

**TAMIL NADU ELECTRICITY REGULATORY COMMISSION**  
**(Constituted under section 82 (1) of the Electricity Act, 2003)**  
**(Central Act 36 of 2003)**

**PRESENT:**

Thiru M.Chandrasekar .... Chairman  
Dr.T.PrabhakaraRao .... Member  
and  
Thiru.K.Venkatasamy .... Member (Legal)

**D.R.P. No.2 of 2020**

M/s. Crescent Power Limited  
No.6, Church Lane, 1<sup>st</sup> Floor  
Kolkata – 700 001  
repd. by its Authorized Signatory  
Mr.AdritPalachoudhury

... Petitioner  
(ThiruR.S.Pandiyaraj  
Advocate for the Petitioner)

Vs.

1. Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO)  
10<sup>th</sup> Floor, 144, Anna Salai  
Chennai – 600 002  
Represented by its  
Chairman and Managing Director
  
3. The Chief Engineer/NCES  
2<sup>nd</sup> Floor, Eastern Wing  
144, Anna Salai  
Chennai – 600 002.

... Respondents  
(ThiruM.Gopinathan,  
Standing Counsel for Respondents)

**Dates of hearing** : 11-02-2020; 25-02-2020; 04-08-2020;  
08-09-2020; 29-09-2020; 13-10-2020;  
and 03-11-2020

**Date of Order** : 22-12-2020

The DRP No. 2 of 2020 came up for final hearing on 03-11-2020. The Commission upon perusing the affidavit filed by the petitioner, counter affidavit filed by the respondent and all other connected records and after hearing both the parties passes the following:-

### **ORDER**

#### **1. Prayer of the Petitioner in DRP No.2 of 2020:-**

The prayer of the Petitioner in the above DRP No. 2 of 2020 is to-

- a) issue a clarification on the interpretation of the 19% CUF value as per the Commission's Order No.7 of 2014 dated 12.09.2014;
- b) Declare that the circular issued by the Respondent No.2 bearing Lr. No.CE/NCES/SE/SOLAR/EE/SCB/AEE3/F. Policy issue- PLF/D. 540/17 dated 14.06.2017 is contrary to Regulation 8(3)(b) of the Tamil Nadu (Indian Electricity Grid Code) Regulations, 2005;
- c) Set-aside the circular issued by the Respondent No.2 bearing Lr. No. CE/NCES/SE/SOLAR/EE/SCB/AEE3/F.Policy issue-PLF/D.540/17, dated 14.06.2017 in view of the grounds raised in the present petition;
- d) Set-aside the letter dated 28.11.2017 bearing Lr.No.CE/NCES/SE/Solar/EE/SCB/DFC/F.CUF/D. 1213/17 issued by the Respondent No.2 to the petitioner.

#### **2. Prayer of the Petitioner in I.A. No. 1 of 2020 in DRP No.2 of 2020:-**

The prayer of IA.No.1 of 2020 in DRP.No.2 of 2020 is to pass an order of interim injunction restraining the Respondent, their men, agents, from enforcing the impugned circular issued by the Respondent No.2 bearing

Lr.No.CE/NCES/SE/SOLAR/EE/SCB/AEE3/F. Policy issue PLF/D.540/17 dated 14.06.2017 and the letter dated 28.11.2017 bearing Lr. No. CE/ NCES/ SE/ Solar/ EE/ SCB/DFC/ F.CUF/D.1213/17 issued by the Respondent No.2 to the petitioner pending disposal of the Petition.

**2. Facts of the case:-**

The present petition is being filed seeking clarification whether the parameter of 19% Capacity Utilisation Factor adopted in the TNERC's Order No 7 of 2014 dated 12-09-2014 for arriving at the rate for supply of solar energy to the Licensees, imposes a cap on the solar generators, restricting the supply and payment for solar energy to 19% of the supply per annum.

**3. Contentions of the Petitioner:-**

3.1. The Respondent No.2 by wrongly interpreting Commission's Order No. 7 of 2014 dated 12.09.2014, has erroneously placed a cap on the annual solar energy supplied by the Petitioner thereby restricting payment for the supply of solar energy upto 19% CUF only, instead of the actual energy supplied by the Petitioner's solar power plant. Pertinently, Respondent No.2 had availed and utilised the injected energy exceeding 19% of CUF and recovered it in the invoices for the month of March 2017 from the payments made by Respondent No.2 for such units as contained in a Policy note dated 14.06.2017 bearing Lr. No. CE/NCES/SE/SOLAR/EE/SCB/AEE3/F. Policy issue- PLF/D. 540/17 and the consequential letter issued to the Petitioner dated 28.11.2017 bearing Lr. No: CE/NCES/SE/Solar/EE/ SCB/DFC/F.CUF/D 1213/17. Such an action of Respondent No.2 amounts to an illegal interference in the right of a

generator, which is impermissible under the provisions of the Electricity Act, 2003("Electricity Act"). Further, there is no authority either in law or in the Regulations issued by the Commission to cap generation in excess of 19% CUF, through a restriction in generation, which was imposed unilaterally and arbitrarily.

3.2. The Government of Tamil Nadu had announced its Solar Policy, namely the Tamil Nadu Solar Energy Policy 2012 ("Solar Policy 2012") during the year 2012 through its G.O.Ms. No.121 dated 19.10.2012. Considering the environment friendly attributes of solar power and enthused by the Solar Policy, 2012, the Petitioner decided to establish its 15MWAc solar power plant ("Project"). The Petitioner accordingly sought loans and procured lands to set up the Project, thereby altering its financial position materially. The Commission also issued tariff orders for solar power with the latest being the "Comprehensive Tariff Order on Solar Power" dated 28.03.2016 under Order No. 2 of 2016. The Tariff Order dated 28.03.2016 is essentially for the purposes of procurement of power by the Respondent, Tamil Nadu Generation and Distribution Corporation Limited.

3.3. The Petitioner states that the Commission also issued tariff orders for solar power with the "Comprehensive Tariff Order on Solar Power" dated 12.09.2014 under Tariff Order No.4 of 2014 (read with amended Order No.7 of 2014) and the latest being the Comprehensive Tariff Order on Solar Power" dated 28.03.2016 under Order No. 2 of 2016. The Tariff Orders are essentially for fixing rates for the purposes of procurement of power by TANGEDCO.

3.4. The Petitioner states that to promote generation from renewable energy sources, the Commission has so far issued 15 tariff orders in respect of various renewable sources of energy in accordance with section 86 (1) (e) of the Electricity Act. Furthermore, the Government of India through the Ministry of New and Renewable Energy has launched the Jawaharlal Nehru National Solar Mission ("JNNSM") in 2009 to promote the grid connected and off grid solar power generation. Accordingly, the Commission, by way of Order Nos. 1 & 2 dated 27.05.2010 and 08.07.2010 respectively, has determined the tariff for Solar Photo Voltaic (PV) and Solar Thermal power under this Scheme.

3.5. In furtherance of its intent to encourage generation of solar power, the State Government of Tamil Nadu initially proposed the development of solar generation in the State through the announcement of a Tariff calling for tenders. This was issued under Section 63 of the Electricity Act and by virtue of the same; the rates fixed by way of a tender were required to be adopted by this Commission. The Petitioner states that in 2014, the Commission, published a 'Comprehensive Tariff Order on Solar Power" Order No. 7 of 2014 (dated 12.09.2014) by which it determined the tariff payable to solar power plants commissioned during the control period of the said order at the rate of Rs.6.28 per unit with accelerated depreciation benefit and Rs.7.01 per unit without accelerated depreciation benefit. With the introduction of this, the award of contract under the tender system had been scrapped and it is only the Preferential Tariff Scheme that is in force. Subsequently for the later Control Period, the

respective tariff orders have been issued by the Commission, The Commission in the Order dated 12.09.2014 has notified in para 11.1.2 as follows:-

*"In this connection it is stated that the tender rate was discovered under section 63 of the Electricity Act, 2003, as reported by TANGEDCO in their petition filed with the Commission, whereas the preferential tariff rate approved in this order has been determined under section 62 of the Electricity Act, 2003. Hence this order has no relevance to the rates reportedly finalized by the TANGEDCO through competitive bidding."*

3.6. On 07.05.2015, the Petitioner entered into an Energy Purchase Agreement ("EPA") with TANGEDCO under the Preferential Tariff Scheme as per the Tariff Order dated 12.09.2014 for selling the solar energy generated from its Project to TANGEDCO. The Petitioner has set up its Project at various places in Melamudimannarkottai Village, Kamuthi Taluk, Ramnad District and in Neeravi Village, Kamuthi Taluk, Ramnad District for evacuation of the solar power. The Petitioner's project operates under the preferential tariff scheme at an applicable rate of Rs.7.01 per unit without accelerated depreciation benefit based on Tariff Order No.7 of 2014 dated 12.09.2014 for sale to TANGEDCO. The CUF of 19% has been adopted by the Commission only for the purpose of arriving at the tariff rate on which the Licensees could purchase the solar energy. Such percentage of CUF has no relevance for fixing of any cap or ceiling upto which the Licensees should limit the purchase or payments.

3.7. The Respondent No.2 herein issued instructions by way of circular dated 14.06.2017 bearing Lr.No.CE/NCES/SE/SOLAR/EE/SCB/AEE3/F.Policy issue-PLF/D. 540/17 ("TANGEDCO Circular") in terms of which, on the lapse excess generation in terms of units exceeding 19% annual CUF, the excess generation in terms of MW beyond contracted capacity can be curtailed by Respondent No.2. The working instructions issued are to be followed for

the calculation of exported energy in respect of solar power plants commissioned under the preferential tariff scheme as per the terms and conditions of the Commission's Order No. 7 of 2014 dated 12.09.2014 read with Order No. 4 of 2015 dated 01.04.2015 and Order No.2 of 2016 dated 28.03.2016.

3.8. As per the TANGEDCO Circular, if there is excess generation in terms of MW generated, in respect of solar power plants commissioned under the preferential tariff scheme beyond the actual installed capacity for a particular billing month, the equivalent energy in terms of units, for the excess MW exceeding CUF of 19% shall be calculated and shall not be considered for payment. It has further been added in the TANGEDCO Circular, that the energy units corresponding to the excess MW calculated as such are to be deducted from the particular monthly bill itself and after, deducting the energy equivalent to the excess MW, the balance energy would be considered for calculating annual cumulative CUF for that particular month at the end of the financial year. Additionally, the excess generation in terms of units generated, if any, in respect of the plants commissioned under preferential tariff scheme beyond the norms of 19% of annual CUF fixed by the Commission in its Orders dated 12.09.2014 and 28.03.2016, shall be calculated at the end of the financial year and deducted. The energy generated during the month and the total energy generated during the financial year up to that month is to be furnished along with the bill.

3.9. As such the TANGEDCO Circular has been issued illegally and

Respondent No.2 does not have the jurisdiction to make such a determination in view of the Orders dated 12.09.2014 and 28.03.2016. The Commission has in several cases directed TANGEDCO to approach it for any clarification and not to issue *suo-motocirculars*. Therefore, any issue, such as this ought to have been preceded by a petition before the Commission rather than issuance of an unilateral circular. This circular instruction is illegal and arbitrary, as there is no cap stipulated in the Commission's Order No.7 of 2014 dated 12.09.2014 on the CUF for any SPV Generation for supply of power to the Licensees, nor any allowable limit on CUF has been notified by the Commission. The Order dated 12.09.2014 is a generic tariff order and not a project specific tariff order. Respondent No.2 has misconstrued the Order dated 12.09.2014 to wrongfully benefit from the CUF of 19% set by the Commission. The CUF of 19% adopted was for arriving at the tariff rate only and not for stipulation of CUF limit for the SPV Plants. Pertinently, the Commission in the Order dated 12.09.2014 has not specifically stipulated a cap for supply of power from the SPV Plants to Licensees in any way, contrary to what has been interpreted by Respondent No.2.

3.10. On 14.01 .2016 the Project of the Petitioner was commissioned and the Petitioner has been supplying power to TANGEDCO since then. The Petitioner has also been preparing invoices after each monthly meter reading (on 25<sup>th</sup> day of every month) and submitting it to SE, TANGEDCO, Ramanathapuram. However, TANGEDCO has continuously failed to make timely payments. TANGEDCO has not made any payment to the Petitioner for the last 10-12 months.

3.11. On 28.11.2017 to the shock and surprise of the Petitioner, Respondent No.2 vide a

recovery notice ("Recovery Notice") denied payment for the month of March, 2017 purportedly on account of disallowance of units since the generation was beyond 19% CUF for the tariff year 2016-17.

3.12. On 12.12.2017, the Petitioner sent a letter to Respondent No.2, stating that the EPA does not stipulate that payment would not be made if the generation is above 19%CUF and such a provision has neither been included in the Tariff Order nor any regulation issued by the Commission. In fact, the entire power generated from the Project has been injected only to TANGEDCO and TANGEDCO/TANTRANSCO's Grid and it has been utilized by the Respondent. However, Respondent No.2 has made deductions from the payments due in the March, 2017 bills for the supply of solar energy by the Petitioner to TANGEDCO, exceeding the said 19% CUF.

3.13. The Recovery Notice has been issued based on Respondent No. 2's instructions in the TANGEDCO Circular which states that the excess generation in terms of units generated, if any, in respect of the plants commissioned under preferential tariff scheme beyond the norms of 19% annual CUF fixed by this Commission in its orders dated 12.09.2014 and 28.03.2016, shall be calculated at the end of the financial year and deducted. Such a circular has been issued illegally and Respondent No.2 does not have jurisdiction to issue such a determination in view of the orders dated 12.9.2014 and 28.3.2016 issued by the Commission. This circular was internally circulated in June 2016 and was not communicated to the solar developers before Respondent No.2 arbitrarily decided to withhold payments without approaching the Commission for any clarifications by way of a Petition.

3.14. Further, the CUF limit of 19% as mentioned in the Recovery Notice is not specified in the EPA signed between TANGEDCO and the Petitioner on 07.05.2015. The Petitioner was not informed earlier (during the signing of EPA or when developing the plant or commissioning the plant or even after the commissioning of the plant) by either of the Respondents that there is a CUF limit of 19% for supply and payment of solar energy. The Petitioner has diligently worked on the design of the Project and designed its solar plant to maximize the output within the technical and operational parameters specified in the EPA. In doing so, the Petitioner materially altered its position based on the promise of return on its investment without any cap on the generation made to it by TANGEDCO. There was no mention of any CUF limit or the number of units/year in the EPA or in any other document provided by TANGEDCO. The Petitioner is being penalized for maximizing the output of the plant while still adhering to the 15 MWAC limit specified in the EPA.

3.15. The Petitioner has been pushed to a position where despite efficient use of equipment to maximize production, as encouraged by the Commission's Tariff Order dated 12.09.2014 on solar power, the Petitioner is unable to get revenue for the power that has already been generated and supplied, leading to substantial revenue loss. This is having a direct impact on the viability of the Project as well as the ability of the Petitioner to service the debt commitments on this project. The Tariff Order dated 12.09.2014 passed by the Commission encourages maximizing return which is extracted below:-

*"8.2. Project specific or Generalized Tariff*

*8.2.1. A generalized tariff mechanism would provide incentive to the investors for use of most efficient equipment to maximize returns and for selecting the suitable site.....*

3.16. The Petitioner is placed in a position where despite maximum production it is

unable to get revenue from the power that has already been generated, thus leading to revenue loss for the Petitioner and wastage of renewable power for the entire State. The conduct of TANGEDCO has created difficulties for the Petitioner in supplying projected quantum of power during the term of the EPA as well as ensuring financial returns for the Petitioner's activity and servicing of the debt. TANGEDCO has failed to make payment towards Petitioner's invoices for last 10-12 months which has caused unjustifiable financial hardship to the Petitioner.

3.17. The TANGE000 Circular passed by Respondent No.2 and consequential Recovery Notice are wholly post conceived notion, willful wrong perception, arbitrary and illegal and also contrary to the provisions of the Electricity Act, 2003 and the Tariff orders issued by the Commission. The Respondent No.2's order suffers from total non-application of mind in as much as the Petitioner has been injecting the entire power generated only to TANGEDCO/TANTRANSCO's grid. In such circumstances, the Respondent ought to make the payments as raised in the Tariff Invoices from time to time and without disallowing any portion on account of generation beyond 19% CUF.

3.18. The TANGEDCO Notice and consequential Recovery Notice are liable to be set aside since the same act as a disincentive for efficient plants. The 19% CUF which is fixed by the Commission is only an average to take into account the fact that while some plants may be efficient, some may be inefficient. The CUF depends upon many factors such as the location, weather, angle of sun, the time of the year, the cloud cover, heat, technology, DC/AC Ratio, Local site Conditions, project design, various technical losses, Modules degradation, frequency of

module cleaning etc. which are beyond the control of a generator. It is therefore wholly absurd on part of the Respondents to issue such monopolistic restrictions.

3.19. With respect to the Petitioner, Respondent No.2 has signed the EPA on 07.05.2015 under Generic Solar PV at Rs. 7.01/kWh for FY 2015-16 as per the Order dated 12.09.2014 (Order No. 7 of 2014) as determined by the Commission. The Commission had fixed norms for various parameters which were used in determination of generic solar PV Tariff (fixed for entire useful life of the solar PV Project i.e. 25 years) such as Capital Cost, Working Capital components- i.e. one month O&M cost and two months receivables, Interest rate for Working Capital, Debt Equity Ratio, Interest on Long term loan, Loan Tenure, Return on Equity, Depreciation, Module degradation, Auxiliary Consumption, Operation & Maintenance Cost and its annual escalation, Discount Factor and Plant Load Factor. When the ultimate Generic tariff, as determined by the Commission is a complex interplay of abovementioned parameters, the Respondent cannot pick and choose one parameter and try to reach to a conclusion one way or the other. In real world, some parameters are bound to increase while others may decrease, during actual project execution or during the O&M phase, thereby negating/reducing the overall impact. The Respondent No.2 is not expected to monitor the actual value of these parameters for the projects executed and adjust the tariff / return to the detriment of the Petitioner.

3.20. That the Generic Tariff (feed-in-Tariff) regime is not a Fixed Return on

equity model to tariff determination, like that of Respondent No.2, where Annual Revenue Requirements / ARRs are submitted, trued up and the tariff is suitably adjusted so as to ensure a fixed guaranteed return on equity to the State DISCOMS like the Respondent. In fact, even in certain cases of the fixed return on equity model, DISCOMS are allowed to retain efficiency gains.

3.21. The Feed in Tariff Regime, all the risk and reward, post signing the EPA at tariff determined by the Commission, lies with the Solar Plant Developer. If the actual cost of plant goes high or interest rate goes higher, Respondents are not expected to pay any higher tariff. In that case, if the CUF of the plant is higher or lower than the normative value, taken by the Commission, TANGEDCO should not be worried. The impugned action is liable to be set aside as it has been issued by TANGEDCO in violation of the Principles of Natural Justice and no hearing was ever granted or explanation provided prior to the impugned action. The TANGEDCO Circular issued by Respondent No.2 ought to be set aside as even if TANGEDCO had any queries, it ought to approach the Commission and not issue a self-serving clarification, contrary to the orders of the Commission.

3.22. TANGEDCO Circular passed by Respondent No.2 and the consequent Recovery Notice are wholly arbitrary and illegal as also contrary to the provisions of the Electricity Act and the tariff orders issued by the Commission. The TANGEDCO Circular has been issued by Respondent No.2 illegally and Respondent No.2 does not have the jurisdiction to make such a determination in view of the Orders dated 12.09.2014 and 28.03,2016. The Commission has in several cases directed TANGEDCO, to approach it for any clarifications and not to issue *suo-motocirculars*.

3.23. TANGEDCO has denied the payment for the month of March, 2017 to the Petitioner on account of disallowance of units on the purported ground that the generation was beyond 19% CUF for the tariff year 2016-17 and the same was thus required to be disallowed in terms of the Commission's tariff orders. The aforesaid disallowance is illegal and arbitrary on account of the submissions already made by the Petitioner hereinabove which are summarized below:

- (i) Neither the EPA nor any findings in the tariff orders passed by the Commission stipulate that payment would not be made if the generation is above 19% CUF. In fact, the entire power generated from the Project has been injected only to TANGEDCO and TANGEDCO/TANTRANSCO's Grid and it has been utilized by the Respondent. However, Respondent No.2 has made deductions from the payments due in March 2017 bills for the supply of solar energy by the Petitioner to TANGEDCO, exceeding the said 19% CUF.
- (ii) The Recovery Notice has been issued by Respondent No.2 illegally and the Respondent No. 2 does not have the jurisdiction to issue such a determination in view of the Orders dated 12.09.2014 and 28.03.2016. The action of Respondents in making deductions towards the invoices raised by the Petitioner is liable to be set-aside solely on the ground that the Recovery Notice and the TANGEDCO Circular have the effect of usurping the jurisdiction of the Commission. It is only the Commission which is vested with the power to determine tariff or to issue any clarification regarding the same in terms of Section 86(1)(b) read with Section 86(1)(e) of the Electricity Act. The Respondents in the present factual scenario have usurped the regulatory powers of the Commission under Section 86 of the Electricity Act which are vested solely within the Commission. The

Respondents have acted contrary to multiple stipulations issued by the Commission merely to further their *malafide* interest of not paying the full quantum of charges recoverable by the Petitioner. Such conduct of the Respondents is characteristic of their previous *modus operandi* as well, where TANGEDCO has failed to make timely payments.

- (iii) The Petitioner is suffering due to the illegal conduct of the Respondents where it is being punished for efficiently using its equipment to maximise production as encouraged by the Commission's tariff orders. The Petitioner is unable to get revenue for the power that has already been generated and supplied, leading to substantial revenue loss. This is having a direct impact on the viability of the project as well as the ability of the Petitioner to service the debt commitments on its Project.
- (iv) Without prejudice to the fact that the Respondents are not vested with jurisdiction to issue such policies/notices, TANGEDCO's circular as well as the Recovery Notice suffers from total non-application of mind and the same is based on the Respondents' own interpretation of the Tariff Order dated 12.09.2014 issued by the Commission. The CUF of 19%, being only a norm for the purpose of arriving at the rate at which the Licensees can purchase solar energy, it cannot be used as a percentage of cap for sale to the Licensee. By its very nature, solar power generation will be more for some years and less for some years and this cannot be interfered with by the Respondents.
- (v) In any event the Respondents could not have issued the impugned Circular and the subsequent Recovery Notice unilaterally, without providing any opportunity to the Petitioner to make a representation with respect to the proposed action of TANGEDCO. TANGEDCO circular was issued in violation

of the principles of natural justice and no hearing was ever granted or explanation provided prior to the impugned action to the Petitioner. In this context reliance is placed on the judgment of the Hon'ble Supreme Court in *Harbans Lal vs. Collector of Excise*, (1993) 3 SCC 656; and *West Bengal Electricity Regulatory Commission vs. CESC Ltd.*, (2002) 8 SCC. 715.

- (vi) The Petitioner, based on the representation made to it regarding recovery of tariff without any cap on its generation had materially altered its financial position by purchasing land, seeking loan and diligently working on the design of the Project to maximize the output within the technical and operational parameters specified in the EPA. Therefore, the Respondents are now barred from taking any action regarding limiting the generation by the Petitioner as any such action will be against the well-established principles of promissory estoppel. In this context, reliance is placed on the judgments of the Hon'ble Supreme Court in *Lalaram & Ors vs Jaipur Development Authority & Anr* (2016) 11 SCC 31 and *APERC vs RVK Energy Private Limited & Anr* (2008) 17 SCC 769.
- (vii) The impugned action is also liable to be set aside since it acts as a disincentive for efficient solar power plants. The 19% CUF which is fixed by the Commission is only an average to take into account the fact that while some plants may be efficient, some may be inefficient. The CUF depends upon many factors which are beyond the control of a generator. Since such uncontrollable factors are unpredictable and varying throughout the year and the term of the EPA, it is wholly absurd on part of the Respondents to issue monopolistic restrictions through Circular and Recovery Notice.
- (viii) In fact, in terms of Regulation 8(3)(b) of the Tamil Nadu Electricity Grid Code, State Load Despatch Centre shall not curtail generation from Renewable Energy

power plants. Similarly, as per Regulation Clause 5.2(u) of the CERC (Indian Electricity Grid Code), 2010 in terms of which System Operator shall make all efforts to evacuate the available solar power and treat it as a must-run station. The aforesaid Regulations have also been taken note of by the Commission in Tariff Order dated 28.03.2016, wherein it has been noted that renewable energy generators have been assigned must-run status and therefore, they do not come under merit order dispatch. Therefore, the Respondents by refusing to make payments towards the solar power generated by the Petitioner beyond 19% of CUF have indirectly sought to curtail the power being generated by the Petitioner.

3.24. The Commission is vested with the regulatory powers to set-aside the TANGEDCO circular as well as the Recovery Notice issued by TANGEDCO illegally, usurping the regulatory powers of the Commission. The Respondents have passed the Circular and the Recovery Notice in contravention of the provisions of the Electricity Act, Tamil Nadu Electricity Grid Code, 2005 and the CERC (Indian Electricity Grid Code). It is therefore, well established that the Commission is vested with the power to exercise its regulatory powers to address the issues raised in the present petition which is being under the category of a 'Miscellaneous Petition' in terms of the judgment dated 30.05.2019 of the Hon'ble Appellate Tribunal for Electricity in Appeal No.350 of 2017 in Ramnad Solar Power Ltd. vs. TNERC &Ors., wherein the Hon'ble Tribunal in similar factual scenario has directed the Commission to adjudicate upon the disputes between the parties as a 'Miscellaneous Petition'.

3.25. In order to maintain Justice and to seek suitable remedies, the Petitioner has no other remedy except to approach the Commission, under its powers and functions as

vested under Section 86(1)(b) and Section 86(1)(f) of the Electricity Act read with Regulation 16(1) of the Tamil Nadu Electricity Regulatory Commission (Conduct of Business Regulations, 2004). The Petitioner has therefore filed the present petition before the Commission,

#### **4. Contentions of the Respondents:-**

4.1. The prime issue herein is whether the TANGEDCO is obligated to make payment for the alleged excess energy generated and injected into the grid by solar generators over and above the Capacity Utilization Factor (CUF) of 19% fixed by the Commission in the tariff orders. However, the petitioner has raised many non-issues and irrelevant issues. Therefore, the respondents herein are restricting the reply to the prime issue.

4.2. In exercise of power conferred under Section 62 of Electricity Act, 2003, Tamil Nadu Electricity Regulatory Commission (TNERC) has issued "Comprehensive Tariff Order on Solar Power" vide Order No.7 of 2014 dated 12.09.2014 for procurement of solar power by the Distribution Licensee fixing "Generic/Preferential tariffs" of Rs.7.01 per unit without Accelerated Depreciation (AD) benefit and Rs.6.28 per unit with AD benefit for Solar Photovoltaic plants.

4.3. The Commission has issued further Tariff Orders vide Tariff Order No.2 of 2016 dated 28.03.2016, Tariff Order No.2 of 2017 dated 28.03.2017, Tariff Order No.5 of 2018 dated 28.03.2018 and Tariff Order No.5 of 2019 dated 29.03.2019 for procurement of solar power by the Distribution Licensee fixing preferential tariffs of Rs.5.10/Rs,4.56 per unit without AD benefit/with AD

benefit, Rs.4.50/Rs.4.41 per unit without AD benefit/with AD benefit, Rs.3.11/Rs.3.05 per unit without AD benefit/with AD benefit and Rs.3.04/Rs.2.80 per unit without AD benefit/with AD benefit for respective control periods, for Solar Photovoltaic plants.

4.4. The "Preferential tariffs" as determined in each such Tariff Order will be applicable for the respective Solar Photo Voltaic (PV) power plants commissioned during the control period of the respective Tariff Order in force, irrespective of date of execution of Power Purchase Agreement. As per the Tariff Orders, developers can establish solar power plants not only to sell the generated power to the Distribution Licensee (TANGEDCO), and also have two more options, viz., wheeling the generated power for captive consumption or wheeling the generated power for third party sale.

4.5. TANGEDCO have implemented the said tariff Orders issued by the Commission, in the State, for the procurement of solar power based on the "Preferential Tariff" orders issued vide Order no.7 of 2014 dated 12.09.2014 and Order no.2 of 2016 dated 28.03.2016. 78 developers for a combined capacity of 1409 MW have commissioned their solar power plants for selling the power to TANGEDCO.

4.6. The Commission has adopted the following financial and operational parameters in Order no. 7 of 2014 dated 12.09.2014, Order no. 2 of 2016 dated 28.03.2016, Order no. 2 of 2017 dated 28.03.2017, order no.5 of 2018 dated 28.03.2018 and order no.5 of 2019 dated 29.03.2019, in respect of Solar

Photovoltaic projects for determining the 'Preferential tariff', as per regulation 4(5) of the Commission's "Power procurement from Renewable Sources of Energy Regulations 2008".

Sl. No.	Tariff Components	Order No.7 dated 12.9.2014	Order No.2 dated 28.3.2016	Order No.2 dated 28.3.2017	Order No.5 dated 28.3.2018	Order No.5 dated 29.3.2019
1.	Capital cost	Rs.7 crores per MW	Rs.5.05 cores per MW	Rs.4.70 cores per MW	Rs.4.70 cores per MW	Rs.4.70 cores per MW
2.	Auxiliary consumption	Nil	Nil	Nil	Nil	Nil
3.	<b>CUF</b>	19%	19%	19%	19%	19%
4.	Operation and Maintenance Expenses	1.4% of the capital cost with 5.72% escalation after 1 <sup>st</sup> year	1.4% of the capital cost with escalation @ 5.72% p.a. from 2 <sup>nd</sup> year	1.4% of the capital cost with escalation @ 5.72% p.a. from 2 <sup>nd</sup> year	1.4% of the capital cost with escalation @ 5.72% p.a. from 2 <sup>nd</sup> year	1.4% of the capital cost with escalation @ 5.72% p.a. from 2 <sup>nd</sup> year
5.	Insurance Cost	0.35% of net asset value	0.35% of net asset value	0.35% of net asset value	0.35% of net asset value	0.35% of net asset value
6.	Life of Plant and Machinery	25 years	25 years	25 years	25 years	25 years
7.	Term of Loan	10 years + 1 year moratorium	10 years + 1 year moratorium	10 years + 1 year moratorium	10 years + 1 year moratorium	10 years + 1 year moratorium
8.	Interest on loan	12.7%	13%	11%	9.95%	10.55%
9.	Working Capital Components	One month O&M Cost and two months receivables	One month O&M Cost and two months receivables	One month O&M Cost and two months receivables	One month O&M Cost and two months receivables	One month O&M Cost and two months receivables
10.	Interest on Working Capital	13.2%	13.5%	11.5%	10.95%	11.55%
11.	Return on Equity	20% pre tax	20% pre tax	20% pre tax	17.56% pre tax	17.60% pre tax
12.	Debt Equity ratio	70:30	70:30	70:30	70:30	70:30
13.	Depreciation Rate	3.6% on 95% of the capital investment	3.6% on 95% of the capital investment	3.6% on 95% of the capital investment	3.6% on 95% of the capital investment	3.6% on 95% of the capital investment
14.	Discount factor	10.7%	10.21%	9.24%	8.75%	9.55%

4.7. As per Regulation 4(6) of Commission's "Power Procurement from Renewable Sources of Energy Regulations 2008", Commission has adopted

"Cost - Plus tariff" determination methodology in all the said 5 Tariff Orders for a long term period of 25 years. The Commission has specified that the "Cost-Plus tariff determination is more practical and it can be designed to provide adequate returns to the investor". The Commission has obtained the "Preferential Tariffs" in its Orders, adopting "Cost Plus tariff" determination methodology, assuming certain reference values for tariff components. The investor will get adequate return for the tariff of Rs.7.01/5.10 per unit (fixed in TNERC Order no.7/12.09.2014 and Order no.2/28.03.2016) for the period of 25 years, considering the CUF of 19%.

4.8. The Capacity Utilization Factor (CUF) or Plant load Factor (PLF) is defined as the actual output from a solar power plant over the year to the maximum possible output from it for a year under ideal condition. In general, the CUF of solar power plants shall be calculated on annual basis and termed as "Annual CUF".

The formula for calculating CUF in % =  $(\text{Energy measured in units} / 365 \times 24 \times \text{installed capacity}) \times 100$ .

4.9. The CUF mentioned in all the 5 Tariff Orders is 19 % The Commission has not mentioned the applicable tariff, generated, neither beyond 19% CUF nor below 19% CUF, in all its Tariff Orders, obviously, arriving at PLF and CUF by considering maximum possible output.

4.10. In CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2012 dated 06.02.2012, under Chapter 7 of Technology specific parameters for solar PV power projects, the Capacity

Utilisation Factor is stated as follows:

*"(1) The Capacity Utilisation Factor for Solar PV project shall be 19%. Provided that the Commission may deviate from above norm in case of Project specific tariff determination in pursuance of Regulation 7 and Regulation."*

4.11. Accordingly, the Commission has adopted Capacity Utilization Factor for Solar PV project as 19%, in all its generic/preferential Tariff Orders. It is not also the case of the petitioner that the tariff order by which it had entered into Power Purchase Agreement is a project specific one. Subsequently, in notification dated 17.04.2017, the CERC has specified the CUF for solar PV project as 19%. From the above, the statutory provision is clear that the statutory norms of 19% can be varied by the Commission only in case of project specific determination of tariff and in case of generic tariff order; it may even be beyond the scope of the Commission to raise the CUF above 19%.

4.12. Whereas, in the guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Solar PV Projects issued by Ministry of Power, Government of India dated 03.08.2017, there is a provision to fix tariff for excess energy generated beyond the contracted CUF, as well as to fix a penalty for supplying energy less than the energy corresponding to the contracted CUF. In other words, the competitive bidding route tariff process cannot be equated to the Generic/Preferential Tariff determination process and they are distinct and different.

4.13. As the "Preferential Tariff" Orders is concessional one, issued by the Commission are based on various parameters including fixation of the

CUF of 19/c, TANGEDCO has issued a guidelines to be followed for calculation of exported energy in respect of solar power plants commissioned under preferential tariff scheme as per the terms and conditions of Commission's Order no.7 of 2014 dated 12.09.2014 and Order No.2 of 2016 dated 28.03.2016, vide Letter No. CE/ NCES/ SE/ SOLAR/ EE/ SCB/EE3;F.Policyissue PLF/D.540/17 dated 14.06.2017, as follows:

*“The excess generation in terms of MW, generated if any, in respect of Solar Power Plants commissioned under preferential tariff scheme, beyond the actual installed capacity for a particular billing month, the equivalent energy in terms of units, for the excess MW shall be calculated and shall not be considered for payment. The energy units corresponding to the excess MW calculated as shall suchbe deducted from the particular monthly bill itself. After deducting the energy equivalent to the excess MW, the balance energy may be considered forcalculating annual cumulative PLF for that particular month at the end of financial year.*

*The excess generation in terms of units, generated if any, in respect of Solar Power Plants commissioned under preferential tariff scheme, beyond the norms of 19% of annual Capacity Utilization Factor (CUF) fixed by the Commission in Order No. 7of 2014 dated 12.09.2014 and Order No.2 of 2016 dated 28.3.2016, shall be calculated at the end of financial year anddeducted. The excessenergy calculated as such shall not be considered for payment on any account.*

*The energy generated during the month and the total energy generated during the financial year upto that month may be furnished along with the bill”*

4.14. Based on the above, annual CUF for the year 2016-17, 2017-18 & 2018-19 have been calculated for each and every solar power plant commissioned under Preferential Tariff scheme, and excess energy, if any supplied beyond the contracted CUF of 19%, are deducted and balance energy supplied for the contracted CUF of 19% are being paid by the TANGEDCO. Further, if any developer supplies excess energy, in terms of MW, beyond the contracted

capacity, the equivalent energy in terms of units, for the excess MW shall also be deducted from the bill.

4.15. TANGEDCO has deducted only the excess energy generated beyond the contracted CUF of 19% for the respective years calculated in terms of units and paying the bills to the generators who commissioned under Preferential Tariff scheme in line with the Tariff Orders.

4.16. Similar issue is pending before the Hon'ble Madras High Court in WP.Nos. 17382 & 17383 of 2017 and WP.Nos.18131 to 18134 of 2018 filed by 7 developers, who commissioned the solar projects as per Commission's Order No. 7 of 2014 dated 12.09.2014 and Order No.2 of 2016 dated 28.03.2016.

4.17. The circular dated 14.06.2017 issued by TANGEDCO for calculating the excess energy injection in terms of MW and excess energy injection beyond contracted CUF is a guideline for the Superintending Engineers concerned. One developer namely, M/s. Etica Developers (P) Limited under the option of wheeling of power for captive use has injected excess energy by exceeding contracted capacity in terms of MW for the month of July 2017. This is evident from the meter reading downloaded during July, 2017. TANGEDCO have calculated and deducted equivalent excess energy injected beyond contracted capacity as per circular dated 14.06.2017. Against TANGEDCO's circular dated 14.06.2017, M/s. Etica Developers (P) Limited filed writ petition in WP.No.27531 of 2017 before Hon'ble Madras High Court and obtained interim stay for TANGEDCO's circular dated 14.06.2017 on 17.11.2017. Whereas, the petitioners in this writ

petition are under the option of selling the power to TANGEDCO under preferential tariff scheme and they have injected excess energy beyond contracted CUF.

4.18. The Hon'ble Madras High Court was pleased to issue interim stay in WP.Nos. 17382 & 17383 of 2017 and WP.Nos. 18131 to 18134 of 2018 on the plea of petitioners against TANGEDCO's circular dated 14.06.2017, which has already been stayed in WP.No.27531 of 2017 filed by M/s. EticaDevelopers (P) Limited. In order to vacate the stay, TANGEDCO has filed detailed Counter Affidavit with stay vacate petition before Hon'ble Madras High Court in WP.Nos. 17382 & 17383 of 2017 and WP.Nos.18131 to 18134 of 2018. However, the Writ Petition in WP.No.27531 of 2017 filed by M/s. EticaDevelopers (P) Limited was closed by Hon'ble Madras High Court as withdrawn by the petitioner by virtue of the order, dated 06.02.2019.

4.19. Nowadays, the Solar PV tariff rates are in declining trend in the country due to reduction in the cost of solar PV panels. Some of the latest tariff rates arrived through bidding route are furnished below:

- Rs.3.0 per unit, quoted by M/s. Amplus Energy Solutions in an auction for roof top solar power conducted by M/s. SECI during Nov. 2016.
- Rs.2.97 per unit, quoted by M/s. Acme Solar Holdings (P) Limited in REWA bidding, Madhya Pradesh.
- Rs.2.62 per unit, quoted by M/s. Phelan Energy and Avaada Power in an auction conducted for Bhadla Solar Park.
- Rs.2.44 per unit, quoted by M/s. Acme Solar Holdings (P)

Limited in an auction conducted for Bhadla Solar Park by M/s. SECI during May'2017.

- Rs.2.44 per unit, quoted by M/s. Acme Solar in a 2000 MW auction conducted by SECI during July 2018,
- Rs.2.53 per unit, quoted by M/s. G.R.T in the auction conducted by SECI during 2019.
- Rs.2.78 per unit, in an e-reverse auction conducted by M/s. SECI under 1200 MW ISTS scheme, Tranche VI during 2019.

4.20. Due to reduction in solar PV tariff, TANGEDCO has decided to procure solar power from the bidders establishing solar power plants in Tamil Nadu under bidding process. TANGEDCO has signed Power Purchase Agreement with 18 bidders for a combined capacity of 1500 MW for supplying solar power at the rate of Rs.3.47 per unit, arrived through bidding process. As the solar power is available at Rs.3.47 per unit, if TANGEDCO procures solar power, supplied in excess over the contracted CUF of 19% at the concessional and preferential tariff fixed by TNERC Orders (Order No. 7 of 2014 dated 12.09.2014 and Order No.2 of 2016 dated 28.03.2016), there is definitely an unintended financial burden to TANGEDCO and unjust enrichment to petitioners by way of purchase of energy beyond the CUF of 19% based on which the tariff rates was fixed and such unintended benefits, if claimed and paid, will have to be passed on to the end consumers by way of increase in tariff, thereby public interest will suffer. Further, TANGEDCO is in a process of procuring 500 MW of solar power from M/s. Solar Energy Corporation of India (SECI) through tender floated by SECI under e-reverse auction process (1200 MW ISTS scheme, Tranche-VI) at the tariff rate of Rs.2.78 per unit. In this

regard, TANGEDCO has executed Power Sale Agreement (PSA) with SECI.

4.21. However, the petitioners have entered into Power Purchase Agreement (PPA) as per the principles and methodology with which the Commission has issued the Tariff Order and approved the conditions governing the PPA executed under "Preferential Tariff" Orders, for supplying solar power at the rate of Rs,7.01 per unit (as per Order No-7 of 2014, dated 12.09.2014) and Rs.5.10 per unit (as per Order No-2 of 2016. dated 28.03.2016), based on the date of commissioning for the next 25 years.

4.22. First of all it is an injection beyond the technical limit and feasibility. Secondly such injections could only be due to illegality known to petitioners only; and thirdly a blatant violation of open access approval. While so, in the case of developers injecting any excess generation, TANGEDCO is not required to procure such high cost energy, generated illegally beyond the contracted CUF of 19%, injected into the grid beyond the approved open access quantum and there is no provision in the Power Purchase Agreement or Tariff Order issued by the Commission or any Regulation of Commission to purchase the excess energy injected into grid generated beyond the contracted CUF of 19%. Further, TANGEDCO is procuring "INFIRM" Solar Power with a Social responsibility to promote Green Power and also to meet the RPO requirements set by MNRE. Hence, TANGEDCO is not bound to procure high cost power beyond the said limits.

4.23. The CUF is one of the parameter to determine the “Preferential Tariff” for a long term period of 25 years. It is well known fact that the CUF may vary according to location and the technology used. TANGEDCO is not disputing the payment for the export energy arrived for the contracted CUF of 19% fixed by the Commission in its Preferential Tariff Orders. TANGEDCO stand is that it is not bound to purchase high cost power at the rate of Rs.7.01 per unit or Rs.5.10 per unit, allegedly generated beyond the contracted CUF of 19%, exported to TANGEDCO/TANTRANSCO grid, particularly when the solar power may be available now at the rate of around Rs.2.80/- per unit and it also would amount to paying premium for wrong doer.

4.24. The petitioner has claimed that it has generated excess energy beyond the contracted CUF of 19% and injected such excess energy into TANGEDCO /TANTRANSCO grid. TANGEDCO have segregated such excess energy and make payment to the extent of energy generatable within the CUF of 19% as fixed by the Commission, for the year 2016-17,2017-18and 2018-19.

4.25. Out of commissioned 78 projects, 43 developers have generated excess energy beyond the contracted CUF, including the petitioner company and the actual amount incurred in this excess energy injection is Rs.21,92,42,278/- for the year 2016-17 alone. 59 developers have generated excess energy beyond the contracted CUF and the actual amount incurred in this excess generation is approximately 105 Crores for the year 2017-18.

4.26. The financial implication for every 1% increase in CUF is as below:

If annual CUF is calculated as 19% as fixed by the TNERC, the annual

generation for 1 MW solar power plant will be 16,64,400 units.

i.e. Annual Generation in units =  $365 \times 24 \times 1 \times 19 \times 1000 / 100$

16,64,400 units.

If annual CUF is calculated as 20% (1% above contracted CUF fixed by the Commission, the annual generation for 1 MW solar power plant will be 17,52,000.

i.e. Annual Generation in units =  $365 \times 24 \times 1 \times 20 \times 1000 / 100$

= 17,52,000 units.

4.27. For example, a developer commissioned its 1 MW solar power plant under preferential tariff scheme as per TNERC tariff of Rs.7.01 per unit (Order No.7 of 2014 dated 12.09.2014), if the CUF of his plant exceeds 1%, TANGEDCO has to pay Rs.6,14,076/- ( $17,52,000 \text{ units} - 16,64,400 \text{ units} = 87,600 \text{ Units} \times \text{Rs.7.01} = \text{Rs.6,14,076/-}$ ) annually for generation beyond contracted CUF. If the tariff is Rs.5.10 per unit (Order No.2 of 2016 dated 28.03.2016), TANGEDCO has to pay Rs.4,46,760/- for 1% CUF increase on annual basis.

4.28. Out of the commissioned 1409 MW plants under preferential tariff scheme, 48 developers have commissioned their solar power plants of combined capacity of 917 MW with an applicable preferential tariff of Rs.7,01 per unit, 20 developers have commissioned their solar power plants of combined capacity of 101 MW with an applicable preferential tariff of Rs,6.28 per unit, 8 developers have commissioned their solar power plants of combined capacity of 389 MW with an applicable tariff of Rs.5.10 per unit and 2 developers have commissioned their solar power plants of combined capacity of 2 MW with an applicable tariff of Rs.4,56 per unit.

4.29. Apart from the above, under preferential tariff scheme, M/s. NLC India Limited has commissioned solar power plants of combined capacity of 630 MW and M/s. NHPC Limited has commissioned 50 MW solar power plants.

4.30. TANGEDCO have calculated annual CUF for the year 2016-17, 2017-18 & 2018-19 for each and every solar power plants commissioned under Preferential Tariff-scheme, and excess energy, if any supplied beyond the contracted CUF of 19%, are deducted and balance energy supplied for the contracted CUF of 19% are being paid by the TANGEDCO.

4.31. TANGEDCO has executed Power Purchase Agreement with the developers for a period of 25 years. If every commissioned solar plant under preferential scheme exceeds contracted CUF, it may lead to huge financial burden to TANGEDCO for the entire agreement period and TANGEDCO is not bound to purchase such high cost power. If allowed, beyond the permissible limit of 19% CUF, the petitioners instead of developing a new plant and supplying power through competitive bidding process at the rate in or about Rs.2.80/- per unit, would malafidely add Solar panels and generate and inject energy, over and above the norms and technical limit, in order to get higher tariff of Rs.7.01 or Rs.5.10, thereby unjustly enriching themselves.

4.32. As the generation of energy over and above the CUF of 19% is itself a questionable and disputed one and as there is also no provision to vary the norms of 19% to general tariff covered plants, and as there is also no provision

to pay for the alleged excess energy generated beyond the contracted CUF of 19% in Commission's "Preferential Tariff" Orders, TANGEDCO is not obligated to purchase such illegal excess energy over and above the CUF of 1% from the developers, under preferential tariff scheme by violating the open access approval and employing illegal methods.

4.33. Six developers have executed Power Purchase Agreement (PPA) with TANGEDCO during 2011-12 for supplying solar power at the rate of Rs.18.45 per unit for a period of 25 years and commissioned their solar power plants under Rooftop Photovoltaic and Small Solar Generation Programme (RPSSGP scheme) of Jawaharlal Nehru National Solar Mission (JNNSM). Under this scheme, the contracted CUF has been fixed as 19%. The excess energy, if any supplied beyond the contracted CUF of 19%, are deducted by Ministry of New and Renewable Energy (MNRE) and balance energy supplied for the contracted CUF of 19% are being paid to the developers. Hence, the petitioner is not entitled to be treated differently.

4.34. The issue involved in these Miscellaneous petitions is directly related to violation of electricity norms, tariff fixation and the methodology under which the CUF of 19% arrived at for generation from solar plants using Photovoltaic panels which was the basis for fixing a tariff by considering other parameters and the length of its life.

4.35. The averments in Dispute Resolution Petition and Interlocutory Application filed by the Petitioner company are generally repetitive and the following are

submitted with regard to energy injection beyond contracted CUF:-

- (A) The impugned orders were issued by Respondent No.2 in accordance with Tariff Orders issued by the TNERC and as such sustainable in law.
- (B) The impugned orders are in accordance with Tariff orders and there is a cap of 19% CUF. Therefore, Tariff Order not provides for CUF is factually and legally incorrect. In fact, the CERC regulations do not even provide powers to vary 19% CUF in so far as generic/preferential route and may be, based on that only the Commission in accordance with CERC Regulation has fixed the CUF as 19%. When a plant is having a capacity of 1 MW, it cannot generate more than 1 MW. Further, the Commission has not made any deduction of Auxiliary (Self) consumption. Therefore, at any rate, after self-usage, the injection cannot exceed 1 MW. If there is any excess injection over and over 1 MW, it can only be way of illegal methods for unjust enrichment. Therefore, it would be appropriate that the eligible payment at the end of the year be 19% CUF after calculation and restriction to 19% CUF.
- (C) TANGEDCO accepts that the entire energy generated by the petitioner company's 15 MW solar power plant is injected into TANGEDCO/TANTRANSCO grid. However, the question herein is injection beyond contracted CUF of 19% is acceptable or not.
- (D) A Solar Plant having a particular capacity and obviously utilizing Auxiliary (Self) consumption cannot inject more energy under any circumstances. In other words, it can only be through illegal methods. The parameter CUF is one of the vital parameter in arriving the tariff for the entire agreement period of 25 years.

- (E) There is no provision in the Power Purchase Agreement (PPA) or in the Commission's Order, which specifies that the excess generation in terms of units beyond contracted CUF of 19% shall be considered for payment.
- (F) As stated by the petitioner, there may be several factors beyond the control of generator but there are some factors like technology to be followed to maintain the generation within contracted CUF and adding of panels illegally for excess injection of power into grid, which are under the control of generator.
- (G) The petitioner company in their petition has stated that the respondent cannot pick and choose one parameter i.e. CUF from the various parameters determined by the Commission for arriving the tariff. Even in the solar projects commissioned under Jawaharlal Nehru National Solar Mission (JNNSM) in Tamil Nadu at the tariff of Rs.18.45 per unit during 2011-12, there is an identical restriction for solar energy injection beyond contracted CUF of 19%. The parameters like capital cost, interest rate etc was on the higher side during 2011-12 for SPV plants. But, the Ministry of New and Renewable Energy (MNRE) has now restricted solar injection beyond contracted CUF of 19% for the above said projects, choosing the CUF parameter alone. Also, CUF is not an imaginary parameter, it is one of the vital parameter in arriving the tariff for the entire agreement period of 25 years.
- (H) The impugned orders are guidelines and are issued based on the Tariff Orders. Hence, the principles of natural justice has no role to play.
- (I) The decision relied on HarbansLal case in (1993) 3 SCC 656 relates to

non-issue of notice despite requirement under the Customs Act. The West Bengal Electricity Regulatory Commission —Vs- CESC Ltd (2002) 8 SCC 715 relates mainly to validity/interpretation of Regulations relating to tariff and power of the Commission, which has no nexus whatsoever to the case on hand. Further, the decision in the Lalaram case in (2016) 11 SCC 31 has no relevance as it was under the Land Acquisition Act. So also the decision in RVK Energy Private Limited case in (2008) 17 SCC 769 has nothing to do in the facts of the case as it also relates to interpretation of AP Electricity Reforms Act, 1998.

4.36. In view of the position stated above, the averment/grounds of the petitioner are untenable.

4.37. The petitioner is not entitled to any relief in this Dispute Resolution Petition and Interlocutory Application on merits and also on an equitable consideration. In fact, the Dispute Resolution Petition and Interlocutory Application itself are not maintainable. Therefore, the petitioner is not entitled to any interim relief. Similar matter is pending before Hon'ble Madras High Court in WP.Nos. 17382 & 17383 of 2017 and WP.Nos. 18131 to 18134 of 2018 and as such ends of justice require that the petitions are liable to be dismissed. By dismissing the same no prejudice will be caused to the petitioner. Otherwise, serious prejudice will be caused to the TANGEDCO's grid security as well.

## **5. Findings of the Commission:-**

**5.1.** The petition has been filed seeking to set aside the circular issued by Respondent TANGEDCO in Lr.No.CE/NCES/SE/SOLARIEE/SCB/AEE3/F.Policy issue-PLFID.540/17 dt.14.6.2017 and consequent actions including short payments and for adherence to the terms of the PPA and not make any deductions using Capacity Utilisation Factor.

**5.2.** The instructions issued by TANGEDCO call for the following action in the case of solar generators commissioned during the control period of the Tariff orders No.7 of 2014 and 5 of 2016 issued by the Commission:

- i) Not to consider payment for excess generation in terms of units beyond the annual CUF of 19%.
- ii) To curtail the excess generation in terms of MW beyond contracted capacity.

**5.3.** The petitioners have reasoned as follows to stay the instructions of TANGEDCO:

(i) Neither the regulations/orders nor the PPA have any provision to restrict payment of excess generation beyond the normative CUF of 19%.The circular dt.14.6.2017 is in violation of natural justice.

(ii) TANGEDCO does not have the jurisdiction to issue such a circular when Commission has issued the tariff orders for solar power in Order No.7 of 2014 and Order No.2 of 2016 notifying feed in tariff without differentiating PV technology type, project size, location, resource quality.

(iii) TANGEDCO is bound to compensate the excess power injected into the grid. Since risk of lower generation is on account of the Developer, the benefit of excess generation should also be on account of the developer.

(iv) Determination of generic tariff has many components based on normative values. A generic tariff provides incentive to use most efficient equipment to

maximize returns selecting suitable location for the plant. Petitioner is not expected to measure actual value of parameters.

(v) The generic tariff regime is not a 'Fixed Return on Equity' model of tariff determination like those of the respondent where ARR's are trued up and tariff suitably adjusted to ensure fixed guaranteed return

(vi) Optimum system configuration always goes with higher DC capacity and use of invertors whose total capacity is equivalent to PPA's AC output. TANGEDCO has not informed earlier, during signing of PPA or when developing the plant that payments will be made only for the CUF limit. Petitioners have invested and designed the solar plant by implementing trackers for maximum output within the technical and operational parameters specified in the PPA while still adhering to the 1 MW<sub>AC</sub> limit.

**5.4.** The justification of TANGEDCO for issue of the above instructions is :

(i) Commission has adopted 'cost plus tariff' determination assuming certain reference values for tariff components.

(ii) CUF is the actual output from a solar power plant over the year to the maximum possible output in a year under ideal condition. CUF in all of TNERC's orders is 19%. The tariff order does not say about tariff for generation beyond rated CUF.

(iii) Guidelines for tariff based competitive bidding for solar have a provision to fix tariff for excess energy beyond contracted CUF and penalty for supplying energy less than the contracted CUF.

(iv) CERC in its regulations on Tariff determination from Renewable Sources of energy has specified CUF of 19% and Commission may deviate from the norms only in project specific tariff determination.

- (v) The injection above 19% CUF is beyond technical limit and feasibility and a blatant violation of open access approval.
- (vi) There is no pending payment for energy export for the year 2016-17 and 2017-18. Only payment for excess energy generated has been deducted.
- (vii) Seven developers filed W.P Nos. 27531 of 2017, W.P Nos.17382 & 17383 of 2017, W.P Nos. 18131 to 18134 of 2018 before the Hon'ble High Court of Madras and obtained interim stay of the circular dt.14.6.2017 issued by TANGEDCO. TANGEDCO has filed stay vacate petitions. One case(W.P No.27531 of 2017) has been closed as withdrawn.
- (viii) Out of the commissioned 78 projects, 43 developers have generated excess energy equivalent to Rs. 21.92 crore during 2016-17 and Rs.107 crores during 2017-18. For every 1% increase in CUF per MW, the financial implication to TANGEDCO would be Rs.6.14 Lakhs under Order No.7 of 2014 and Rs. 4.46 Lakhs under Order No. 2 of 2016.
- (ix) If no restrictions are in place, petitioners would add solar panels and always supply at higher CUF.
- (x) For the solar plants under the scheme RPSSGP and JNNSM at a tariff of Rs.18.45, payment is made only for energy generated at CUF of 19%.
- (xi) There is no provision in PPA or in order which says that payment should be made for excess generation. TANGEDCO procures infirm solar power with a social responsibility to promote green power and to meet RPO set by MNRE.TANGEDCO is not required to procure such high cost energy beyond 19% CUF.
- (xii) Rates arrived through competitive bidding are cheaper and is less than Rs.3/unit.

**5.5.** The issue that arises here is whether payments can be restricted on the normative CUF of 19% adopted to determine generic tariff more so when a PPA is executed between the generator and the licensee on the basis of the preferential tariff order issued by the Commission.

**5.6.** Both the petitioners and TANGEDCO have relied on the 'Cost plus tariff determination' methodology adopted in the Commission's Tariff orders issued for solar power and interpreted it to their advantage.

**5.7.** Similarly, the petitioners and TANGEDCO have brought the provisions in the EPA to each one's favour to decide on the issue of non payment or payment of generation beyond a CUF of 19%. The petitioner contends that there is no provision in the EPA to restrict CUF whereas TANGEDCO contends that EPA does not mention about payment for excess generation.

**5.8.** This is a case where an Energy Purchase Agreement has been signed based on the preferential tariff orders issued by the Commission. The preferential tariff order has been issued by the Commission under the provisions of the Electricity Act, 2003(sections 61,62,86(1)(e)), relevant provisions of National Electricity Policy, Tariff Policy on procurement from renewable energy sources and the Commission's regulations on Power procurement from New and Renewable sources of energy. The tariff has been determined in accordance to Regulation 4 of Commission's Power procurement regulations for New and Renewable Sources of energy.

**5.9.** Regulation 4 of Commission's Power Procurement from New and Renewable Sources of Energy regulations is as follows:

*"4(1) The Commission shall follow the process mentioned below for the determination of tariff for the power from new and renewable sources based generators, namely;-*

- a) initiating the process of fixing the tariff either suomotu or on an application filed by the distribution licensee or by the generator.*
- b) inviting public response on the suomotu proceedings or on the application filed by the distribution licensee or by the generator.*
- d) issuing general / specific tariff order for purchase of power from new and renewable sources based generators.*

*(2) While deciding the tariff for power purchase by distribution licensee from new and renewable sources based generators, the Commission shall, as far as possible, be guided by the principles and methodologies specified by:*

- (a) Central Electricity Regulatory Commission*
- (b) National Electricity Policy*
- (c) Tariff Policy issued by the Government of India*
- (d) Rural Electrification Policy*
- (e) Forum of Regulators (FOR)*
- (f) Central and State Governments*

*(3) The Commission shall, by a general or specific order, determine the tariff for the purchase of power from each kind of new and renewable sources based generators by the distribution licensee. In case of small hydro projects with a capacity of more than 5 MW but not exceeding 25 MW capacities, Commission decides the tariff on case to case basis.*

*Provided where the tariff has been determined by following transparent process of bidding in accordance with the guidelines issued by the Central Government, as provided under section 63 of the Act, the Commission shall adopt such tariff.*

*(4) While determining the tariff, the Commission may, to the extent possible adopt to permit an allowance / disincentive based on technology, fuel, market risk, environmental benefits and social impact etc., of each type of new and renewable source.*

*(5) While determining the tariff, the Commission shall adopt appropriate financial and operational parameters.*

*(6) While determining the tariff the Commission may adopt appropriate tariff methodology.”*

Accordingly, Commission has determined the tariff for solar power under section 62 of the Electricity Act 2003.

**5.10.** Commission's regulations provide to adopt 'appropriate tariff methodology' and therefore Commission has adopted 'cost plus single part levelised tariff' methodology. The tariff components are

1. Capital investment
2. Capacity Utilization Factor
3. Operation and maintenance expenses
4. Insurance cost
5. Debt-equity ratio
6. Rate of Interest and Term of Loan
7. Life of plant and machinery
8. Interest and components of Working Capital
9. Return on equity
10. Depreciation rate applicable

All the above components determine the tariff at which the Energy Purchase Agreement is to be signed by the developer with the Distribution Licensee. Commission has so far issued five preferential tariff orders for solar power and has adopted the same tariff determination methodology.

**5.11.** Regarding, cost plus tariff determination, Cost plus tariff is a methodology in which the generator is paid its actual cost plus a profit. This is confirmed further in the statement of CERC in its SoR for the Tariff regulations 2009 extracted below: "26.3 ..., the Commission is of the view that under 'Preferential Tariff' approach based on cost plus regime, the tariff in a Cost plus regime is determined upon ascertaining normative costs and performance parameters and in view of the fact

that all reasonable costs are being allowed to be recovered through such preferential tariff and it is fair that any subsidy or generation based incentive be factored in while determining tariff.”

**5.12.** The generators in a cost plus tariff are not required to submit any evidence or any supportive documents except in the case of availing of fiscal incentives.

**5.13.** Say, if the generators obtain finance at a lesser interest rate, it is not passed on to the licensee. On the cost plus profit, no generator will sell energy at a loss to TANGEDCO as the tariff model takes care of the investor.

**5.14.** Let us see the relevant provisions on Cost plus Tariff determination and Capacity Utilisation Factor in the Order no.7 of 2014 on determination of tariff :

(i) Relevant extracts of the order No.7 of 2014 on cost plus tariff and CUF is as below:

Extract of the order:

**“8.3. Cost-Plus Tariff Determination**

*8.3.1. Regulation 4(6) of “Power Procurement from New and Renewable Sources of Energy Regulations 2008” empowers the Commission to adopt “appropriate tariff methodology” to determine the tariff for solar power. Cost-plus tariff determination is a more practical method and it can be easily designed to provide adequate returns to the investor and a surety of returns will lead to larger investment in solar power plants. Para 6.4 of the Tariff Policy specifies that procurement by the distribution companies shall be done at preferential tariff determined by the Commission till such time the non-conventional technologies compete with the conventional sources in terms of cost of electricity. At the prevailing cost, the cost of solar power is generally higher than the cost of predominant conventional power. Therefore Cost-Plus tariff is adopted for determination of tariff in respect of solar projects.”*

**“9.3. Capacity Utilization Factor (CUF)**

*9.3.1. Many of the stakeholders have suggested a CUF of 17 to 18%. Some of the stakeholders have recommended to adopt a CUF of 19%. Stakeholders have also suggested deration of 0.5% to 1% during the life of the plant. The Commission has adopted the capital cost taking into account the cost of replacement of modules in respect of degradation during the life time. The CERC has adopted a CUF of 19% and has not considered any deration in its order. Most of the SERCs have also considered a CUF of 19% in their orders. The Commission decides to adopt the CUF of 19% for solar PV projects and 23% for solar thermal projects. These CUFs are considered taking into account the efficiency factors of equipment, deration etc.”*

(ii) Similar provisions exist in the Order No.2 of 2016 and hence orders on solar power therefore are not reproduced. As mentioned in the above tariff orders, cost plus tariff provides surety and safe returns to the investor and a CUF of 19% is considered on account of efficiency factors while stakeholders had requested for CUF of 17% to 18%.

**5.15.** The Capacity Utilisation factor (CUF) set out by CERC in its RE Tariff Regulations, 2012 which prevailed at the time of issue of the first tariff order of solar power in Order No.7 of 2014 is as follows:

***“53. Capacity Utilisation Factor***

*(1) The Capacity utilisation factor for Solar PV project shall be 19%.*

*Provided that the Commission may deviate from above norm in case of project specific tariff determination in pursuance of Regulation 7 and Regulation 8.”*

The above provision is specified in CERC’s RE Tariff regulations 2017 which has a control period of three years.

**5.16.**In the context of this case MNRE’s advisory dt.5.11.2019 issued with respect to considering MW<sub>AC</sub> capacity of solar power plants is also reproduced below:

**“ F. No. 283/63/2019-GRID SOLAR**

Government of India

**Ministry of New & Renewable Energy**

Grid Solar Power Division

Block No. 14, C.G.O. Complex,  
Lodi Road, New Delhi - 110003

**Dated: 5th November, 2019**

**ADVISORY/ CLARIFICATION**

**Sub: Advisory / Clarification w.r.t. D.C. Capacity of Solar PV Power Plants**

*(1). MNRE has received representations from various Solar Developers/ Solar Developer Associations that recently few States have raised questions and concerns around globally*

*adopted practice of installing additional DC capacity, over and above the nameplate /contracted AC capacity, with the objective of meeting the committed Capacity Utilisation Factor (CUF) in Power Purchase Agreements (PPAs) / Power Supply Agreements (PSAs).*

*(2). It has further been stated that the State Governments feel that installation of such additional capacity serves as a medium for additional revenue generation for the developers and that such additional DC capacity cannot be allowed.*

*(3). The issue has been examined in the Ministry of New & Renewable Energy (MNRE), and it is noted that:*

*i. As per the present bidding practice, the procurer, whether State Government Agencies/ DISCOMS or Central Government entities like SECI/ NTPC, invite bids from solar power developers for setting up solar PV power plant of a certain capacity (MW). The capacity won by the successful bidder (solar PV power developer), on signing of Power Purchase Agreement (PPA) becomes the "Contracted Capacity", which is the capacity (MW) in AC terms, allocated for supply by that bidder.*

*ii. Along with 'Contracted Capacity', the PPA also provides for a range of energy supply based on Capacity Utilisation Factor (CUF). While the procurer is not obligated to buy energy beyond this range, the developer is liable for penal charges for supply of energy less than the minimum committed energy or minimum committed Capacity Utilisation Factor (CUF).*

*iii. Thus, the PPAs define the relationship between the Solar Developers and the procurer in terms of AC capacity, and range of energy supply based on CUF, with procurement obligation within this range.*

*iv. The requirement of designing and installation of additional DC panels may emanate from the contractual need to supply the committed energy and does not cast any obligation on the procurer to buy generation in excess of the contracted energy range.*

v. The procurer, without getting into the design and installation of solar capacity on the DC side, should only ensure that the AC capacity of the solar PV power plant set up by the developer corresponds with the contracted AC capacity and that, at no point, the power (MW) scheduled from the solar PV power plant, is in excess of the contracted AC capacity.

(4). Accordingly, all concerned are hereby advised that:

i. As long as the solar PV power plant is in accordance with the contracted AC capacity and meets the range of energy supply based on Capacity Utilisation Factor (CUF) requirements, the design and installation of solar capacity on the DC side should be left to the generator / developer.

ii. Even if the installed DC capacity (MWp) [expressed as the sum of the nominal DC rating (Wp) of all the individual solar PV modules installed] in a solar PV power plant, is in excess of the value of the contracted AC capacity (MW), it is not violation of PPA or PSA, as long as the AC capacity of the solar PV power plant set up by the developer corresponds with the contracted AC capacity and that, at no point, the power (MW) scheduled from the solar PV power plant is in excess of the contracted AC capacity, unless there is any specific clause in the PPA restricting such D.C. capacity.

iii. The contracting party is not obliged to buy any power in excess of the contracted quantum. There is provision of penalty in case the supply falls short of the contracted quantity.

iv. As per law, the setting up of generation capacity is an unlicensed activity and therefore any person is entitled to set up any capacity which he desires to set up, and sell power to any entity which may want to buy it.

(5). This issues with the approval of Hon'ble Minister (Power & NRE).

(SanjayKarndhar)

Scientist-C

Email: karndhar.sg@nic.in

**To: All concerned**

**Copy to:** NIC, MNRE, for uploading on MNRE website.

Copy for internal circulation to:

Sr. PPS to Secretary/ PPS to SS/ Sr. PPS to JS (AKS)/ Dir (RG).”

The clarification issued by MNRE throws light on considering the contracted MW<sub>AC</sub> capacity mentioned in the PPAs/PSAs through competitive bidding process in a Solar PV power plant in the light of meeting the committed Capacity Utilisation Factor.

**5.17.** To emphasize the relevance of power procurement under preferential tariff orders, sections of the Tariff Policy 2016 are extracted below:

***“5.0 GENERAL APPROACH TO TARIFF***

***5.1 ....***

*5.2 All future requirement of power should continue to be procured competitively by distribution licensees except in cases of expansion of existing projects or where there is a company owned or controlled by the State Government as an identified developer and where regulators will need to resort to tariff determination based on norms provided that expansion of generating capacity by private developers for this purpose would be restricted to one time addition of not more than 100% of the existing capacity.*

....

*Provided also that the State Government can notify a policy to encourage investment in the State by allowing setting up of generating plants, including from renewable energy sources out of which a maximum of 35% of the installed capacity can be procured by the Distribution Licensees of that State for which the tariff may be determined under Section 62 of the Electricity Act, 2003.*

*Provided that notwithstanding the provision contained in para 5.11(j) of the policy, the tariff for such 35% of the installed capacity shall be determined by SERC.*

***6.4 Renewable sources of energy generation including Co-generation from renewable energy sources:***

*(1) Pursuant to provisions of section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of a distribution licensee for purchase of energy from renewable energy sources, taking into account availability of such resources and its impact on retail tariffs. Cost of purchase of renewable*

energy shall be taken into account while determining tariff by SERCs. Long term growth trajectory of Renewable Purchase Obligations (RPOs) will be prescribed by the Ministry of Power in consultation with MNRE.

(2) States shall endeavor to procure power from renewable energy sources through competitive bidding to keep the tariff low, except from the waste to energy plants. Procurement of power by Distribution Licensee from renewable energy sources from projects above the notified capacity, shall be done through competitive bidding process, from the date to be notified by the Central Government.

However....

.....

(4) In order to incentivize the Distribution Companies to procure power from renewable sources of energy, the Central Government may notify, from time to time, an appropriate bid-based tariff framework for renewable energy, allowing the tariff to be increased progressively in a back-loaded or any other manner in the public interest during the period of PPA, over the life cycle of such a generating plant. Correspondingly, the procurer of such bid-based renewable energy shall comply with the obligations for payment of tariff so determined.”

The Tariff Policy while promoting renewable sources of energy has considered the impacts on retail tariff, interest of the DISCOM and the public.

**5.18.** In the above backdrop, let us examine the provisions in the Energy Purchase Agreement of Solar power on contracted capacity, tariff and terms of agreement which are of relevance :

Extract of Energy Purchase Agreement for Solar Power Plants:

“ This agreement made at .....

WHEREAS the SPG has sent a proposal to the Distribution Licensee to sell solar energy generated from its solar power plant No(s) ..... as detailed below, having a total capacity of \_\_\_\_\_ MWAC

Sl.No.	SF No.& Address	Capacity	Plant Number
1.	Generator 1 ---- ----		
2.	Generator 2 ---- ----		
3.	-----		

AND WHEREAS the Distribution licensee has accepted the said proposal and has agreed to buy the solar energy from the SPG from their/his aforesaid generators vide Lr.No. \_\_\_\_\_ on the terms and conditions hereinafter agreed to.

(a) "Billing Period" means the time period between the date of meter reading in a particular month and the corresponding reading in the immediately succeeding month and Month shall mean a month reckoned in the British Calendar.

(b) ....

(h) "Installed Capacity" or "IC" means the AC output in MW of all the units of the Solar power generators or the total capacity of the Solar generating station (reckoned at the generator terminals) as declared by the generator and agreed by the distribution licensee.

.....

#### 5. Tariff and Other Charges:-

(a) Energy Charges:

The Solar Power Tariff shall be Rs. .... per unit as fixed by the Commission in Order

.....

(b) Reactive Power Charges: ....

.....

#### 9. Terms of the Agreement:-

(a) This agreement shall come into effect from the "Effective Date".

(b) The actual period of sale/purchase of power by the SPG/Distribution licensee under this agreement shall be valid for ..... years, subject to COD and Expiry date. (c) The parties to the agreement shall have the option to terminate the agreement for violation of any of the clauses of the agreement after serving a notice of three months on the other party."

**5.19.** The Energy Purchase Agreement between the Solar Power Generator (SPG) and the Licensee specifies the contracted capacity in MW<sub>AC</sub>, the tariff at which the net energy shall be purchased from the contracted MW<sub>AC</sub> capacity under the specific tariff order issued by the Commission. The agreement does not spell the quantum of energy that will be paid at the agreed tariff or the CUF.

**5.20.** The CUF is a parameter that is fixed after analysis of data of generation and applicable to all SPGs governed by respective solar tariff orders. Unlike other parameters that decide on the investment of the generator, CUF is a vital parameter that has a direct bearing on the tariff.

**5.21.** The Capacity Utilization Factor (CUF) is the ratio of the actual electricity output from the plant to the maximum possible output during the year. Capacity Utilisation Factor in other words is the ratio of actual energy generated against 100% existence of the plant. It is agreed that the estimated output from the solar power plant depends on the design parameters. Several variables like quality of panels, high temperatures, cloud cover, atmospheric factors, inherent cable losses contribute to CUF. On account of these factors CUF can vary. The CUF considered for tariff determination is 19% and therefore developers can design for maximum efficiency to operate at 19% CUF. The petitioners' statement of installing trackers to generate higher energy can be of acceptance if by installing trackers they are able to achieve a CUF of 19% instead of a lesser quantum.

**5.22.** The petitioners M/s.Crescent Power Ltd, M/s.B.S.Apparel and M/s. Ranergy Solutions P Ltd. have generated upto CUF of 20.14%, 22.60% and 22.87% respectively during 2016-17. If payments are to be made for generation beyond CUF of 19%, then the determined tariff at higher CUF will naturally be less. The petitioners cannot seek payment for investments made to increase the performance of the plant beyond the specified parameter of 19% CUF.

**5.23.** For every increase in CUF by 1%, above the CUF of 19% adopted in the tariff orders of the Commission, the change in tariff would be as follows:

Increase in CUF beyond 19%	Tariff under Order No.7 of 2014 in Rs.		Tariff under Order No.2 of 2016 in Rs.	
	without Accelerated Depreciation	with Accelerated Depreciation	without Accelerated Depreciation	with Accelerated Depreciation
By 1%	6.66	5.96	4.84	4.33
By 2%	6.34	5.68	4.61	4.13
By 3%	6.06	5.42	4.40	3.94
By 4%	5.79	5.19	4.21	3.77
By 5%	5.55	4.97	4.04	3.61

Cases contested pertain to the Tariff orders of 2014 and 2016 and hence are taken for illustration. From the above table, one can notice the huge impact on tariff caused by every increase in per cent of the CUF. Another illustration that shows the earnings of a developer per MW at CUF of 19% and 23% when paid at the tariff of Rs.7.01 per unit and the revised tariff of Rs.5.79 per unit would precisely exhibit the undue enrichment of the developer and the loss to the licensee:

CUF	Gross generation	Revenue at Tariff of Rs.7.01	Revenue at tariff of Rs.5.79
19%	1664400	Rs.1,16,67,444/-(A)	-
23%	2014800	Rs.1,41,23,748/-(B)	Rs.1,16,65,692

If the requests of the solar generators to pay for the excess CUF is considered, then the generators stand to gain by Rs.25 lakhs per MW per annum (B - A) above their cost plus profit that is permitted in the tariff orders issued by the Commission.

**5.24.** The petitioners contentions of restricted financial returns and inability to sustain PPAs cannot hold water. When payments are made for the energy

generated to the extent of CUF of 19% which is the norm considered for the tariff determined, and the EPA specifies the tenure of the agreement thus assuring long time offtake of power, petitioners cannot complain of impact of project viability and revenue loss. The generic tariff determined is a levelised tariff that offers a safe return on equity to the investor. The tariff working provides repayment of loan within 10 to 11 years. Above all, the order provides for power purchase by distribution licensees for their Renewable Purchase Obligation (RPO) compliance.

**5.25.** In the case of Rithwick Energy Systems Limited vs Transmission Corporation Of Andhra Pradesh in Appeal Nos.90,91 etc. of 2006 on 28 September, 2006, on the issue of the declaration that even in the absence of Commission's directions the petitioner has no obligation to purchase excess delivered energy from the Respondent at any point of time in terms of the provisions of PPA, Hon'ble APTEL held as follows:

*"26. We agree with the learned Counsel for the first respondent that the capacity of the power plant was crucial to the agreement of sale and purchase of energy between the appellant and the first respondent. In case the capacity factor was irrelevant, there would not have been reason enough for the appellant to seek approval of the NEDCAP for enhancement of capacity of the plant. Generally speaking in a contract of sale and purchase, quantities are fixed so that parties know their obligations. An element of uncertainty has to be avoided as otherwise the parties cannot be said to be ad- idem or having same understanding of the terms of the contract. A party cannot be saddled with a liability which was not even in its contemplation, when it entered into an agreement with the other party. The agreement speaks of definite capacity of the plant. In Schedule 1 to the PPA, capacity of the generator and the station has been indicated as 6 MW. Delivered energy clause in the agreement has nexus with the generating capacity of the plant and*

*cannot be read in isolation. It was argued by the learned Counsel for the appellants that the generating plant has an inbuilt ability to produce approximately 20% more energy than the declared capacity. This argument has not been supported by the learned Counsel for the appellants by providing any scientific data. Accordingly, the submission of the learned Counsel for the appellants that all delivered energy beyond 100% PLF on monthly basis is required to be computed for payment, cannot be accepted.”*

**5.26.** Commission is of the view that a PPA signed with respect to the provisions in a preferential tariff order cannot be equated with a PPA signed to purchase power through competitive bidding guidelines. A developer who signs the PPA under competitive bidding guidelines has to bear the risks associated with his price quote whereas a developer under the preferential tariff scheme is guaranteed of a safe return on investments over a long tenure of 20 to 25 years with prior knowledge of tariff and its components.

**5.27.** An argument may arise on violability that a PPA has been signed between the developers and the distribution licensee. The Energy Purchase Agreement signed between the developers and the Distribution Licensee is based on the preferential tariff order issued by the Commission wherein Commission has adopted the CUF of 19% to determine the tariff. The terms of the purchase agreements specify the order under which the agreement is signed and the tariff and this tariff necessarily has to be for the energy generated upto a CUF of 19%. The terms of the PPA are binding on both the parties equally. Even if one were to say that the CUF or units to be purchased were not mentioned in the PPA, then the judgment delivered by the Hon'ble Supreme Court of India in Civil Appeal Nos. 5399-5400 of 2016 dt.11.4.2017 would come to the rescue.

**5.28.** The Hon'ble Supreme Court of India in the judgment delivered in The Energy Watchdog vs CERC in Civil Appeal Nos.5399-5400 of 2016 on 11.4.2017 while discussing the sanctity of the PPA has observed as follows: ,

*“19. ....It is clear that in a situation where the guidelines issued by the Central Government under Section 63 cover the situation, the Central Commission is bound by those guidelines and must exercise its regulatory functions, albeit under Section 79(1)(b), only in accordance with those guidelines. As has been stated above, it is only in a situation where there are no guidelines framed at all or where the guidelines do not deal with a given situation that the Commission's general regulatory powers under Section 79(1)(b) can then be used.”*

This observation answers to the queries that may arise in settling this case.

**5.29.** A contract cannot cause loss to the other party. TANGEDCO's purchase of power under the preferential tariff orders of the Commission issued is to promote RE and for compliance of RPO. To incur higher costs on account of higher CUF is an additional financial burden to the DISCOM. If the petitioners are to seek for payment for entire energy generated at higher CUFs for having maximized the output with optimized design of the solar power plant as putforth by the petitioners, they may have to settle for lesser tariffs for the entire energy generated with respect to the contracted capacity undergoing a re-determination of tariff as per statutory provisions.

**5.30.** In view of the aforementioned facts and discussions, considering the peculiar nature where the process of adding panels to the DC side is in vogue in any solar power plant, Commission decides that

(i) the payments to the SPGs governed by the tariff orders No.7 of 2014 dt.12.9.2014 and No.2 of 2016 dt.28.3.2016 shall be limited to the annual generation that corresponds to the CUF of 19%.

(ii) at any point of time the AC capacity of the solar PV power plant set up by the developer should correspond with the contracted AC capacity and the scheduled power at no point of time shall be in excess of the contracted capacity.

The above direction would be fairly even to the SPGs, Distribution Licensee and the consumers.

With the above order, this petition is finally disposed of.

(Sd.....)  
**(K.Venkatasamy)**  
Member (Legal)

(Sd.....)  
**(Dr.T.PrabhakaraRao)**  
Member

(Sd.....)  
**(M.Chandrasekar)**  
Chairman

/True Copy /

Secretary  
Tamil Nadu Electricity  
Regulatory Commission