil fuel based co-generation projects irrespective of the fuel to be used. The Commission is not convinced with the petitioner's contentions in the petition that it had no option other than to sign the PPA on 25.4.2011 as per PSPCL's terms. The option of not signing the PPA at all or approaching the Commission before signing the same was always available

to the petitioner. Accordingly, the variable cost for FY 2012-13 for the petitioner's project would be the same as allowed to other projects to be set up in the State as per Commission's Order dated 19.7.2012 i.e. Rs.3.42 per kWh. The Commission cannot, ordinarily, allow higher fuel cost to any generator as it tantamounts to discrimination with other generators in the State who are also similarly placed.

Accordingly, the tariff payable for the petitioner's project is depicted in the following table:

Tariff for the year 2012-13				
Levellised Fixed Tariff	Variable Cost (FY 2012-13)	Applicable Tariff Rate	Benefit of Accelerated Depreciation, if availed	Net Applicable Tariff Rate upon adjusting for Accelerated Depreciation benefit
(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(Rs/kWh)	(3-4) (Rs/kWh)
1	2	3	4	5
1.60	3.42	5.02	(0.09)	4.93

31. The Commission is of the view that the aforementioned tariff is just and reasonable and will be payable to the petitioner prospectively with effect from the date of this Order. The Commission notes that in its Order dated 13.12.2007 it was held that '.....rates as prescribed in the Policy will be applicable for a period of 5 years (upto 2011-12) after which the last escalated tariff shall continue and the Commission will determine the manner in which further enhancement in tariff, if any, by way of encouragement to the sector is to be effected....'. The Commission further notes that clause 2.1.1 of the PPA, which is a valid and subsisting PPA as on date, also contains the same provision. Accordingly, the Commission decides that upto the date of this Order, the last escalated rate shall continue to be payable. The Commission has not allowed revision/re-determination of tariff with retrospective effect in any of the earlier similar petitions. The levellised fixed component will remain the same during the tariff

period. However, the variable component will change each year based on whether the petitioner opts for fuel price indexation or normative escalation factor of 5% as per RE Regulations 2012.

32. With regard to the prayer at Sr. No.(i) of the petition for fixing the minimum period for a long term agreement to be restricted to five (5) years and maximum period upto twenty (20) years, the Commission notes that the petitioner has signed the PPA dated 25.4.2011 wherein duration of PPA is twenty (20) years from date of commencement of generation by the plant (8.4.2008) i.e. upto 7.4.2028 with effect from 1.4.2011, which is extendable for another ten (10) years through mutual agreement. The petitioner in para 2 of its petition has brought out that as per para 5 (1) of the Commission's notification dated 16.12.2009, probably referring to Punjab State Electricity Regulatory Commission (Harnessing of Captive Power Generation) Regulations, 2009 notified on 16.12.2009, tariff for sale of power from CPP (captive power plant) to a licensee will be equivalent to tariff rate of large supply (general category) consumers applicable for a period upto 5 years. However, vide its submission dated 24.7.2012, the petitioner has clarified that reference to the aforesaid notification is by way of drawing an analogy and not otherwise and stated that the issue ceases to be relevant so far as the petitioner is concerned.

The Commission notes that the RE Regulations 2012 under Regulation 6 provide the tariff period for various types of renewable energy projects and as per this Regulation, the tariff period for non-fossil fuel based co-generation projects shall be for minimum period of thirteen (13) years. Accordingly, the Commission directs that the tariff period be settled by the parties in accordance with the RE Regulations 2012. The Commission further clarifies that the useful life of such plants is specified in the aforementioned Regulations as twenty (20) years from the date of commercial operation.

33. Further, in accordance with Regulation 22 of the RE Regulations, 2012, any incentive or subsidy offered by the Central or State Governments if availed

by the generating company for the renewable energy power plant(s), is to be deducted while determining tariff. Although per unit reduction on account of accelerated depreciation benefit has been quantified, reduction in tariff on account of other incentives and subsidies has not been specified. In the circumstances, the Commission directs that PSPCL will work out subsidy/incentive, if any, availed by the petitioner as per the scheme(s) of the Ministry of New and Renewable Energy/Govt. of Punjab etc. and reduce the tariff to that extent for a period of 12 years.

Sd/-  
**(Gurinderjit Singh)**  
**Member**

Sd/-  
**(Virinder Singh)**  
**Member**

Sd/-  
**(Romila Dubey)**  
**Chairperson**

**Chandigarh**  
**Dated: 19.09.2012**