



Chhattisgarh State Electricity Regulatory Commission
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Petition No. 64 of 2025

In the matter of

"To issue necessary Regulatory Guidelines / Framework to facilitate establishment, operation and maintenance of 'Grid Isolated (Off Grid) behind the meter (BTM) Solar Power Plant' within the State."

M/s. Sadbhav Renewables Pvt. Ltd.,
84, Anand Nagar, Raipur – 492 001

... Petitioner

Versus

1. Chhattisgarh State Power Distribution Company Limited
Vidhyut Seva Bhawan, Raipur (C.G.)
2. Chhattisgarh Renewable Energy Development Agency
Rajiv Gandhi Energy Park,
Airport Road, Raipur (C.G.)

... Respondents

PRESENT : Vivek Ganodwale, Member (Law)
Ajay Kumar Singh, Member (Technical)

Appearance : Shri Shyam Kabra, representative for petitioner.
Smt. Alka Yadav, EE for Respondent CSPDCL.
Shri Santosh Kumar, EE for respondent CREDA.

ORDER

(February 05, 2026)

The petitioner, M/s Sadbhav Renewables Pvt. Ltd. is a solar power developer and is involved in the business of Solar EPC for residential, commercial and industrial sectors. The group companies of the

petitioner are engaged in Solar Modules manufacturing and development of the solar park in the State of Chhattisgarh.

2. The respondent No. 1 is Chhattisgarh State Power Distribution Co. Ltd. (in short, 'CSPDCL' or Respondent No. 1') the distribution licensee in the State and the respondent No. 2 is Chhattisgarh Renewable Energy Development Agency (in short, 'CREDA' or Respondent No. 2') the State Nodal Agency for the development and promotion of renewable energy generation in the State.

Petitioner's Submission:

3. The Petitioner submitted that though the Commission is promoting renewable energy, especially solar PV projects, by various regulatory mechanisms, however, none of the regulations or guidelines is having reasonable clarity on 'Behind the Meter' concept. This is leading to the loss of solar power available by virtue of abundant solar radiation in the State.
4. The petitioner, being a solar module/cell manufacturer and solar power developer, has observed that 'Grid Isolated (Off-Grid) Behind the Meter (BTM)' (in short, 'off-grid BTM') mechanism for a co-located solar power plant is being promoted/ encouraged worldwide. As per the petitioner, off-grid BTM concept will be a better proposition for a rooftop or co-located ground-mounted Solar Power Plants. In this concept, entire electricity generated is consumed directly on the site itself and none of the electricity is exported to the grid. This is done by installing a component called Reverse Power Relay (RPR), which prevents the flow of power back to the grid at any moment, when the overall consumption of the consumer is less than his solar generation.

5. The petitioner has also submitted that off-grid BTM projects have various benefits to the consumers as well as the licensees such as release of pressure to the grid, reduction in transmission and distribution losses, cost savings to the consumers, etc. Off-grid BTM project with energy storage system such as batteries also allows user to store excess energy for its later use.
6. The petitioner has prayed to issue necessary Regulatory Guidelines/Framework to facilitate establishment, operation and maintenance of 'Grid Isolated (off Grid) behind the Meter (BTM) Solar Power Plant' within the State.

Respondents' Reply

7. Respondent No. 2 CREDA has not offered any comments on this. However, Respondent No. 1, CSPDCL submitted following:-
 - 7.1 CSPDCL has not objected on the concept of a standalone off-grid solar plant, however, submitted that the petitioner's submission contradicts "Grid Isolated (Off-Grid)" and "Behind the Meter (BTM)". Off-Grid system has no electrical connectivity with the licensee's network and in contrast in a BTM system, the solar power plant is located on the consumer's side of utility meter with RPR.
 - 7.2 The solar PV project with BTM must prioritize the grid safety issues as per CSERC DRE Regulations, 2019 and CEA Technical Standards. It must have RPR features, anti-islanding protection and the licensee must have right to inspect prior to the commissioning of such project.
 - 7.3 CSPDCL submitted that the new framework must explicitly state that a consumer at a given premises can avail either the PDRES

(Net Metering) mechanism or the BTM (non-export) mechanism, but not both simultaneously on the same service connection.

- 7.4** CSPDCL further submitted that to protect the grid from severe demand ramps, any BTM project with higher Contract Demand must be installed with a co-located Battery Energy Storage System so that excess solar generation is stored and can meet consumer's own load during off solar hours. Thereby, "shaving" the peak demand from the grid.
- 7.5** CSPDCL has submitted the order of operation for the BTM projects and suggested that generation from the BTM should be served its own load first. Thereafter, net consumption from the grid as recorded in the main meter should be adjusted and after this open access, if any, subject to the open access charges should be allowed.
- 7.6** CSPDCL further submitted that in BTM concept should be governed by the Rule 3 of the Electricity Rules, 2005 and in the event of losing captive status, cross subsidy surcharge should be levied.
- 7.7** With the above submission and suggestions, CSPDCL submitted that they have no objection in giving guidelines for 'Behind the Meter' systems.

Analysis and Decision

Heard the parties and gone through the submissions made by them.

- 8.** It is true that BTM project either off-grid or grid connected has not been defined by the Commission in any of its Regulations/Guidelines. But, as the name implies PDRES and co-located IDRES are nothing but the grid connected BTM installations with these installations are connected to the licensee's network. However, petitioner in its petition is

especially seeking guidelines or clarity on 'off-grid behind the meter' solar power installations.

- 9.** Based on the arguments, it is derived that guidelines for co-located plant which is not connected to the grid (off-grid) and grid connected behind the meter solar installation with Reverse Power Relay (RPR), which prevents the flow of power back to the grid at any moment when the overall consumption of the consumer is less than his solar generation, is to be provided. The concept of RPR is not new as this equipment is installed in all the solar PV projects to isolate the generating plant from the network of licensees for safety issues during maintenance of the electrical equipment.
- 10.** As per arguments by the parties, following two conditions emerges:
 - i. Standalone solar PV projects with or without battery energy storage systems, off-grid solar PV projects, which is not connected to the licensees' network.
 - ii. Grid connected solar PV BTM projects (with or without battery energy storage systems) with reverse power protection relay (RPR).
- 11.** As regard, standalone solar PV power projects, the provisions have been specified in the Electricity Act, 2003, which clearly specifies that any person may construct, maintain or operate a captive generating plant and the requirement of being a captive generating plant has also been specified in Rule 3 of the Electricity Rules, 2005. Relevant para of the Act and the Rules are reproduced below:-

Electricity Act 2003

"Section 9. (Captive generation):

(1) Notwithstanding anything contained in this Act, a person may construct, maintain or operate a captive generating plant and dedicated transmission lines:"

Electricity Rules 2005

"3. Requirements of Captive Generating Plant. -

(1) No power plant shall qualify as a 'captive generating plant' under section 9 read with clause (8) of section 2 of the Act unless-

(a) in case of a power plant -

(i) not less than twenty six percent of the ownership is held by the captive user(s), and

(ii) not less than fifty one percent of the aggregate electricity generated in such plant, determined on an annual basis, is consumed for the captive use:"

Any developer can install standalone solar PV plant i.e., IDRES with or without battery energy storage system. Since the grid is not used, other charges such as transmission charges, wheeling charges and losses shall not be applicable. However, if solar PV plant is installed by third party (ownership is with other person), or the status of being captive generating plant is lost, the liability of payment of cross subsidy surcharge, as provided in the relevant tariff order shall be applicable.

- 12.** Further, grid connected solar PV projects i.e., IDRES may be installed with or without battery energy storage systems at load end to be termed as "BTM Project". This project has to be equipped with reverse power protection relay (RPR) system. As the licensee's grid is not being used, charges such as

transmission, wheeling and losses as specified in various regulations and orders shall not be applicable. It is also to mention here that definition of IDRES, as mentioned in DRE Regulations 2019, clearly specifies that, IDRES can be connected to CSPDCL or CSPTCL or network of any other person. Definition of IDRES in DRE Regulations, 2019 is reproduced below (emphasis added):-

"Independent Distributed Renewable Energy System or IDRES means a distributed renewable energy system set up by any person, connected to the licensee's network or network of other person, selling electricity to the distribution licensee under a power purchase agreement or selling electricity to any person under open access or having captive use."

As per this provision, the IDRES plant installed by the person can be connected to its own internal network apart from the network of licensees CSPDCL or CSPTCL and requirement of dedicated line is exempted for solar PV plant. However, if solar PV plant is installed by third party (ownership is with other person), or the status of being captive generating plant is lost, as per clause 33 (6)(b)(ii) of Open Access Regulations 2011, cross subsidy surcharge shall be payable by such consumer who receives electricity from a person other than the distribution licensee in whose area supply is located, irrespective of whether it avails such supply through transmission/distribution network of the licensee or not.

The liability of payment of cross subsidy surcharge, as provided in the relevant tariff order shall be applicable.

This provision has been very well interpreted by the Commission in order dated 17.02.2020 issued in petition No. 67 of 2019 in the matter of ACC Ltd v. CSPTCL & others. Relevant paras are reproduced below;

"5.3 *In the light of the aforesaid provision, it is clear that an IDRES plant can be set up by any person and it can either be connected to the licensee's network or 'network of other person' and can sell electricity to 'any person' under open access. It follows, therefore, that the IDRES plant need not necessarily be connected to the licensee's (CSPTCL or CSPDCL) network for selling of electricity. In the instant case, AMPLUS, as an IDRES generator, is directly connected to ACC's network and sells electricity to ACC through its dedicated lines.*

5.4 *As regards the requirement of sale of electricity to ACC under open access, Hon'ble APTEL, in the matter of CSPDCL v. Aryan Coal & Others in Appeal No. 119 & 125 of 2009, has ruled that in the event of power supply by the generator through its own dedicated lines, provisions of open access shall not be attracted. The relevant para of the judgment is reproduced below:*

"21. The finding given above in this decision is that if the dedicated transmission line is laid from the generating company up to the load centre, then the supply can be made through dedicated line. As discussed above, no provision of the Electricity Act, 2003 restricted the supply through the dedicated line because such supply is not going through the grid and does not avail the facility of open access. The proviso of Section 42 (2) would be attracted only when the open access through distribution

system is sought. When the open access is not sought the question of application for 42 (2) will not arise.”

5.5 *In the instant case, as discussed in foregoing para, the transmission or distribution system of either CSPTCL or CSPDCL is not being used by the IDRES generator (AMPLUS) for supply of electricity to the load centre of ACC. Accordingly, the provisions of open access under section 42(2) would not be applicable.*

5.6 *In the light of aforementioned provisions of the Act and regulations, the petitioner No. 2 (AMPLUS) can establish, operate and maintain solar power generating station and dedicated lines for supply of electricity to the load centre of petitioner No. 1 ACC, without using the licensee’s network. Therefore, there is no merit in the respondent’s contention that connectivity of AMPLUS solar power plant with ACC’s internal grid is not permissible.*

5.7 *As regards the question of modalities to be adopted for supply of power, it is clarified that in the light of the aforesaid, the petitioners are not required to approach the licensee for seeking permission for supply of such power. Besides, since the licensee’s network is not being used for supply of the said power, transmission and wheeling charges cannot be levied.”*

- 13.** Consumer with BTM solar PV projects can also have power met from distantly located projects (IDRES) and power is drawn using the grid. For the grid uses charges such as transmission, wheeling and losses as specified in various regulations and orders shall be applicable. For getting power from the distantly located IDRES, the consumer may avail banking modalities as per prevailing regulations and subsequent orders issued there under.

14. In view of the above deliberations, following clarification is drawn to remove ambiguity or confusions;

- (a) Any type of installations such as rooftop, ground mounted and floating or any other configuration is permitted for off-Grid or for grid connected BTM solar PV projects and shall be part of IDRES. Battery Energy Storage System (BESS) can also be installed. BESS can also store the power from distant located solar PV projects for banking its extra generations.
- (b) Simultaneous operation of PDRES and grid connected BTM Solar PV projects is not permitted.
- (c) There shall be no capping on capacity of Grid Isolated (Off-Grid) Solar Power Plant as grid of the licensee is not being used. However, grid connected BTM solar PV projects (either co-located or distantly located) shall be governed by the provisions specified in DRE Regulations 2019 and its subsequent amendments.
- (d) Requirement of installation of Reverse Power Relay and/or any other equipment for the grid safety as per CEA regulations is must for BTM solar PV projects, which needs to be verified/inspected by the licensees.
- (e) Metering arrangement and other technical requirements shall be as per the prevailing regulations notified by the Commission and CEA.
- (f) Applicability of transmission charge, wheeling charge and any other charges shall not be applicable for off-grid stand alone solar installations and also for grid connected BTM Solar PV projects.

- (g) Banking of power with licensee for grid connected BTM Solar PV projects shall not be permitted. However, power from the distantly located IDRES can be banked with either licensees as per prevailing regulations and order issued there under or BESS installed at the consumer's premises.

We Order accordingly.

Sd/-
(Ajay Kumar Singh)
Member (Tech.)

Sd/-
(Vivek Ganodwale)
Member (Law)