

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 28/2009

**Coram: Dr. Pramod Deo, Chairperson
Shri R. Krishnamoorthy, Member
Shri S. Jayaraman, Member
Shri V.S. Verma, Member**

Date of Final Hearing: 14.10.2009

Date of Order: 30.12.2009

In the matter of

Petition under Section 79 (1)(b) and 61(h) of the Electricity Act, 2003 for approval of tariff for generation and sale of solar energy by ACME Tele Power Ltd. to the States of Delhi, Haryana and Rajasthan through a composite scheme.

And

In the matter of

ACME Tele Power Limited.

...Petitioner

Vs

1. North Delhi Power Ltd, Delhi
2. BSES-Rajdhani Power Ltd, New Delhi
3. BSES-Yamuna Power Ltd, New Delhi
4. Haryana Renewable Energy Development Agency, Chandigarh
5. Uttar Haryan Bijili Vitaran Nigam Ltd, Panchkula
6. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
7. Rajasthan Renewable Energy Corporation Ltd, Jaipur

...Respondents

The following were present

1. Shri. Ankur Kumar, ACME Tele Power Limited
2. Shri R.K.Narayan, ACME Tele Power Limited
3. Shri R.B.Mishra, ACME Tele Power Limited
4. Shri Bharat Sharma, NDPL
5. Shri Anurag Bansal, NDPL
6. Shri Farukh Aamir, Consultant, HPGCL
7. Shri Atul Pasrija, HPPC

ORDER

The Petitioner, ACME Tele Power Limited, has made this application under Section 79 (1)(b) of the Electricity Act, 2003 (hereinafter referred to as "the Act") for approval of the capital cost and determination of tariff for sale of electricity from its proposed 150 MW (3 x 50 MW) Solar Thermal Power Project (hereinafter referred to as "the RE project") located in the State of Rajasthan to the utilities in the States of Delhi, Haryana and Rajasthan through a composite scheme.

2. The Petitioner in its application filed under affidavit dated 30.1.2009 has submitted that it has proposed to set up two power projects of 50 MW each in Bikaner and Jaisalmer districts in the State of Rajasthan, based on "Concentrated Solar Power Technology (CSP)". The CSP technology is the most promising at present the world over and the project based on CSP technology has a useful life of 25 years from the date of commercial operation. The Petitioner has placed on record a letter from M/s E-Solar, a company based in the USA, as the technology partner in the project. The petitioner is stated to

have obtained 'in principle' consent from the State of Rajasthan and the Respondents Nos.1 to 4 for purchase of power from the said projects.

3. The Petitioner by affidavit dated 3.8.2009 amended the original petition revising the operational and financial parameters of the project after taking into consideration the draft regulations on renewable energy then circulated by the Commission and the revised capacity of the power project from 100 MW to 150 MW, on account of setting up of a project at Jodhpur (50 MW) in the State of Rajasthan. The revised operational and financial norms for the proposed project as submitted by the petitioner by affidavit dated 3.8.2009 are as under:

Plant Capacity	3 x 50 MW
Capital cost	Rs.14.05 crore/MW (including IDC)
Debt: Equity	70:30
Tenure of debt	12 years with quarterly payment for installation (incl. 24 months of moratorium)
Tenure of PPA	25 years
Construction period of project	18 months
Depreciation	6 % for first 12 years and 1.39% for the remaining 13 years with a salvage value of 10% of the project cost
Rate of interest on long term loan	13.25% (SBI PLR as on 1 st April + 100 basis points)
Rate of interest on working capital	12%
Working capital	(i) One month O&M charge (ii) One and half months receivables (iii) 15% of O&M cost as maintenance spares
PLF	24%
O&M	Rs 13 lakh/MW (incl. insurance at 0.25% of

Insurance	the project cost) 5.72% of inflation is considered on O&M expenses year to year.
Auxiliary Consumption	10% 3% additional fro drawing from grid for start up and operation
Tax	Tax holiday-10 years MAT @ 16.995% (Basic + surcharge+ cess as revised in the Union Budget 2009) Corporate tax @ 33.99%
Discount factor	14.38% (WACC)
Return on Equity	First 10 years- 17% Thereafter - 23%
CDM benefit	As per CERC guidelines
Grid power rate for start-up	Rs. 4 / kWh
First year tariff	Rs 16.03/kWh with tapering down in subsequent years
Levelised tariff	Rs 12.88 /kWh at Ex-bus

4. The Commission in exercise of its power under Section 61 read with Section 178 (2) (s) of the Act has notified the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2009 (hereinafter referred to as “the RE Regulations”) which came into effect from 16.9.2009. In terms of the RE Regulations, the petitioner has amended the original petition vide its affidavit dated 24.9.2009 as under:

“(i) That it is relevant to mention here that Regulation 7 (1) (d) and 7 (2) of the CERC (Terms and Conditions for Tariff Determination from

Renewable Energy Sources) Regulations, 2009, give the project developer the right to opt for project specific tariff provided, the financial norms, except for capital cost, as specified under Chapter-2 shall be the ceiling norms, while determining the project specific tariff. In view of the above, the capital cost for each 50 MW project is to be considered at Rs. 14.05 crores per MW (Including IDC) as prayed vide petition dated 3rd August, 2009.

- (ii) That in case of solar Thermal Power Project the plant would have to be shut down each night and start up each morning which requires power, for running of some auxiliaries, from some other source. As such, 3% of gross generation is considered for inclusion, as the power needed from the Grid for start and stop operation at a price of Rs. 5/kWh as operating expenditure.
- (iii) That complying with the (i) chapter-2 & chapter-8, dealing with the "Financial Principles" and "Technology specific parameters for Solar Thermal Power Project" respectively, of CERC (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2009 (ii) the Capital Cost of Rs. 14.05 crores per MW, as requested in para-3 (1); (iii) the start and stop operation power from GRID as requested in Para-3(ii), Petitioner humbly request the

Hon'able Commission to fix tariff @ Rs. 13.82 per kWh. The breakup of Rs. 14.05 crores per MW is filed herewith as Annexure 'A'.

- (iv) With reference to Para No. 19 of our original PETITION NO. 28 OF 2009, dated 28/01/2009, the Hon'ble Commission may kindly consider, keeping solar energy free from "Open Access Charges" of Central Transmission Utility (CTU) pertaining to Inter-State Transmission System (ISTS), during the initial stages."

5. The Commission during the hearing of the petition on 14.10.2009 directed the petitioner to submit certain additional information which was submitted by the petitioner by affidavit dated 16.10.2009. The Petitioner in the said affidavit has submitted further as under:

- "(i) That it is relevant to mention here that Regulation 7 (1) (d) and 7 (2) of the CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2009, give the project developer the right to opt for project specific tariff provided, the financial norms, except for capital cost, as specified under Chapter – 2 shall be the ceiling norms, while determining the project specific tariff. In view of the above, the capital cost for each 50 MW project is to be considered at Rs.14.05 crores per MW (Including IDC) (even

though the actual cost to the petitioner would be Rs.14.72 crores per MW) as prayed vide petition dated 3rd August, 2009 and 24th September, 2009. The break up of the same with justification is enclosed as Annexure 'A'.

- (ii) The petitioner, hereby, confirms to commence the operation of the 150 MW proposed Solar Thermal Power Project by the end of March, 2012.
- (iii) That complying with the (i) chapter-2, & chapter-8, dealing with the "Financial Principles" and "Technology specific parameters for "Solar Thermal Power Project" respectively, of CERC (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2009 (ii) the Capital Cost of Rs. 14.05 crores per MW, as requested in para-2(i); (iii) the direction made by Honorable Commission, the tariff, as calculated by the petitioner, comes to Rs. 14.09 per KWh and it is humbly requested to the Hon'ble Commission to consider the same and pass on appropriate order to that effect. The calculation of the tariff is enclosed, herewith, vide Annexure 'B'.
- (iv) With reference to Para No. 19 of our original Petition No. 28 of 2009, dated 28.1.2009, the Hon'ble Commission is most respectfully requested to exempt transmission of the solar energy from "Open

Access Charges" over Inter- State Transmission System (ISTS) within Northern Region at least during the initial stages."

6. The Petitioner in its affidavit dated 26.11.2009 has sought incorporation of the following declaration in its petition:

"(i) The Petitioner, hereby, concedes with the benchmark capital cost as approved by CERC vide Notification No. L-/186(201)/2009-CERC dated 16th September 2009 of Rs. 1300 Lakhs/MW.

(ii) The petitioner, hereby, also confirms 1st January, 2010 as the zero date for the aforementioned Solar Thermal Power Project subject to approval of the CERC for the project should pre-cede that day.

(iii) The petitioner also undertakes that the SPV for the respective 50 MW Solar Power Projects at Bikaner, Jaisalmer, and Jodhpur will be incorporated before or on the zero date.

(iv) The petitioner also declares that the first 50 MW will get commenced by 30th June, 2011, the second 50 MW will be commenced by 31st December, 2011 and the third 50 MW will be commenced by 31st March, 2012 i.e. the whole 150 MW will get commenced under the current Controlled period specified by CERC."

7. Rajasthan Renewable Energy Corporation Ltd in its letter dated 13.10.2009 has submitted that M/s ACME Telepower Ltd has registered 2x50 MW Solar Thermal Power Project with RREC in the district of Jaisalmer and Bikaner. The State will support open access for solar power projects as per the Clarification dated 10.10.2008 and 24.2.2009 of the State Government. Haryana Renewable Energy Development Agency (HAREDA) in its reply dated 5.11.2009 has submitted that it has not issued any in principle consent for purchase of power from the proposed 150 MW solar thermal power project of the petitioner. In its earlier reply dated 27.3.2009, HAREDA has stated that it had advised the Petitioner to contact Haryana Power Purchase Centre (HPPC) regarding specific issues of power purchase. There is nothing on record about the in-principle consent from HPCC. However, HPCC has filed a reply dated 13.11.2009 in which it has been stated that service tax calculated @ 12.36% in the petition has since been reduced to 10% which may be considered by the Commission while deciding the tariff. No reply from the distribution licensees of Delhi is on record. The Petitioner had originally included 'Chief Executive Officer, Punjab Energy Development Agency' (PEDA) as one of the respondents. The Petitioner vide its letter dated 24.10. 2009 has requested for amending the list of beneficiaries to exclude PEDA and has submitted the amended list of beneficiaries as under:

Ser No.	Name of beneficiary	Capacity
1	Delhi	100 MW
2	Haryana	20 MW
3	Rajasthan	30 MW

The request of the petitioner is accepted and accordingly, the memo of parties has been revised.

8. The petitioner has approached the Commission for approval of tariff of its 3x50 MW RE projects in the districts of Jaisalmer, Bikaner and Jodhpur in the State of Rajasthan. The Petitioner is stated to have obtained in principle consent from the distribution licensees or Power Purchase Centre of the State of Rajasthan, Delhi and Haryana in support of its claim that the project satisfies the inter-State character as envisaged under Section 79(1)(b) of the Act. We however observe that there is absence of clear-cut commitment from the beneficiaries. In order to ensure its inter-State character for being considered for tariff determination by this Commission, the Petitioner should ensure that it has entered into agreement or has a scheme for sale of electricity to more than one State.

9. The Petitioner has submitted that it concedes to the benchmark capital cost of Rs.1300 lakh/MW as per the RE Regulations. The Petitioner has given an undertaking to incorporate the SPV before the zero date i.e. 1.1.2010. The

Petitioner has stated that the three units of the generating stations are expected to be commissioned by 30.6.2011, 31.12.2011 and 31.3.2012 respectively and the entire generating station under the current control period.

Scheme of the RE Regulations

10. Regulation 5 of the Renewable Energy Regulations, 2009 provides that the control period shall be of three years of which the first year is to be considered from the date of notification of these regulations to 31.3.2010. Proviso to the said regulation stipulates as under:

“Provided that the benchmark capital cost for Solar PV and Solar thermal projects may be reviewed annually by the Commission.

Provided further that the tariff determined as per these Regulations for the RE projects commissioned during the control period, shall continue to be applicable for the entire duration of the Tariff Period as specified in Regulation 6 below.

Provided also that the revision in Regulations for next control period shall be undertaken at least six months prior to the end of the first control period and in case Regulations for the next Control Period are not notified until commencement of next Control Period, the tariff norms as per these Regulations shall continue to remain applicable until notification of the revised Regulations subject to adjustments as per revised Regulations.”

11. Regulation 8 of the RE Regulations provides for the following procedure for determination of tariff of the RE projects:

“8. Petition and proceedings for determination of tariff: (1) The Commission shall determine the generic tariff on the basis of suo-motu petition at least six months in advance at the beginning of each year of

the Control period for renewable energy technologies for which norms have been specified under the Regulations.

(2) A petition for determination of project specific tariff shall be accompanied by such fee as may be determined by regulations and shall be accompanied by:

a) Information in forms 1.1, 1.2, 2.1 and 2.2 as the case may be , and as appended in these regulations;

b) Detailed project report outlining technical and operational details, site specific aspects, premise for capital cost and financing plan, etc.

c) A statement of all applicable terms and conditions and expected expenditure for the period for which tariff is to be determined.

d) A statement containing full details of calculation of any subsidy and incentive received, due or assumed to be due from the Central Government and/or State Government. This statement shall also include the proposed tariff calculated without consideration of the subsidy and incentive.

e) Any other information that the Commission requires the petitioner to submit.

(4) The proceedings for determination of tariffs shall be in accordance with the Conduct of Business Regulations."

12. Regulation 7 of RE Regulations provides that project specific tariff shall be determined by the Commission on case to case basis, in respect of certain technologies including Solar PV and Solar Thermal Power projects. If the project developer opts for project specific tariff for Solar PV and Solar Thermal Power projects, the Commission while determining the project specific tariff shall be guided by provisions of Chapter 8 of the RE Regulations. Chapter 8 of the RE

Regulations deals with the technology specific parameters for Solar Thermal Power Project as under:

- (a) Technology: Concentrated Solar Power technologies as approved by the MNRE (Reg.60).
- (b) Normative capital Cost: Rs.1300 lakh/MW for FY 2009-10 (Reg.61).
- (c) Capacity Utilisation Factor: 23% (Reg.62).
- (d) Operation and Maintenance Expenses: Rs.13 lakh/MW for first year of operation to be escalated @ 5.72% per annum (Reg.63).
- (e) Auxiliary Consumption Factor: 10% (Reg.64).

13 It is evident from Regulations 5, 7, 8, and 60 to 64 of the RE Regulations as stated above that the tariff of Solar Thermal Power Project can be determined in two ways- (i) generic tariff determined by the Commission through Suo Motu petition at least six months in advance at the beginning of each year of the control period; and (ii) determination of tariff by the Commission in project specific cases in accordance with the provisions of regulations 7, 8 and Chapter 8 of the RE Regulations.

14. In the case of generic tariff, the project developer is not required to approach the Commission and it can adopt the generic tariff if the project is going into commercial operation during the concerned financial year of the control period. In the project specific tariff, the project developer is required to

approach the Commission with project specific data if the project is going into commercial operation during the year for which normative capital cost has been specified in the RE Regulations. The Commission in its order dated 3.12.2009 in Petition No.284/2009 (Suo motu) has explained the concepts of generic and project specific tariff as under:

“4. The Renewable Energy (RE) Regulations require the Commission to determine the generic tariff on the basis of the *suo motu* petition, for the RE technologies for which norms have been provided in the regulations. Generic Tariff is different from the project specific tariff for which a project developer has to file petition before the Commission as per the format provided in the RE regulations. Pertinently, project specific tariff has been envisaged for the new RE technologies and the technologies which are still at the nascent stage of development, and the Commission shall determine the project specific tariff for such technologies on a case to case basis.”

15. The Commission vide its order dated 3.12.2009 in Petition No. 284 /2009 (suo-motu) has issued the generic tariff for the RE power projects commissioned during financial year 2009-10 and fulfilling the conditions of the RE regulations. The RE project developer is at liberty to adopt the generic tariff applicable to the generating station only if the generating station is likely to achieve commercial operation during the financial year or may approach the Commission for project specific tariff with the required information specified in Regulation 8(2) of RE Regulations if the project is going to be commissioned during the same year of the control period.

16. According to the Petitioner, the three units of the RE project are expected to be commissioned on 30.6.2011, 31.12.2011 and 31.3.2012 which fall in the third year of the current control period i.e. 2011-2012. Therefore the Petitioner has the option to adopting the generic tariff to be determined by the Commission for the third year of the control period for sale of power from the project to the beneficiaries. As regards the project specific tariff, Regulation 61 of the RE Regulations provides for normative capital cost of Rs.1300 lakh/MW for the Financial Year 2009-10. First proviso to Regulation 5 provides that the benchmark capital cost for the Solar PV and Solar thermal projects may be reviewed annually by the Commission. Accordingly, the bench mark capital cost of Solar PV and Solar thermal projects to be commissioned during 2011-2012 will be reviewed by the Commission in October 2010. The Petitioner is also at liberty to approach the Commission for project specific tariff close to the date of commercial operation of the units/the solar project, preferably within six months before the date of commercial operation of the RE project.

17. The Petitioner has made a prayer for exemption of open access for sale of power from its RE project. The Commission is yet to take a view in the matter. Moreover, the Commission will consider the prayer of the Petitioner as per the provisions of the Open Access Regulations at the appropriate point of time.

18. The petition is disposed of in terms of para 16 above.

-sd/-
(V.S.VERMA)
MEMBER

-sd/-
(S. JAYARAMAN)
MEMBER

-sd/-
(R.KRISHNAMOORTHY)
MEMBER

-sd/-
(DR.PRAMOD DEO)
CHAIRPERSON