ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION

4th Floor, Singareni Bhavan, Red Hills, Hyderabad - 500 004

Present

Sri Justice G. Bhavani Prasad, Chairman
Sri P. Rama Mohan, Member

SATURDAY, THE TWENTYFIFTH DAY OF MAY, TWO THOUSAND AND NINETEEN

In the matter of

Modalities (Guidelines) for implementing the Solar Roof Top (SRT) Policy, 2018

A request letter along with Modalities (Guidelines) for implementing the Solar Roof Top (SRT) Policy, 2018 submitted by Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL), the licensee, came up for final hearing on 25-05-2019 in the presence of Sri P. Shiva Rao, learned standing counsel for the power utilities in the State of Andhra Pradesh and Sri Rajesh Peddu, Director, M/s. Agro Solar Pvt Ltd. After carefully considering the material available on record and after hearing the submissions of the learned standing counsel for the licensee and stakeholders, the Commission passed the following:

ORDER

1. Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL) sought for approval for the modalities (Guidelines) for implementing the Andhra Pradesh Solar Roof Top (SRT) Policy, 2018 including metering, billing settlement of payment(s) and technical aspects etc., for implementation by the APDISCOMs.

2. A public notice along with the proposed modalities (Guidelines) for implementing the Andhra Pradesh Solar Roof Top (SRT) Policy, 2018 was placed on the website of the Commission on 03-04-2019 for information to the public and seeking views/objections/suggestions on or before 5 p.m. of 24.04.2019 from all the stakeholders. It is also notified in the public notice that public hearing is scheduled on the subject modalities (Guidelines) on 27-04-2019 at 11 a.m. in the court hall of the Commission, Hyderabad for the stakeholders who desired to be heard in person or to submit their views in writing to the Commission directly.

3. In response to the public notice, the Commission received views/objections/suggestions from only two stakeholders at its Office and during public hearing. The licensee furnished its written replies to the views/objections/suggestions received from the stakeholders.

4. The views/objections/suggestions of the stakeholders and the licensee responses are as detailed below:

The views/objections/suggestions received from Sri Rajesh Peddu, Director, M/s Agro Solar Pvt. Ltd and responses submitted by Licensee:

i. Capacity Limits for LT & HT Services:

The proposed guidelines restrict the capacity of Rooftop Projects in respect of LT Service up to the connected load, and in respect of HT Service up to the CMD of that service, as against 56 kW and individual HT Transformer capacity under the current guidelines. Hence, this is a regressive step compared to current guidelines and will only reduce the adoption of Roof Top

Solar. As there is already a technical constraint prescribed in terms of the ratio of aggregate installed SRT capacity under the DRT to DTR capacity as 80%, these further constraints of connected load and CMD would only work towards discouraging installation of more capacity by otherwise interested customers. The HT Customers, who can install higher size of Rooftop projects compared to their CMD, will either be forced to increase their CMD to install more rooftop solar or restrict the capacity to CMD. As installation of higher Rooftop solar reduces the RMD of most customers, it is rather paradoxical to force them to increase their CMD and keep paying higher fixed charges on per kVA basis for a period of 25 years. Hence this only acts as an indirect tax for those wanting to install rooftop capacity beyond their CMD. In view of this, the commission is requested to look into its role in promoting renewable energy as envisaged in Section 86 (1) (e) of Electricity Act, 2003 and to maintain the technical limits as per the current guidelines i.e., 56 kW for LT service and up to individual Transformer capacity for HT service.

Licensee's Response: 1) In the proposed guidelines, the rate being paid to the excess units generated through SRT is pooled purchase cost which is very high compared to the prevailing solar units cost. Hence, the DISCOMs cannot afford to bear the cost for the excess units pumped at the said price. The main motto of SRT is to meet their consumption.

However, installation of excess capacity is not restricted. AP Discoms will be allowing subject to enhancement of connected load.

Also, the proposed guide lines, overcome the technical constraint i.e. Restriction of DTR capacity to 80% for installation of SRT.

ii. Approvals from Chief Electrical Inspectorate to Government (CEIG):

The proposed guidelines self-contradict within themselves with contradictory provisions mentioned in Clause – II (l) on Page 4 vs. Clause 8 of Annexure VIII: Form 5 on Page 46. In this regard, as per Regulation 43 of Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010, as amended vide gazette notification CEI/1/2/2017

dated: 01 Mar 2018, the authority to notify the voltage level up to which self-certification is to be carried out is vested with the State Government and not the DISCOM. Hence, the threshold capacity of 10 kWp mentioned in Clause-II (l) on Page 4 is ultra vires to the said Regulation and seems to be carried over clause from current guidelines that were issued in accordance with Indian Electricity Rules,1956, that are now superseded by Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 and G.O. Ms. No. 21, dated: 09 Jun 2016, G.O. Ms. No. 36, dated: 1st November 2016 and G.O. Ms. No, 12 dated 17th May 2017 issued by Government of Andhra Pradesh, notifying the voltage level above which only the inspection by CEIG is mandatory.

Further, it is requested to take note of the following clauses given in said regulations of CEA and Government of Andhra Pradesh:

a) Regulation 43 (1) (a) states that "Every electrical installation of notified voltage and below shall be inspected, tested and self-certified by the Owner or Supplier or Consumer, as the case may be, of the installation before commencement of supply or recommencement after shutdown for six months and above for ensuring observance of safety measures specified under these regulations and such Owner or Supplier or Consumer, as the case may be, shall submit the report of self-certification to the Electrical Inspector in the formats framed and issued by the Authority:.."
b) Regulation 2, sub-regulation (1) Clause (zb) states that "installation means any composite electrical unit used for the purpose of generating, transforming, transmitting, converting, distributing or utilizing electricity".
c) G.O. Ms. No. 12, dated: 17 May 2017, notified by Government of Andhra Pradesh states that "The voltage at which inspection and testing of electrical installations including installations of supplier or consumer which shall be carried out by Electrical Inspector shall be above 33 KV except the installations of AP Genco and AP Transco."

Hence, a combined reading of above three clauses from the regulation and the subsequent notifications by Government of AP against said regulation clearly demonstrates that Solar Rooftop Plants being generating units and part of the installation of a consumer, who also doubles up as a Supplier, can submit self-certification in the prescribed format, and it is not mandatory for prior inspection and approval by Electrical Inspector for capacity more than 10 kWp.

In view of the above, the Commission is requested to clarify that the consumers installing solar rooftop projects can avail the option of self-certification for projects connected up to 33 kV voltage level services, irrespective of the capacity of the Rooftop Solar Project.

Licensee's Response: The approval of CEIG is required for Solar Generation to ensure safety since SRTs are being installed in the premises of the public.

Also, it is very essential to have thorough inspection of SRT to avoid accidents to the line staff working on the lines during line shutdowns.

iii. Timelines for Installation of SRP:

The proposed guidelines provide for a uniform time line of three (3) months from the date of agreement for installation of SRP, irrespective of the capacity of the Project. For Projects with more than 500 kWp capacity, it often takes 3 to 4 months to complete the installation of SRP depending on nature of roof, and monsoon season etc. Further, many projects are dependent on loans being sanctioned by the Banks for said purpose, and submission of technical feasibility letter from DISCOM is being considered as a pre-requisite for project evaluation, and the time lines for such evaluation by banks and further loan documentation and disbursal needs to be accounted for. In view of this, the Commission is requested to specify a longer period of at minimum 6 months for projects in the range of 100 to 1000 kWp, and a one-time extension of up to 60 days.

Licensee's Response: 90% of the SRT installations are less than 10KW, installation of which takes less than a month. Hence, an average of 3 Months time is allowed to all capacities.

However, the suggestion is recorded.

iv. Metering and Synchronization:

The proposed guidelines in various sections regarding accuracy class of meters do not concur with each other. It is mentioned in the guidelines that all meters must be smart meters as per the standards specified by CEA regulations, and on the other hand it is mentioned in Annexure-A that 0.5 accuracy class meters should be used for PV Systems above 10 kWp and 0.2 class accuracy meters for HT Systems (56 kWp and above). It is pertinent to note that Central Electricity Authority (Installation and Operation of Meters) Amendment Regulations, 2014 vide regulation 2 (c) states that "all the clauses of 'Consumer Meters' as specified in Central Electricity Authority (Installation and Operation of Meters) Regulations; 2006, would also be applicable for 'Renewable Energy Meter', unless specified in these Regulations." Further, the Accuracy Class of Consumer Meters is notified as follows in the Central Electricity Authority (Installation and Operation of meters) Regulations 2006:

Up to 650 volts	1.0 or better
Above 650 volts and up to 33 kilo volts	0.5S or better
Above 33 kilo volts	0.2S or better

In view of the above, the Commission is requested to confirm that the accuracy class of bi-directional meters shall be as per said regulations notified by CEA.

Licensee's Response: The class of accuracy of the bi-directional meters is same as that of the existing meters as per prevailing GTCS.

v. Availability of Meters and Testing:

The proposed guidelines provide an option for the developer of SRP to procure the meters, CT/PTs from open market or from DISCOM. There have been instances where the developers had to wait for many days (ranging from 15 to 60 days) for meters and CT/PTs, after paying the estimated charges to DISCOM, due to non-availability of stock and/or delays in supply of equipment by OEMs to DISCOMs. In order to avoid this, the Commission is requested to advise the DISCOM to include the list of approved manufacturers, ratings and models of meters, CTs and PTs as part of these guidelines so that the developers can purchase such equipment directly from open market.

Further, it is mentioned that in case the equipment is purchased by the Developer, the same is to be tested at standard laboratory at the cost of Consumer only. In this regard, Clause 7.1.2 of General Terms and Conditions of Supply of Distribution and Retail Supply Licensees notified by the Commission via Proceedings No. Secy/01/2006 dated 06/01/2006, which states as follows:

"The consumer is entitled to have his own meter to ascertain the energy supplied to him if he so desires. The consumer shall be allowed to purchase meters from manufacturers recognised by the Company, duly conforming to the Company's technical specification. The Company shall notify the list of the manufacturers recognised from time to time. The Company shall calibrate such meter at the consumer's cost and seal the meter. In such cases, the Company will not collect any monthly rental charges."

For meters procured by DISCOM and supplied to SRP developers, the same are being tested only in the MRT testing laboratories of respective DISCOMs and not at any third party testing laboratory. Hence the same should also be an acceptable practice in case of purchase of meter by developers from Open market, and DISCOM testing and calibrating the meters at its own lab at the cost of the Developers shall be in conformity with the GTCS notified by APERC.

Also as there is no list of standard laboratories given in the proposed guidelines, the Commission is requested to clarify and confirm that the MRT testing labs of DISCOMs in respective districts are treated as standard laboratories in the proposed guidelines and the cost of testing also be notified by DISCOM as part of these guidelines. With such provision the SRP developers can directly purchase meters confirming to the specifications of DISCOMs from open market and submit to MRT testing laboratories of DISCOMs by paying fee. This will avoid a lot of time and hassle for the SRP developers, as they can plan upfront for purchase of meters from open market and need not wait to know the status of availability of meters with DISCOM, until after the SRP is installed.

Licensee's Response: AP Discoms shall provide net metering (net meter along with its connected CTs, PTs wherever applicable) on cost basis.

DISCOMs are maintaining sufficient quantity of bi-directional meters. In case of non availability only, the consumer has to procure the meter.

In the present guidelines, since the SRT capacity is limited to the connected load/CMD of the service, procurement of metering equipment does not arise.

Material wise approved valid vendors of APEPDCL are being displayed in APEPDCL website.

However, the suggestions are recorded.

vi. Deemed approvals by DISCOM pre or post installation of SRP:

The timelines mentioned in Annexure-B, and at other sections of the proposed guidelines provide for deemed approvals in case of no intimation or action from DISCOM after a milestone/activity. In this regard, the Commission is requested to advise the DISCOM to clarify how such deemed approval is expected to be enforced in favour of the SRP developer. For example when the work completion report is submitted it is mentioned that the DISCOM personnel shall inspect the system within 10 working days and provide approval or it shall be considered deemed approval. Assuming that such a scenario has arisen and there is no action taken by DISCOM personnel within 10 working days, then who shall raise the request for drawl

of meters and/or CTPTs? As the SRP developer cannot approach the stores department directly and request for issue of meters, how does this deemed approval help the SRP developer? And in case the meters are purchased by the developers and tested and calibrated, how can the developer initiate the process of installation of bi-directional meter in the case of a deemed inspection approval? As the M&P department of the DISCOM would not respond to the developer directly without an official communication from the Operations department, the deemed inspection approval will not help the SRP developers in its current form.

Hence, the Commission is requested to clarify the actions to be taken by respective departments in cases of deemed approvals, so that the rooftop plants are not left idle waiting for synchronization with the Grid.

Licensee's Response: The deemed approval is for Technical feasibility and post commissioning paper approvals but not for synchronization approval and replacement of meters etc.

For such type of activities, there are various channels for complaint redressals such as centralized Call centre with Toll free:1912, Spandana etc.

vii. Rooftops belonging to single owner:

The proposed guidelines provide for an option to combine the solar power generation over different rooftops belonging to a single owner in a city or town and adjust against the combined consumption recorded in various energy meters. New provision is appreciated and the Commission is requested to provide more clarity over the jurisdiction of various rooftops being in a city or town also needs more elaboration. If a single owner owns two rooftops in a same district, but located under different divisions of same DISCOM can be considered for this adjustment? If not how is a city or town defined, and also areas other than cities or towns, i.e., industrial areas and villages? In view of this, the Commission is requested to consider all HT or LT services falling under a single revenue circle headed by a Superintending Engineer be treated as one jurisdiction under which this energy and consumption adjustments can be made.

Licensee's Response: This provision is being proposed to adopt in single Electricity Revenue Office headed by Assistant Account Officer so as to settle the bills and payments quickly to avoid billing complications.

The views/objections/suggestions received from M/s KVM Power and Infra, Hyderabad and responses submitted by Licensee:

i. The genesis of new modalities (guidelines) for Solar Roof Top projects is Amended Solar Policy, 2018, which by itself was a policy amended from original Solar Policy/2015. While several investments decisions have been made based on Andhra Pradesh Solar Power Policy, 2015, the said policy has a provision for mid-term review of the policy at clause (10). However, the review has been limited to any technological breakthrough or to remove any inconsistency with Electricity Act 2003, rules and regulations made there under or any Govt. of India policy.

It is to submit that there has been no technological break-through since 2015, except for some project cost variations due to several international events such as exchange rates, demand supply etc. In addition, there has been no new insistency generated with Act, 2003 nor any new regulations/directions under Govt. of India Policy. As such, Govt. of India policy has been directing the state governments to encourage distributed generation instead of big solar farms due to inherent benefit that roof top projects gets due to tail end generation of distribution network. In fact, Sec 86 i(e) mandates commission and state governments to encourage the renewable generation.

Licensee's Response: There has been lot of technological changes occurred in the manufacturing processes and efficiency of Solar modules, due to which fall in project costs happened. Considering the fall in solar tariffs in the recent times, there is a need to bring out New Solar Power Policy duly taking into consideration the recent developments in the Solar power sector.

However, the benefits for the Solar Rooftop projects already commissioned are retained as per Rooftop policy, 2015.

ii. While distribution companies have not implemented provisions of 2015 policy in the guise of consent of Commission. In current scenario, they are already following the provisions of policy without any consent from the Commission. This shows the abusive of monopoly power granted to utilities.

Licensee's Response: Distribution companies are being implementing the provisions of 2015 policy with the consent of Commission only. The Commission has given consent to the SRT Policy, 2015, vide order dt.19.12.2015 in OP No.30 of 2015.

iii. The whole new policy is a big regressive step towards rooftop implementation. Hence, it is submitted that the new solar policy, 2018 is itself not tenable and ultra vires the parent policy, 2015 and Act, 2003 and therefore old provisions of the roof top policy should prevail.

Licensee's Response: The Government after detailed discussions on the proposal, with various stake holders viz., APTRANSCO, APDISCOMS, NREDCAP, Solar Power Developers and Solar Manufacturers Associations, issued the Andhra Pradesh Solar Power Policy, 2018 superseding the earlier Andhra Pradesh Solar Power Policy, 2015.

5. The point for consideration is whether the request of the licensee needs to be positively considered.

6. The Government of Andhra Pradesh in Energy, Infrastructure & Investment (PR.II) Department issued G.O.Ms.No.1, dated: 03-01-2019 containing the Andhra Pradesh Solar Power Policy, 2018 referring to the earlier solar power policy, 2015 of the State of Andhra Pradesh and the necessity to come out with a new comprehensive policy due to the current trend of falling solar prices to less than Rs.3 per unit. The policy is to be in force for five years from 03-01-219 or till such time a new policy is issued. The incentives to solar power projects commissioned during that period shall be available for ten years from the commissioning date unless specified. Para 3D of the Government Order specifically provided about promotion by the

Government of solar rooftop systems on public buildings, domestic, commercial and industrial establishments on gross and / or net meter basis which the consumers(s) are free to choose. The tariff order decides the applicable tariff so as to be equal to the average pooled power purchase cost of the distribution company which will be determined by this Commission every year which facility should be extended for a period of twenty five years for eligible developers who set up solar rooftop projects. Para 3D enumerates the further working details of the solar rooftop projects. The licensee was directed by the Government Order to issue modalities for implementing the said policy within thirty days to be followed by the other distribution company in the State also.

7. It is in pursuance of the said policy that the guidelines were accordingly prepared by the licensee on 04-01-2019. The modalities (Guidelines) do not appear to be contravening the provisions of any statute or statutory rules or statutory regulations.

8. Policy making involving public interest is considered to be within the realm of the State Government as is evident from Section 108 of the Electricity Act, 2003 or Section 12 of the Andhra Pradesh Electricity Reform Act, 1998. The Andhra Pradesh Solar Power Policy, 2018 and the Guidelines prepared by the licensee in accordance with the said policy do not contravene any statutory provisions or rules or regulations and hence, the stakeholder's contention that the new solar policy, 2018 is itself not tenable, stands not maintainable in the absence of any material in support of such a contention, placed before the Commission.

9. The issues raised by the other stakeholder appear to have been rationally and reasonably replied by the licensee in general. However, with regard to timelines for completion of the higher capacity SRT projects, CEIG inspections and availability of meters and testing, the licensee may consider the suggestions positively.

10. Therefore, the modalities (Guidelines) for implementing the Andhra Pradesh Solar Roof Top (STR) Policy, 2018 submitted by the Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL) vide its Lr.No.CGM/EC/EPDCL/VSP/GM/Solar/E-266947/D.No.1/207578/19, Dt:04.01.19 are accorded approval accordingly.

This Order is signed on the 25th day of May, 2019.

Sd/-
P. Rama Mohan
Member

Sd/-
Justice G. Bhavani Prasad
Chairman