

Delhi Electricity Regulatory Commission

Viniyamak Bhawan, 'C' Block, Shivalik, Malviya Nagar, New Delhi – 110017

No. F.11 (567)/DERC/2010-11/

Petition No. 13/2010

In Re: Approval of (i) the tariff for generation of electricity from 54kWp Solar PV project at NDPL Poothkhurd Grid, Bawana, and (ii) Terms and Conditions agreed between NDPL-G and NDPL – D for sale/Purchase of entire Solar Energy generated from this project.

Tata Power Distribution Company Ltd.
Formerly known as NDPL
Through its: Sr. General Manager
33kV Sub Station Building
Hudson lane
Delhi 110 009

Coram:

**Sh. P.D. Sudhakar, Chairman, &
Sh. J.P. Singh, Member**

ORDER

(Date of Order: 10.11.2014)

1. The instant petition has been filed by the Petitioner M/s Tata Power Delhi Distribution Ltd. (TPDDL) before the Commission for :
 - (i) adoption of generic tariff for generation of electricity from tail end grid interactive for 54 kWp Solar PV Project at NDPL Poothkhurd Grid, Bawana, and
 - (ii) approval of the terms and conditions agreed between NDPL- G and NDPL – D for sale/Purchase of entire Solar Energy generated from this project.
2. In respect of **adoption of generic tariff**, as information about the actual capital cost and actual subsidy received was not furnished by the Petitioner, the Commission vide its order dated 14.11.2013, determined the provisional levelised tariff for the project at Rs. 4.36 per unit for 25 years from the date of commissioning, by allowing the capital cost of Rs. 59.40 lakh for the project on the basis of normative capital cost of Rs. 11 crore per MW.
3. In order to finalise the tariff, the Petitioner was directed to furnish the requisite information along with the audited accounts of the company indicating Solar Capital assets separately from distribution capital assets and breakup of capital assets deployed in the different business divisions of the company.

4. The Petitioner has since submitted the audited financial statement as on 31st March, 2012, for total capital assets of TPDDL indicating solar capital assets separately and has also furnished a letter dated 03.01.2011 of Ministry of New and Renewable Energy (MNRE) regarding final disbursement of subsidy, which contains information about the actual subsidy received, utilization certificate of the auditor, Project Completion Report, Consolidated Statement of Expenditure and Audited Financial Statement.
5. The Commission, after taking into consideration the actual capital cost of Rs. 76.35 lakh and actual subsidy of Rs. 38.55 lakh for the project, as per the aforesaid letter of the Ministry of New and Renewable Energy and on the basis of other assumptions and norms considered in order dated 14.11.2013, has finalized the levelized tariff for 54 kWp Solar PV Project at NDPL Poothkhurd Grid, Bawana at Rs 7.04/- per unit for 25 years from the date of commissioning. The Capacity Utilization Factor (CUF) shall be reviewed after 5 years based on the performance vis-à-vis the guaranteed output along with contractual remedies enforced by the Petitioner. The detailed calculation sheet is attached as Annexure –I.
6. On the issue of **approval of the terms and conditions** agreed between NDPL- G and NDPL – D for sale/Purchase of entire Solar Energy generated from this project, the Commission considered the arrangement and associated Terms and Conditions as submitted by the Petitioner. The Commission observed that certain clauses of the agreed terms and conditions, as referred to in para 7 of this order, may require amendments as they are not in consonance with the corresponding provisions of other similar commercial arrangements and more clarity is required.
7. The Commission hereby directs the Petitioner to amend the existing provisions of the following Clauses of the arrangement and associated Terms and Conditions by substitution of text of the clauses so as the amended clauses shall be read as under:
 - i. **4.1 Operation**

The Solar plant has been commissioned as per the guidelines prevailing at the date of Commercial Operation. It is agreed between the parties that TPDDL-G shall operate the station and comply with the procedures of

Interconnectivity with the grid, as per Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Grid-connected Solar Photo Voltaic Project) Regulations, 2013 and Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 as amended from time to time. TPDDL- G shall operate the station as per manufacturer's guidelines and as per relevant statutory provisions/grid code applicable to Solar Photo Voltaic Project.

ii. **4.3 Metering**

For installation of Meters, meter testing, Meter calibration and Meter reading and all matters incidental thereto, NDPL-G and NDPL-D shall comply with the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Grid- connected Solar Photo Voltaic Project) Regulations, 2013, Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013, as amended from time to time and orders from other competent authorities.

iii. **4.4 Energy Accounting**

Energy Accounting and billing shall be carried out in accordance with the Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Grid-connected Solar Photo Voltaic Project) Regulations, 2013 as amended from time to time.

iv. **5.1 Terms and Conditions**

The Tariff for the electricity supplied from the Project to NDPL-D shall be as determined by the Delhi Electricity Regulatory Commission from time to time and would have application from the date of commissioning of plant i.e. 11th January 2011.

v. **5.2 Taxes, Levies, Duties, Royalty, Cess etc.**

All applicable Taxes and Duties shall be dealt as per Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Grid-connected Solar Photo Voltaic Project) Regulations, 2013.

vi. **6.0 Renewable Energy Certificate**

NDPL-D shall be entitled for the benefit of environmental component for fulfillment of Renewable Purchase Obligation (RPO) in terms of Delhi Electricity Regulatory Commission (Renewable Purchase Obligation and Renewable Energy Certificate Framework Implementation) Regulations, 2012 for a maximum period of 25 years from the date of the Commissioning of the plant.

vii. **7.0 Transfer Pricing**

Transfer pricing of electricity supplied by NDPL-G to NDPL-D shall be done as per Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff for Grid-connected Solar Photo Voltaic Project) Regulations, 2013.

8. The Commission directs the Petitioner to incorporate all the aforesaid amendments as per the directions contained in para 7 of this Order and submit a duly signed copy of the amended arrangement and associated Terms and Conditions for procurement of power by NDPL-D from NDPL- G to the Commission within one month from the date of this Order.
9. Subject to the condition of compliance of aforesaid directions by the petitioner, the Commission, in exercise of the powers conferred under Section 86(1) (b) of the Electricity Act, 2003, hereby grants approval to the Terms and Conditions agreed between NDPL-G and NDPL- D for procurement of entire solar power from the project set up at NDPL Poothkhurd Grid, Bawana, Delhi.
10. Ordered accordingly and the petition stands disposed of.

Sd/-
(J. P. Singh)
MEMBER

Sd/-
(P. D. Sudhakar)
CHAIRPERSON

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Assumptions				Cost		subsidy																				
Rating of the Plant			0.05	MW																						
Project Cost			0.3780	Rs. Crores	0.7635	0.3855																				
Debt			0.70	0.2646																						
Equity			0.30	0.1134																						
Rate of Interest on loan			9.28%	Actual rate of Interest of TPDDL																						
Return on Equity			19.00%	24.00%																						
Tax Rate			10.00	Years																						
Loan Repayment Period			7.00%	1.33%																						
Depreciation			0.0900	INR Crores/MW																						
O&M Cost			8.53%	Actual rate of Interest of TPDDL																						
Interest on Working Capital			13.10%	WACC																						
Rate of Return considered for Levelised Tariff			0.0572	1.06																						
Escalation (O & M)			19.00%																							
PLF																										
S No.	Years	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	Interest on Loan Capital	0.0233	0.0209	0.0184	0.0160	0.0135	0.0110	0.0086	0.0061	0.0037	0.0012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	Depreciation	0.0265	0.0265	0.0265	0.0265	0.0265	0.0265	0.0265	0.0265	0.0265	0.0265	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050
3	Cumulative Depreciation	0.0265	0.0529	0.0794	0.1058	0.1323	0.1588	0.1852	0.2117	0.2381	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646
4	Cumulative Repayment	0.0265	0.0529	0.0794	0.1058	0.1323	0.1588	0.1852	0.2117	0.2381	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646	0.2646
5	Loan o/s at the end	0.2381	0.2117	0.1852	0.1588	0.1323	0.1058	0.0794	0.0529	0.0265	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	Return on Equity	0.0215	0.0215	0.0215	0.0215	0.0215	0.0215	0.0215	0.0215	0.0215	0.0215	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272
7	O&M Expenses	0.0049	0.0051	0.0054	0.0057	0.0061	0.0064	0.0068	0.0072	0.0076	0.0080	0.0085	0.0090	0.0095	0.0100	0.0106	0.0112	0.0118	0.0125	0.0132	0.0140	0.0148	0.0156	0.0165	0.0175	0.0185
8	Interest on Working Capital	0.0012	0.0012	0.0011	0.0011	0.0011	0.0011	0.0011	0.0010	0.0010	0.0010	0.0008	0.0008	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0009	0.0009	0.0010	0.0010	0.0010	0.0011	0.0011
9	Annual Fixed Cost	0.0774	0.0752	0.0730	0.0708	0.0687	0.0665	0.0644	0.0623	0.0603	0.0582	0.0415	0.0420	0.0425	0.0431	0.0437	0.0443	0.0450	0.0457	0.0464	0.0472	0.0480	0.0489	0.0498	0.0508	0.0518
10	Units Generated in the year (MUs)	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899	0.0899
11	Unit Cost (Rs / Unit)	8.6106	8.3655	8.1222	7.8808	7.6414	7.4043	7.1694	6.9369	6.7070	6.4798	6.1664	4.6722	4.7312	4.7936	4.8595	4.9292	5.0030	5.0808	5.1633	5.2504	5.3424	5.4398	5.5427	5.6515	5.7665
12	Discounting Factor	1.0000	0.8642	0.7818	0.6913	0.6112	0.5405	0.4779	0.4228	0.3736	0.3304	0.2921	0.2583	0.2284	0.2019	0.1785	0.1579	0.1396	0.1234	0.1091	0.0965	0.0853	0.0754	0.0667	0.0590	0.0522
13	Discounted Tariff	8.6106	7.3968	6.3500	5.4479	4.6707	4.0017	3.4261	2.9311	2.5058	2.1406	1.8484	1.2067	1.0804	0.9579	0.8676	0.7782	0.6983	0.6271	0.5635	0.5068	0.4558	0.4104	0.3697	0.3333	0.3007
14	Levelized Tariff/Unit																									