



**ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION**

**Hyderabad**

**Dated: 06-07-2010**

Present:

Sri A.Raghotham Rao, Chairman  
Sri R.Radhakishen, Member  
Sri C.R.Sekhar Reddy, Member

**O. P. No. 10 of 2010**

1. AP Discoms (viz. Central Power Distribution Company of Andhra Pradesh Ltd., Southern Power Distribution Company of Andhra Pradesh Ltd., Northern Power Distribution Company of Andhra Pradesh Ltd., Eastern Power Distribution Company of Andhra Pradesh Ltd.,) have filed a petition under Section 86(1) (e) and Section 62, Section 86(1) (a) of Electricity Act 2003 read with Regulation 8 of APERC (Conduct of Business) Regulations, 1999. The prayers made in the petition are :
  - a. To pass orders reserving 0.25% for purchase of energy from Solar Power (Solar RPP0) within the 5% RPP0 fixed for the AP DISCOMs.
  - b. To pass orders to the effect that APDISCOMs are entitled to use the Solar energy purchased as part of the bundled power from NVVN as well as the Solar energy purchased from Rooftop & Small Solar Power Plants at the tariff as may be determined by the Hon'ble Commission under GBI scheme, for meeting their Solar Power Purchase Obligations (Solar RPP0).
  - c. To pass orders fixing tariff for Rooftop & Small Solar Power Projects of 1 MW to 3 MW to be connected at Distribution Substation at HT level

(below 33 KV level and registered in FY 2010-11 and gets commissioned in FY 2011-12) under JNNSM with GBI scheme at Rs.5.50 per unit freezed for 25 years period. The base rate for projects commissioned during subsequent year shall be at escalation of 3% per annum. The cost of power evacuation up to and required at AP DSICOMs existing Substation and necessary metering at Substation shall be borne by the Developers.

2. The averments made by AP Discoms in the above said petition are as under:

(a) The Andhra Pradesh Electricity Regulatory Commission in exercise of the powers conferred under Section 86(1)(e) of the Electricity Act 2003 passed orders dated 31.03.2009 in O.P. No. 16 of 2009 as mentioned below:

- (i) Every Distribution Licensee shall be required to purchase Electricity, not less than 5 % of his consumption of energy, from Renewable Energy (RE) sources as RPPO (Renewable Power Purchase Obligation) during each of the years 2009-10 to 2013-14 (each year commencing on 1<sup>st</sup> April of the Calendar Year and ending on 31<sup>st</sup> March of the subsequent Calendar Year) at the rates applicable for purchase of electricity from such RE sources as per the orders of the Commission in force from time to time.
- (ii) The sources of energy for the purpose of complying with the afore said RPPO shall be:
  - (a) Cogeneration (from renewable sources of energy like bagasse)
  - (b) Mini-Hydel
  - (c) Municipal Waste
  - (d) Industrial Waste
  - (e) Biomass
  - (f) Wind
  - (g) Solar

As per the above orders, the DISCOMs are obligated to purchase Solar energy along with other RE sources under RPPO at a tariff determined by the Commission.

(b) Prior to the Commission's RPPO Orders, the Ministry of New & Renewable Energy (MNRE), Government of India with a view to encourage the Solar power generation announced the guidelines for Generation Based

Incentive program for Grid Interactive Solar Photo Voltaic (PV) Power generation projects and Grid Interactive Solar Thermal Power generation projects during January 2008. The Commission passed orders determining tariff payable by AP Discoms to Solar Power Projects to be established under GBI scheme. The AP DISCOMs have entered into PPAs with certain Solar Power Project Developers subject to selection of Projects under GBI scheme.

(c) Meanwhile, to give impetus to Solar Energy, the Government of India announced Jawaharlal Nehru National Solar Mission (JNNSM) in November 2009 to create an enabling policy framework for the deployment of about 20,000 MW of Solar Power by the Year 2022. The JNNSM targeted 1000 MW Solar Power addition during Phase-1 i.e., by the Year 2012-13. The other major initiatives specified by the JNNSM with regard to grid connected Solar Power Projects are:

- (i) The State Electricity Regulators shall fix a percentage for purchase of solar power. The solar power purchase obligation for States may start with 0.25% in the Phase-1 and to go up to 3% by the Year 2022.
- (ii) The NTPC Vidyut Vyapar Nigam Limited (NVVN) will be designated as nodal agency by the Ministry of Power (MoP) for entering into a Power Purchase Agreement (PPA) with Solar Power Developers to purchase solar power fed to 33 KV and above grid, in accordance with the tariff and PPA duration as fixed by the Central Electricity Regulatory Commission (CERC). The Ministry of Power shall allocate to NVVN, equivalent megawatt capacity, from the Central unallocated quota, from NTPC power stations, at the rate notified by the CERC for bundling together with solar power. NVVN will undertake the sale of the bundled power to State utilities at the rates

determined as per CERC regulations. When NVVN supplies bundled power to State utilities at the rates determined as per CERC regulations, those State utilities will be entitled to use the solar part of the bundled power for meeting their Renewable Purchase Obligations (RPO) under the Electricity Act, 2003. The CERC may issue appropriate guidelines in this regard. At the end of the first phase, well-performing utilities with proven financial credentials and demonstrated willingness to absorb solar power shall be included in the Scheme, in case it is decided to extend it to Phase II.

(iii) The Mission will encourage Rooftop solar PV and other small solar power plants, connected to LT/11 KV grid. It is envisaged that distribution utility will pay the tariff determined by the State Electricity Regulatory Commission for the metered electricity generated from such applications. Under the Solar Mission, a normative Generation Based Incentive will be payable to the utility and would be derived as the difference between the solar tariff determined by the CERC for the concerned solar generation technology less an assumed base price of Rs.5.50/kWh with 3% annual escalation. Funds will be disbursed through Indian Renewable Energy Development Agency (IREDA), a PSU under MNRE. The distribution utilities will be entitled to account such electricity generated and consumed within their license areas for fulfilment of RPOs.

(d) Subsequently, to give a quick start-up to JNNSM, the MNRE issued guidelines for migration of Solar Power Projects having PPAs with AP DISCOMs on or before 19.11.2009 to JNNSM. These projects have to get inter-connected with the grid at State Transmission Utility (APTRANSCO's) Substation at 33 KV or above voltage level. The Government of AP (GoAP) has issued its consent for migration of Solar Power projects to JNNSM. Further, the GoAP directed the AP DISCOMs to follow 0.25% as minimum Solar Power Purchase Obligation under RPPO and approach the Commission

to that effect and also get the entitlement to use the Solar power in the bundled power to meet the above 0.25% obligation of Solar energy.

(e) Accordingly, the Central Power Distribution Company of Andhra Pradesh Limited (APCPDCL) vide letter dated 30.03.2010 have sought the Commission to issue necessary orders / directions for purchase of 0.25% Solar power exclusively under RPPO obligation. In the light of the GoAP directions, the AP DISCOMs have also given their concurrence to Solar Power Projects having Power Purchase Agreements (PPAs) prior to 19.11.2009 for migration to JNNSM and purchase of entire solar power from these projects.

(f) The MNRE, Government of India issued draft guidelines for selection of new Solar Power projects (Solar PV & Solar Thermal) with a capacity of 5 MW and above, which will feed Solar energy to grid at 33 KV and above voltage level. The draft guidelines stipulate that the transmission arrangement from the plant to the substation shall be the responsibility of the developer. In the light of the JNNSM provisions and GoAP direction to follow 0.25% Solar Power Purchase Obligation, the AP DISCOMs have to purchase Solar energy for this category of projects as part of bundled power from NVVN.

(g) Further, the MNRE, Government of India issued draft guidelines for selection of Rooftop & Small Solar Power projects (Solar PV & Solar Thermal) within a capacity of 1 MW to 3 MW. The draft guidelines indicated that Project schemes from States wherein Tariff tenure for duration of 25 years with Tariff structure on levellised basis has been determined by SERCs shall alone be considered to be eligible to participate in this Programme. The draft guidelines stipulated that Generation Based Incentive (GBI) will be payable to the distribution utility for power purchased from Solar power project selected under these guidelines. The GBI shall be equal to the difference between the tariff determined by the CERC and the Base Rate.

Also, the guidelines stipulated that the plant should be designed for interconnection with the grid at HT level (below 33 kV) at distribution network and the interconnections should be at the nearest distribution substation.

3. The petition filed by AP Discoms is taken on record by the Commission and the Commission had decided to have a Public Hearing at 11.30 a.m on 26-05-2010 and for this purpose AP Discoms have been directed vide letter dated 07-05-2010 to call for suggestions and objections from the general public by way of a paper advertisement. Vide the above said letter AP Discoms have been requested to furnish their replies for each objection by 24-05-2010.

4. In due compliance with the above directions of the Commission, AP Discoms have published the Public Notice in two numbers Telugu and two numbers English daily news papers. However, no objections/suggestions were received.

5. On 26-05-2010, Public Hearing was held in the Court Hall of APERC. Representatives of AP Discoms, NEDCAP, NTPC and Solar Power Project developers were present. Representatives of AP Discoms and NEDCAP made presentations to the Commission. While representatives of AP Discoms reiterated their stand in the petition, NEDCAP also supported the stand of AP Discoms.

6. Commission having regard to the petition filed by AP Discoms and upon hearing all the parties and having perused the guidelines notified on 16<sup>th</sup> June 2010 for Roof Top and other small Solar Power Plants connected to distribution network (below 33 kV) and having carefully considered the issues involved, orders as follows:

- (a) In partial modification of the Commission Orders issued in the RPPO Order dated 31-03-2009, a quantum of 0.25% out of the 5% quantum of RPPO specified therein, shall be purchased as Solar RPPO, by the distribution licensee, from Solar Power generation covered by the following two schemes of Govt. of India, at respective net costs indicated hereunder:
- (i) Bundled power from NTPC Vidyut Vyapar Nigam (NVVN) at net cost applicable under the Bundled Solar Power scheme of NVVN.
  - (ii) Solar Power under the scheme of Roof Top and other small Solar Power plants connected to distribution network, at effective net cost (base rate) of Rs.5.50 per kWh (or the modified base rate with escalation factor of 3% per annum stipulated under the scheme)
- (b) The Tariff for Bundled power from NTPC Vidyut Vyapar Nigam (NVVN) shall be at the CERC regulated price.
- (c) The levelised tariff, for Roof Top and Small Solar Power Projects connected to Distribution network, shall be the CERC determined tariff (i.e. the tariff that is used for computing GBI) and shall remain constant for 25 years. The levelised tariff shall be the rates applicable for Solar PV / Solar Thermal as the case may be, as per CERC guidelines, making due allowance to the aspect of accelerated depreciation benefit. The levelised tariff shall be applicable keeping in view the base rate of Rs.5.50 / kWh (or the modified base rate with escalation factor of 3% per annum) as stipulated in the scheme of Roof Top and other small Solar Power plants.
- (d) The RPPO obligation laid down in sub-para (a) above in the context of sub-para (a) (ii) above and tariff fixed in sub-para (c) above shall be applicable only for selected solar projects that finally become

eligible for Generation Based Incentive in terms of guidelines dated 16-06-2010 on Roof Top PV and Small Solar Power generation programme.

- (e) In respect of Roof Top and other small Solar Power plants connected to distribution network, the cost of power evacuation upto and required at AP Discoms existing substation and necessary metering at sub-station shall be borne by the project proponent.
- (f) All the other terms and conditions not specifically covered in this order shall be as per the guidelines dated 16-06-2010 for Roof Top and other Small Solar Power Plants connected to distribution network (below 33 kV).

**This order is signed by the Andhra Pradesh Electricity Regulatory  
Commission on this 6<sup>th</sup> day of July 2010.**

**Sd/-  
C.R.Sekhar Reddy  
Member**

**Sd/-  
R.Radhakishen,  
Member**

**Sd/-  
A.Raghotham Rao,  
Chairman**

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