



ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION

(Regulatory Commission for the States of Andhra Pradesh and Telangana)
4th & 5th Floors, Singareni Bhavan, Red Hills, Hyderabad 500 004

O.P.No.41 of 2014

Dated 01.09.2014

Present

Dr. V.Bhaskar, Chairman
Sri R.Ashoka Chari, Member
Sri P.Rajagopal Reddy, Member

Between:

Eastern Power Distribution Company of A.P. Ltd.

... Petitioner

AND

Sai Renewable Power Pvt. Ltd.

...Respondent

This petition is filed under Sections 62 and 86(1)(b) of the Electricity Act, 2003 (for short, the Act 2003) for determination of generation tariff (fixed charges) payable for the energy purchases from the respondent's Industrial Waste Based Power Project for the period from 08.04.2014 to 07.04.2024.

This petition has come up for hearing on 23.08.2014 in the presence of Sri P.Shiva Rao, Advocate for the petitioner; Ms. Malathi Naidu, Advocate for the respondent and the Commission having considered the submissions and material available on record and keeping in view that the parameters considered for determination of tariff are common for all the NCE Power Projects based on Industrial Waste, passed the following:

ORDER

CHAPTER-I: INTRODUCTION

1. For a fuller appreciation of the context of this order, it is necessary to study the historical policy environment for promotion of non conventional energy generators. In the year 1993, Government of India (GoI) formulated a policy framework for promotion of generating capacity from non-conventional energy

(NCE) sources with the objective of conserving fossil fuels and to reduce environmental pollution arising out of the emissions following the combustion of fossil fuels. The policy framework provided for certain incentives and facilities for promoting capacity addition through NCE sources including renewables. The incentives included subsidy (capital / interest) for setting up generating plants based on non-conventional (including renewable) sources. Among other parameters under the policy framework, the tariff payable for power from the NCE sources was predetermined in 1993-94 to take effect from 01-04-1994 with annual escalation. The Ministry of Non-conventional Energy Sources (MNES) and the Indian Renewable Energy Development Agency (IREDA) were requested to provide policy framework, concessions and financial assistance to the NCE projects.

2. Various State Governments were also requested to formulate their policy framework including the tariff payable for encouraging generation from NCE sources, keeping in view the tariff guidelines laid down by Gol. Keeping in view the guidelines of MNES, Gol, dated 13-09-1993, Government of Andhra Pradesh (GoAP) vide G.O.Ms.No.93 dated 18-11-1997 issued guidelines for promotion of NCE projects in Andhra Pradesh (as amended vide notification dated 12.12.1998), *inter alia*, specifying the power purchase price of Rs.2.25/kWh, to be escalated at 5%, with base year being 1997-98 and to be reviewed after 3 years. In pursuance of such guidelines, several biomass based power projects were set up at different places in the then State after obtaining necessary permissions from M/s. NEDCAP. The project developers have entered into Power Purchase Agreements (PPA) for sale of electricity generated by them to the then APTRANSCO / Distribution Licensees which are valid for twenty years from their respective dates of commercial date of operation.

3. Andhra Pradesh Electricity Reform Act, 1998 came into force on 01-02-1999. Pursuant to the said Act, Andhra Pradesh Electricity Regulatory Commission (APERC) was constituted on 03-04-1999. The uniform incentives extended to all projects based on non-conventional / renewable sources of energy were required to be reviewed after a period of 3 years from the date of issue of G.O.Ms.No.93 which was 18-11-1997. The continuance of the incentives in the manner prescribed in the said order or in a suitably modified form to achieve the objectives of

promotion of power generation through non-conventional sources was to be examined. Accordingly, as per the provisions of the Reform Act, this task was undertaken by the Commission. The Commission issued notices to all the stake holders including developers / Associations, NEDCAP, IREDA and the then APTRANSCO, and heard their views. Subsequently, it issued orders on 20-06-2001 in O.P.No.1075/2000, stating *inter alia*:

- a. The power generated by non-conventional energy developers is not permitted for sale to third parties.
- b. Developers of non-conventional energy shall supply power generated to APTRANSCO / DISCOMs of A.P. only.
- c. Price applicable for the purchase by the supply licensee should be Rs.2.25 per unit with 5% escalation per annum with 1994-95 as the base year.
- d. A *suo-motu* review of the incentives to take effect from 01.04.2004 will be undertaken by the Commission after discussion with all the concerned parties.
- e. There will also be a review of the purchase price with specific reference to each developer on completion of 10 years from the date of commissioning of the project (by which time the loans from financial institutions would have been repaid) when the purchase price will be reworked on the basis of return on equity, O&M expenses and the variable cost.

4. Pursuant to the above mentioned order dated 20.06.2001 passed by the Commission in O.P. 1075 of 2000, several other NCE generators entered into PPAs on different dates with the then APTRANSCO / DISCOMs. In the year 2003 Commission initiated *suo-motu* proceedings in terms of the aforesaid order dated 20.06.2001 and on 20.03.2004 passed an order determining the tariff for electricity generated by non-conventional energy sources to be effective from 01.04.2004 in R.P. No 84 of 2003 in O.P. No.1075 of 2000. The said tariff comprised of fixed costs for the 1st to 10th year of operation and variable costs varying for each of the financial years 2004-05 to 2008-09.

5. Aggrieved by the said order dated 20.03.2004, some of the Associations as well as individual NCE developers filed writ petitions before the Hon'ble High Court of Andhra Pradesh. However, consequent to constitution of the Hon'ble Appellate Tribunal for Electricity (ATE), the Hon'ble High Court of A.P., disposed of the said writ petitions with a direction to approach the ATE. In its judgment

dt.02.06.2006 in Appeal No.1 of 2005 & others, the ATE allowed the appeals with certain directions. On further appeals by the then APTRANSCO and the Commission, the Hon'ble Supreme Court set aside the judgement dt.02.06.2006 of the Hon'ble ATE and remanded the matter back to the Commission for determination of the tariff afresh in the light of the observations made therein. In the meanwhile, GoAP notified the Third Transfer Scheme, where under the rights and obligations of the then APTRANSCO in respect of PPAs of different NCE project developers stood transferred and vested by operation of law in the DISCOMs concerned with effect from 09.05.2005 in whose area of operation that particular project is located. Accordingly, the PPAs entered into by different project developers with erstwhile APTRANSCO stood transferred and vested with the DISCOM concerned.

6. During the pendency of appeal before Hon'ble Supreme Court against the order dt.02.06.2006 in Appeal No.1 of 2005 & others passed by ATE as mentioned supra, the Commission initiated *suo-motu* proceedings in O.P.No.5 of 2009 in respect of control period 2009-10 to 2013-14 and passed order dated 31.03.2009 determining the variable cost for that period taking the operational parameters contained in its order dated 20.03.2004 into consideration. Review petitions were filed before the Commission against the said order dated 31.03.2009 and the same were disposed on different dates by the Commission in the months of July and August 2013.

7. However, in respect of appeals pending before it against orders in Appeal No.1 of 2005 & others passed by ATE, the Hon'ble Supreme Court passed final orders dt.08.07.2010 and remanded the matter to the Commission to determine afresh the charges payable to NCE projects. In the said order the Hon'ble Supreme Court observed that the Commission should endeavour to encourage the NCE projects and determine tariff for their survival. In pursuance thereof, the Commission passed orders dt.12.09.2011, wherein the then Chairman and the other two then Members determined different charges payable to NCE developer. The said order of the Commission was again challenged in appeal before the ATE in Appeal No.150 of 2011 & batch. In its order dt.20.12.2012, the ATE while disposing the said batch of appeals formulated the parameters required to be adopted for

determining the fixed and variable cost for the control period 2004-2009 and directed the Commission to finalise the tariff accordingly. Consequently, the Commission issued necessary orders on 22.06.2013 determining the tariff comprising of fixed and variable cost for the control period 2004-2009. It also passed another order on 06.08.2013 adopting the same parameters in respect of tariff and revising the order dt.31.03.2009, determining variable cost tariff for the control period 2009-2014. Thereafter, the Commission in its order dt.16.05.2014, also determined variable cost for the control period 2014-19 in O.P.No.32 of 2014. As seen in Para 4 supra, it now remained for the Commission to determine the fixed costs for the 10th to 20th year of operation.

8. In the meanwhile, several NCE projects have completed 10 years of operation from their respective CODs. Therefore, the DISCOM concerned in respect of some NCE projects and NCE project developers in some other cases, have filed petitions before the Commission for determination of tariff (fixed cost) from 11th year of operation of such projects.

9. As there was necessity that some fixed cost must necessarily be paid to different project developers while they were continuing to generate and supply electricity to the DISCOM concerned, pending final determination of tariff u/s 62 of the Act 2003, the Commission issued interim orders on different dates. In exercise of powers vested in it u/s 94 (2) of the Act 2003, fixed interim tariff (Fixed Cost) to different NCE developers at Rs.1.05 per unit for 11 year, the Commission further stated that the fixed costs for subsequent years can be arrived at by reducing the previous year figure by an amount 6 paise per unit. In view of such orders, the Commission further directed the DISCOM concerned to make payments in accordance with above fixation of fixed costs in the interim period.

10. The Commission also notes that APERC (Terms & conditions for determination of tariff for supply of electricity by a generating company to a distribution licensee and purchase of electricity by distribution licensees), Regulation No.1 of 2008, states that determination of tariff for supply of electricity to a distribution licensee for non-conventional sources of generation shall be in accordance with such terms and conditions as stipulated in relevant separate orders of the Commission. In the orders issued by the Commission for

three different control periods as mentioned supra, the Commission has adopted common variables with regard to determination of variable costs. Similarly, the Regulation No.1 of 2008 also refers to certain common variables for determination of tariff under the said Regulation.

11. In its Common Order dt.19.07.2014 passed in O.P.No.11 of 2010 & batch, the Commission determined generic fixed cost for biomass based power projects which have completed 10 years of operation.

CHAPTER-II: SUBMISSIONS OF THE PETITIONER

The averments mentioned by the petitioner in its petition filed u/s 62 & 86(1)(b) of the Act 2003 mentioned supra, are as follows:

12. The respondent/Project Developer i.e., M/s.Sai Renewable Power (P) Ltd., Commissioned 4.5 MW Industrial based power project at K.Kota (V), W.G.Dist. M/s.Non Conventional Energy Development Corporation of Andhra Pradesh, (NEDCAP) sanctioned 3 MW palm oil industry waste power project to M/s.MPR Power Pvt. Ltd. Later NEDCAP accorded approval for name change of the company from M/s MPR Power Pvt. Ltd to M/s.Sai Renewable Power Pvt. Ltd., the respondent herein. NEDCAP also approved enhancement of the project capacity from 3 MW to 4.5 MW. The respondent entered into a Power Purchase Agreement (PPA) on 12.09.2001 for 3.0 MW plant capacity with M/s.Transmission Corporation of Andhra Pradesh Limited (APTRANSCO) and subsequently amended the same on 13.01.2004 with a proposal to generates 4.5 MW, out of which 0.45 MW is for auxiliary consumption and balance 4.05 MW is for export to the grid for sale to APTRANSCO. The said PPA is valid for 20 yrs from Commercial Operation Date (COD) of the project, i.e., from 08.04.2004.

13. The NEDCAP has sanctioned 3 MW palm oil industry waste power project vide their letter No.NEDCAP/IW&G/9422/2000-2001/4115, dt.03-01-2001 to M/s.MPR Power Pvt. Ltd. Later NEDCAP has accorded approval for name change of the company from M/s. MPR Power Pvt. Ltd to M/s. Sai Renewable Power Pvt. Ltd vide its letter No.NEDCAP/IW&G/9422/2000-01/1781, dt.13-08-2001. NEDCAP its Proceedings No.NEDCAP/IW&G/9422/2003-04/3471, dt.01-01-2004 has approved enhancement of project capacity from 3 MW to 4.5 MW.

14. In the month of June, 2001 the Commission passed orders fixing tariff payable to New & Renewable Energy (NRE) projects for the period upto 31.03.2004. In the said order, the Commission indicated that tariff (fixed cost) for each individual project will be reviewed after completion of 10 years operation by which time the loans from financial institutions would have been repaid. In its order dated 20.03.2004, the Commission determined the tariff (fixed and variable costs separately) payable to NRE projects from 01.04.2004 onwards and the Commission reiterated that there will be a review of tariff (fixed cost) for each individual project on completion of 10th year of operation.

15. The Government of Andhra Pradesh notified the third Transfer Scheme transferring the trading of electricity and PPAs from APTRANSCO to the A.P. Distribution Companies with effect from 09.06.2005. In terms of the said Transfer Scheme the PPAs entered into between APTRANSCO and NCE projects have been vested with concerned DISCOMs in whose area of operation the respective project is located Thus, the PPA entered between APTRANSCO and the respondent herein came to be vested with the petitioner from 09.06.2005.

16. The respondent completed 10 years of operation on 07.04.2014. The fixed cost payable to the respondent for the period from 08.04.2014 (11th year of operation) is to be fixed by the Commission. The petitioner formulated the fixed cost proposals and the parameters considered for calculations for such proposals are filed as annexure to the petition. Based on the detailed calculations made, the petitioner proposes fixed cost payable to the respondent during the period from 11th to 20th year of operation as shown in the following table.

Year of Operation	Fixed Charges (Rs/kWh)	Year of Operation	Fixed Charges (Rs/kWh)
11 th	0.87	16 th	0.97
12 th	0.89	17 th	0.99
13 th	0.91	18 th	1.02
14 th	0.93	19 th	1.04
15 th	0.95	20 th	1.07

17. Along with its petition, the petitioner annexed detailed calculation sheet for arriving at the fixed charges payable from 11th year onwards. The assumptions adopted by the petitioner for fixed cost determination from 11th Year to 20th Year of operation are as under.

• Capital Cost of the Project (Rs Crs/MW):	4
• Capacity of the Project (MW):	4.5
• Debt: Equity Ratio:	70:30
• Interest Rate on Term Loan (%):	12%
• Return on Equity (%):	16%
• Depreciation (%):	2%
• Auxiliary Consumption (%):	10%
• Threshold PLF for Fixed Cost Recovery (%):	80%
• O&M expenditure as percentage of Project Cost (%):	4%
• O&M escalation (%):	4%
• Interest on Working Capital (%):	12%.

(The quantum of Working Capital consists of (a). 1 month Fuel Cost (b). 1 month O&M Expenditure (c). 2 months Receivables and (d). Spares at 1% of Project Cost)

18. The petitioner has not mentioned anything about the incentive to be paid to the respondent for the generation of electricity beyond the threshold PLF. Lastly, the petitioner requested that the Commission may approve fixed charges payable as per the above mentioned proposal of the petitioner for the energy purchases from the respondent's power project for the period from 08.04.2014 to 07.04.2024.

CHAPTER-III: SUBMISSIONS OF RESPONDENT

19. On the date of hearing on 23-08-2014, the counsel for the respondent has submitted that from the beginning the Commission has been treating Industrial Waste based projects on similar lines with those of Biomass based projects. The respondent has not furnished any information in the prescribed formats in response to the notice issued by the Commission on 01.07.2014, but on behalf of the respondent, its counsel submitted that the Common Order dated 19.07.2014 passed by the Commission in the matter of determination of year wise fixed charges payable to Biomass based projects in the states of Andhra Pradesh & Telangana, for the period from 11th year of operation to 20th year of operation, may be adopted and tariff of the respondent from 11th Year of operation to the 20th year, may be directed to be paid by the petitioner as per the said order. Counsel for the petitioner has not raised any objection to the said request of the counsel for the respondent.

CHAPTER-IV: COMMISSION ANALYSIS

20. In its order passed in R.P.No.84 of 2003, in O.P.No.1075 of 2000, dt.20.03.2004, while determining tariff for industrial waste to energy projects, the Commission reiterated that these projects are identifiable more with Biomass based power projects and hence treated the Industrial Waste based power projects on par with Biomass based power projects. In pursuance thereof in the said order dt.20.03.2004, the Commission authorized purchase of energy by APTRANSCO from Industrial Waste based power projects at the rates permitted for sale of power from Biomass power projects.

21. After detailed and careful analysis of the financial and operational parameters relevant to the performance of Industrial Waste power projects; like (i) repayment of loans, (ii) actual generation as compared to the normative Plant Load Factor (PLF), (iii) overall financial health of such power project developers, etc., for the last ten years of such power projects, the Commission is of the opinion that the norms for performance of the Industrial Waste based power projects are similar to those of the Biomass based power projects. For the said reason, the Commission came to the conclusion that Industrial Waste based power projects are identifiable with those of Biomass based projects and interest of justice would be met, if tariff granted to Biomass based projects in its order dt.19.07.2014 would be made applicable to Industrial Waste based power projects also.

CHAPTER-V: CONCLUSION

22. In view of the above, the Commission determines the fixed cost payable for Industrial Waste based Power Projects for period of operation from 11th Year to 20th Year of their operation, shall be as follows.

Year of Operation	Fixed Charges (Rs/kWh)	Year of Operation	Fixed Charges (Rs/kWh)
11 th	1.25	16 th	1.56
12 th	1.31	17 th	1.64
13 th	1.37	18 th	1.71
14 th	1.43	19 th	1.80
15 th	1.49	20 th	1.89

23. The above mentioned tariff (fixed cost) per unit is exclusive of Income Tax. Further, the above mentioned tariff is applicable only upto 80% PLF. Further, Commission directs that the petitioner to pay an incentive of Rs.0.50 per unit generation of electricity above 80% PLF to all the Industrial Waste based NCE projects, including the respondent herein. The Commission also directs that Electricity Duty paid, if any, by Industrial Waste based NCE projects, including the respondent herein shall be reimbursed.

24. In view of the observation of the Commission as in Chapter-IV supra, the tariff determined by the Commission herein for Industrial Waste based projects shall be the generic tariff (fixed cost) for 11th to 20th year of their operation. Therefore, the Commission also directs that the above fixed costs will be payable by other DISCOM of the States of Andhra Pradesh & Telangana to all the Industrial Waste based NCE projects which have completed ten years of operation, irrespective of the fact, whether they have approached the Commission for determination of such tariff or otherwise.

This order is corrected and signed on this 1st day of September. 2014.

Sd/-
(P.RAJAGOPAL REDDY)
MEMBER

Sd/-
(R.ASHOKA CHARI)
MEMBER

Sd/-
(Dr. V.BHASKAR)
CHAIRMAN