PANDARIVARMA DASARAJU,

Member - TELANGANA STATE SOLAR OPEN ACCESS DEVELOPERS' ASSOCIATION(TSOADA).

To,

Dated:17-04-2025

The Commission Secretary/TGERC,

Vidyut Niyantran Bhavan, Sy.No.145-P, G.T.S.

Colony, Kalyan Nagar, Hyderabad 500 045.

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Dear Sir,

Sub: - Comments and Suggestions on petition filed by TGDISCOMS seeking consent for procurement of 4000 MW (inclusive of 1000 MW capacity for Women SHGs under INDIRA MAHILA SHAKTI SCHEME) and Model Power Purchase Agreement (PPA) for decentralized Ground Mounted Grid-Connected solar power for a period of 25 years from the Commercial Operation Date (COD) by TGDISCOMs under Component-A of PM KUSUM Scheme in OP.NO: 32/2025- Reg.

3.15. clearances required from the state government and other local bodies:

In the present context, the Solar Power Generator (SPG) comes from a farming background and is facing significant challenges in navigating the numerous procedural requirements involving multiple departmental offices. This process has become a considerable burden, diverting their attention from the timely and efficient establishment of the plant.

Therefore, I respectfully request this Hon'ble Commission to kindly issue directions to REDCO/DISCOMs to establish a **Single Window Clearance System**, wherein the SPG may submit all necessary applications and documents at a single point. This would greatly streamline the approval process and enable the SPG to focus on the timely and effective development of the project.

3.17. Bank Guarantees:

Most of the farmers, who are acting as Solar Power Generators (RPGs), are currently in a state of confusion and uncertainty, primarily due to delays and challenges in securing financing from banks. Although applications were invited in January 2025, REDCO/Government authorities have not yet convened a meeting involving the bankers and the RPGs to facilitate the financing process.

In this regard, I humbly request this Hon'ble Commission to kindly direct REDCO to **refund the EMD (Earnest Money Deposit)** amount in cases where the SPG is unable to establish the plant solely due to financial constraints beyond their control. This would provide much-needed relief and fairness to farmers who are willing but unable to proceed due to lack of institutional support.

3.18. connectivity:

I respectfully request this Hon'ble Commission to kindly direct the DISCOM to extend full support and necessary coordination in the **laying of transmission lines** required for the evacuation of power from the project site. Timely assistance in this regard is crucial for the successful commissioning of the plant and to avoid unnecessary delays in project execution.

3.22. Roles and Responsibilities of stake holders:

- DISCOM's: I respectfully request this Hon'ble Commission to kindly direct the DISCOM to issue a letter to the concerned Assistant Engineers at the substation level, where the respective Solar Power Generators (SPGs) are connected. The purpose of this directive would be to ensure that substation-level staff are properly briefed and made fully aware of the **"Must Run"** status accorded to SPGs. Further, they should be instructed to closely monitor operations and ensure that the plant runs continuously without any unwarranted interruptions, in alignment with regulatory provisions and guidelines.

POWER PURCHASE AGREEMENT

4.3.Right to contracted capacity & Energy:

4.3.2. I further request this Hon'ble Commission to kindly **clarify and specify the designated authority or agency responsible for ascertaining the Capacity Utilization Factor (CUF)** of the Solar Power Generators (SPGs). A clear directive in this regard will help avoid ambiguity and ensure uniformity and transparency in the assessment process.

4.3.3.

Penalty is Excessive:
Imposing a **25% penalty on the PPA tariff** is unreasonably high, especially considering the unpredictable challenges SPGs face in the initial years—like weather variability, equipment stabilization, and teething issues in grid connectivity.

Ambiguity in Grid Availability Proof:
While the clause mentions grid non-availability as a relaxation, there is **no clear mechanism for documenting or certifying such non-availability**. SPGs should not be penalized for reasons not attributable to them, and there must be a transparent and accountable system for certifying grid outages.

Double Burden on SPGs:
The clause places a **disproportionate financial risk on small/medium-sized SPGs**, especially those from farming backgrounds or without strong institutional support. This can discourage participation and slow down renewable adoption.

Recommendation – Replace Penalty with Adjustment:
Instead of a penalty, a more balanced approach would be to **allow energy banking or rolling over the shortfall to the next operational year**, especially for new SPGs still optimizing their operations.

4.3.4

a) In Case of Shortfall of Energy:

The SPG, as a generating entity, is fully committed to operating the plant at its rated capacity and meeting the expected generation targets. However, there may be instances where the SPG is unable to achieve the required CUF or generation due to circumstances that are **entirely beyond its control**, including but not limited to:

- **Grid Outages**
- **Equipment Failures** caused by adverse weather conditions, surges from the grid, or faults in the transmission lines
- **Fire Accidents**, which are a potential risk associated with electrical infrastructure

Given that these issues are not within the control or fault of the SPG, **I humbly request this Hon'ble Commission to revisit and recall the penalty clause in the PPA related to generation shortfall**, in order to eliminate ambiguity and ensure fairness to SPGs. A more flexible and just framework would help protect the interests of generators, especially those operating in challenging environments or from small-scale and farming backgrounds.

b) In Case of Any Excess Generation:

In solar power generation, it is **technically impractical to predict the exact energy output (in kWh) in advance**, as the generation is inherently subject to **variations in climatic conditions, grid availability, and unforeseen technical issues**.

Therefore, I respectfully request this Hon'ble Commission to **define an appropriate upper limit based solely on the installed plant capacity**. For instance, in the case of a 1 MW plant, the **Maximum Demand (MD) value should not exceed the rated capacity of 1 MW**.

This approach would provide a **clear and technically sound framework**, aligning with the natural operational behavior of solar power plants and avoiding any penalization or dispute due to marginal excess generation which may occur due to favorable conditions. It ensures fairness, clarity, and ease of implementation for both SPGs and DISCOMs.

Article 5: Interconnection Facilities, Synchronisation, Commissioning and Commercial Operation

I respectfully request this Hon'ble Commission to kindly **direct the DISCOMs to issue a clear and comprehensive step-by-step procedure** outlining:

- The **actions required from the Solar Power Generator (SPG)**
- The **roles, responsibilities, and support to be provided by DISCOMs**

- The **timeline and sequence of steps** for achieving:
  - Grid interconnection
  - Synchronisation
  - Commissioning
  - Declaration of Commercial Operation Date (COD)

Such a structured and transparent process will help eliminate confusion, reduce delays, and ensure smooth coordination between the SPG and DISCOM. It will be particularly beneficial for new and first-time developers, especially those from non-technical or farming backgrounds, by enabling them to navigate the process confidently and efficiently.

Article 6: Dispatching and Scheduling
Clause 6.1.3:

As per Regulation 1 of 2024, Solar Power Plants with a capacity **up to 5 MW shall not be required to provide day – ahead wheeling schedule and the actual electricity injected by them shall be deemed to be the schedule energy.**

In this regard, I **humbly request this Hon'ble Commission to continue the day-ahead scheduling this for plants below 5 MW capacity in the future as well,** to ensure operational ease and financial viability for small-scale generators.

Article 7.2 – Measurement of Energy
Clause 7.2.7:

As per the **Central Electricity Authority (CEA) regulations**, all **consumer meters** and **interface meters** must be tested **at least once every five years** by a **NABL-accredited laboratory**. Furthermore, such testing is also required whenever the meter readings are found to be abnormal or inconsistent with adjacent meters.

In this context, I respectfully request this Hon'ble Commission to **clearly specify this five-year periodicity for meter testing under Clause 7.2.7**, in line with CEA regulations. This clarity will help **eliminate any ambiguity or misinterpretation between DISCOMs and Solar Power Generators (SPGs)**, ensuring uniformity and regulatory compliance across all stakeholders.

Article 9: Applicable Tariff

At present, as per the Hon'ble Commission's Order in (RP) No. SR.19 of 2021, the **levelised tariff** has been fixed at **Rs. 3.13/unit**, wherein the **Operation and Maintenance (O&M) cost** was considered as **Rs. 0.045 Crore (i.e., Rs. 4.5 lakhs) per MW per year.**

However, under current market conditions and actual operational experience, the **O&M expenses have significantly increased** and are much higher than the value previously considered. A detailed breakdown of actual O&M expenses for a 1 MW plant is provided below:

S.No.	Description of expenses	amount per month	amount per year
1	Technical expertise	10,000.00	1,20,000.00
2	site supervisor	20,000.00	2,40,000.00
3	module cleaning and gross cutting staff	30,000.00	3,60,000.00
4	PQT test		1,50,000.00
5	MPLS connection for real time data to sldc		1,20,000.00
6	ceig fee		9,000.00
7	electricity bill	25,000.00	3,00,000.00
8	miscellaneous regarding employees welfare	2,000.00	24,000.00
9	Total O&M expenses per year		13,23,000.00

In light of the above, I respectfully request this Hon'ble Commission to **reconsider and revise the O&M cost component used in tariff determination**, and accordingly **re-evaluate the levelised tariff** to reflect the actual, justifiable, and escalating costs incurred by Solar Power Generators (SPGs). This revision is crucial for the financial viability and long-term sustainability of solar power projects, particularly those established by farmers and small developers under schemes like PM-KUSUM.

Article 10: Auxiliary Consumption, Reactive Energy, Sharing of CDM benefits and harmonics:

Clause 10.3 – Harmonics

As per the **CEA (Central Electricity Authority) Guidelines** on Power Quality Requirements for Solar Power Plants, and as outlined in the **CEA (Technical Standards for Connectivity to the Grid) Regulations, 2013**, the following key conditions are prescribed:

- **Harmonic current injection** from a generating station shall not exceed the limits specified in **IEEE Standard 519**.
- **DC current injection** shall not exceed **0.5%** of the full rated output at the interconnection point.
- The generating station shall not introduce **flicker** beyond the limits specified in **IEC 61000**.

I would like to bring to the kind notice of this Hon'ble Commission that **DISCOMs are presently insisting** that Solar Power Generators (SPGs) submit detailed power quality parameters such as:

- **Individual Voltage Harmonics**

- **Total Harmonic Distortion (V)**
- **Total Demand Distortion(I)**
- Along with compliance to the above-mentioned standards

This requirement is being extended even to **SPGs established under the PM-KUSUM scheme**, which are typically connected at the **11 kV voltage level**—a level that is also widely used for connecting **agricultural loads**, which are known to introduce harmonics into the system.

Currently, during **Power Quality Testing (PQT)**, the harmonic measurements are being taken only on **generating station feeders**, while the other connected feeders (carrying agricultural and mixed loads) continue to introduce harmonics into the system. This results in **ambiguous test outcomes** and leads to **disputes between SPGs and DISCOMs**, as SPGs are being held accountable for harmonics that may originate elsewhere on the system.

Therefore, I respectfully request this Hon'ble Commission to:

1. **Appoint a qualified expert committee or technical team** to study and identify the actual sources of harmonics in such mixed-load feeder environments.
2. **Specify and standardize the parameters** to be tested during PQT, ensuring that SPGs are not unfairly held responsible for harmonic distortions caused by other non-SPG loads connected on the same 11 kV feeders.
3. Establish a **clear testing protocol and threshold criteria** for SPGs, with due consideration to the operational realities of rural feeders under the PM-KUSUM scheme.

Such a clarification and expert-driven standardization will **ensure fairness, avoid technical misinterpretations**, and support the smooth commissioning and operation of solar plants in compliance with national standards.

Clause 10.4 – Auxiliary Consumption

As per the current provisions in the Power Purchase Agreement (PPA), the **Solar Power Generator (SPG)** is entitled to draw power from the DISCOM for **auxiliary consumption**, limited to **0.1% of the installed capacity** of the plant. The PPA also provides that:

- **Net Energy = Energy delivered at the interconnection point – Energy drawn from DISCOM for auxiliaries**
- Any auxiliary power consumption exceeding the 0.1% limit shall be **billed on a kVAh basis** under the **HT-1 consumer tariff**, as notified by the TGERC.

I respectfully bring to the kind notice of this Hon'ble Commission that the **practical auxiliary power requirement of a 1 MW solar power plant is significantly higher** than the allowed 0.1%. A typical breakdown is as follows:

DESCRIPTION	QTY	UNIT	INSTALLED CAPACITY	UNIT	0.10%	UNIT
MAXIMUM DEMAND	18	KVA	1000	KW	1	KW
NO.OF UNITS REQUIRED	1500	KVAH	137500	KWH	137.5	KWH

The Approximate Electricity bill per the month as per PPA 0.1% limit:

DESCRIPTION	QTY	UNIT	RATE	AMOUNT
DEMAND CHARGES NORMAL	1	KVA	500.00	500.00
DEMAND CHARGES PENAL	17	KVA	1,000.00	17,000.00
ENERGY CHARGES AS PER PPA LIMIT	137.5	KVAH	3.13	430.38
ENERGY CHARGES PER BALANCE(EXCEEDS THE 200% OF CMD)	1362.5	KVAH	8.58	11,690.25
Total Monthly bill				29,620.63

As referenced in the **International Journal of Current Engineering Technology**, and based on **field data from operational plants in the state**, it is observed that:

- The **average auxiliary consumption for solar plants up to 5 MW is approximately 1.5%**, and
- The **demand typically ranges from 18 kVA to 25 kVA**, even for smaller installations under 5 MW.

The existing **0.1% cap is highly impractical** and leads to significant **monthly financial burden**, disproportionately affecting **small-scale SPGs**, particularly those set up by farmers under the **PM-KUSUM scheme.**

I therefore humbly request this Hon'ble Commission to:

1. **Revise the allowable auxiliary consumption to 1.5%** of the installed capacity.
2. **Eliminate Maximum Demand (MD) Charges** for solar plants, considering they are **"Must Run" stations** operating for grid benefit.
3. **Permit auxiliary consumption to be adjusted directly from the exported units**, i.e.,

   Net Energy = Gross Generation – Auxiliary Consumption,
   rather than charging it as separate import.

These modifications will **greatly support the financial viability and operational sustainability** of farmer-led decentralized solar projects under PM-KUSUM, while aligning with national renewable energy goals.

Clause 11.4 – Late Payment Surcharge

As per the current provisions of the Power Purchase Agreement (PPA), the **Late Payment Surcharge (LPS)** becomes applicable **only after 30 days** from the date of invoice submission by the Solar Power Generator (SPG).

In practical implementation, the **SPG typically raises invoices in the first week of every month**. If the DISCOM utilizes the full 30-day payment window, the SPG is **compelled to manage at least one month's EMI payment to banks from their own working capital**. This situation creates a **cash flow burden**, particularly for small and marginal SPGs—including farmers and cooperatives operating under schemes like **PM-KUSUM**—who may not have access to significant reserves or flexible credit.

Therefore, we respectfully request this Hon'ble Commission to:

- **Amend the 30-day payment window to 15 days,**
  thereby ensuring that payments from DISCOMs are received in a timely manner, enabling SPGs to meet their financial commitments—particularly **loan EMIs and O&M expenses—without default risks or cash strain.**

This amendment would enhance financial discipline, promote investor confidence in decentralized solar generation, and protect small-scale renewable energy developers from unnecessary financial stress.

I firmly believe that the suggestions outlined above offer valuable insights that will support the Hon'ble Commission in arriving at sound and forward-looking conclusions.

Thanks &regards,

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Copy to:

1) **The Chief Engineer(IPC)/ TGSPDCL.**