=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)**

M.P. No.14 of 2018

Tamil Nadu Generation and Distribution
Corporation Ltd.
(Represented by the Chief Engineer / Non-Conventional Energy Sources
No.144, Anna Salai
Chennai -600 002.

… Petitioner
(ThiruM.Gopinathan
Standing Counsel for the Petitioner)

Dates of hearing **:** **08-06-2018; 14-08-2018; 18-09-2018 and 17-09-2018**

Date of Order **:** **29-10-2019**

ORDER

1. Prayer of the Petitioner in M.P.No.14 of 2018 is to pass an appropriate order granting exemption of such HT consumers establishing solar power plants within the premises for mere parallel operation for captive use without export of power from applying regulation 8 of the Tamil Nadu Electricity Distribution Code, 2004.

2. We have heard the submissions of the learned Standing Council for TANGEDCO. He has almost reiterated the contentions raised in the petition.

3. The Petitioner has stated that the Government of Tamil Nadu on 19-10-2012 issued Solar Policy vide G.O. No. 121 dated 19-10-2012. Clause 14 of the said Solar Policy envisaged establishment of 3000 MW of Solar PV Power plants by 2015 as detailed below:-

	Utility Scale (MW)	Solar Roof Tops (MW)	REC (MW)	Total (MW)
	(a)	(b)	(c)	(d)
2013	750	100	150	1000
2014	550	125	325	1000
2015	200	125	675	1000
Total	1500	350	1150	3000

4. The Petitioner has further submitted that the Government of India has envisaged an ambitious cumulative Renewable Energy target achievement of 175 GW as follows:-

(i) 100 GW Solar – (60 GW through utility scale & 40 GW by Roof Top Systems), 60 GW Wind, 10 GW Biomass and 5 GW Small Hydro by the year 2022.

(ii) The present solar installed capacity of the country is about 15,500 MW including roof top projects.

(iii) The cumulative solar power generation for Tamil Nadu is targeted at 8900 MW (fixed by Government of India), out of cumulative 100 GW solar installed capacity planned by Government of India, which is to be achieved by 2022.

5. The details on solar installations under various categories, Tamil Nadu, as per petition are furnished below:-

Sl. No.	Category	No. of developers	Capacity in MW
	I Grid Connected		
1	Central Government scheme (Sale to Board)	9	26.000
2	Preferential Tariff (Sale to Board)	81	1689.000
3	Preferential tariff (wheeling)	24	64.119
4	REC scheme (Sale to Board & Wheeling)	66	120.152
5	Tender Scheme (Sale to Board)	3	21.000
	Total	**183**	**1920.271**
	II. Roof Top		
1	Roof Top / Ground mounted SPV plants within the HT consumer premises w/o net meter LT consumers (net metering)	207 7089	100.44 28.056
	Total		**128.496**
	Grand Total	**7471**	**2048.767**

6. In the year 2013 some of the HT consumers have requested the TANGEDCO to connect their proposed roof top/ground mounted solar power plants, within their service connection premises, in their HT/LT network without export of energy into grid. As there was no technical issue found, TANGEDCO started facilitating parallel operation approvalsto all such HT consumers subject to the following usual conditions:

- The solar PV power plants shall be synchronized with TANGEDCO grid in the presence of Board Engineers during initial commissioning.
- Safety certificate from the CEIG should be obtained by the Solar Power generator (SPG) before commissioning the plant.
- The generator has to provide reverse power relay in the consumer side which can be disabled or enabled according to the requirements of TANGEDCO.

* As the reliability operation and safety of equipments in the synchronized condition is entirely dependent on the performance of the Inverter unit, the

protection logics in the Inverter specifications shall be tested in the site conditions before commissioning the system in complete shape.

- The promoter is solely responsible for any accident to human beings or animals whatsoever (Fatal/Non-fatal/Departmental/Non-departmental) that might occur due to feedback from Solar power plants when HT Grid supply is off.
* The protection and insulation coordination of the A.C side of the Inverter with the existing LT panels shall be verified before commissioning the Solar PV power plant.
- The healthiness of the lightening masts and their coverage, the spread area of the solar modules on the roof top shall be verified.
- The surge arrestors in the SPV circuits and the adequacy of their earth connectivity shall be verified.
- The DC side of the SPV plant shall not be earthed.
- The entire energy generated should be consumed within the premises itself and they should not export power to TANGEDCO. If any power is exported it will not be considered for adjustment against consumption and it will not be considered for payment.
- The SPG shall restrict the harmonic generation within the limit to be set by the Central Electricity Authority.
- As per the TNERC's Grid Connectivity and Intra State Open Access Regulations, 2014 parallel operation charges per month for each MW capacity or part thereof fixed by the Commission from time to time has to be paid by the generator. This charge is applicable as the generator is availing

parallel operation with the grid for captive use of solar power without availing open access.

- This approval is purely a technical authentication for parallel operation of the plant with TANGEDCO grid and the commercial and other terms are not a binding factor which is regulated by the relevant orders.

7. Regulation 8 of the Tamil Nadu Electricity Distribution Code, 2004 has been amended in the year 2015 so as to permit the generators to evacuate the power by interfacing with the distribution system and to require such generators, including those with captive loads within the premises, (barring the generators injecting to the grid through net metering) to connect to the sub-station through a separate feeder and that no other distribution load shall be connected to such feeder.

8. Consequent on the above amendment to the Distribution Code, the facility of approving parallel operation for the establishment of roof top / ground mounted SPV plants within the premises of HT consumers for captive use without export of power is being accorded to the consumers, only to those who have separate feeder/dedicated feeder, irrespective of capacity, by TANGEDCO, subject to usual conditions as aforesaid with an additional condition that no other HT service connection or distribute transformer shall be connected in the existing feeder feeding the HT service of concerned generator, in future.

9. Approximately 50 applications for a combined capacity of approximately 15 MW for the establishment of roof top / ground mounted solar power plants within the HT consumer premises for parallel operation without export are received but

could not be accorded approval as these HT consumers are not fed with a "Separate feeder".

10. All the HT consumers may not be having separate / dedicated feeder. It is also not found viable for the TANGEDCO to facilitate separate breaker arrangement in TANGEDCO / TANTRANSCO SS to such of those HT consumers, who may wish to establish roof top / ground mounted solar power plants within their premises.

11. A representation from the Secretary, Tamil Nadu Solar Energy Developers Association vide letter dated 08-02-2018 was also received by the TANGEDCO wherein it was requested that the regulation is applicable only for generators and not for consumers and that NOC may be approved for such cases when the power is exported to the grid.

12. The petitioner therefore prayed for granting suitable exemption for according approval for parallel operation of solar power plants at LT / HT side of all HT consumers without export of power which may mitigate the grievance of such HT consumers.

13. Findings of the Commission:-

13.1. The petitioner has sought to grant exemption from application of Regulation 8 of the Tamil Nadu Electricity Distribution Code as amended in Commission's Notification No.TNERC/DC/8-22 dated 23-01-2015 in order to permit HT consumers to install Solar Power Plants for use within their premises with no export

of power, in parallel operation with the grid, without the need to erect any separate dedicated feeder.

13.2 The learned Standing Counsel for the Petitioner would submit that prior to the issue of the amendment to the Regulation, many consumers were accorded approval to connect their solar power plants to the grid in parallel operation irrespective of whether they had a dedicated feeder or not subject to certain conditions and it is only after the issue of the amendment to regulation 8, parallel operation of solar power plants with the grid was permitted only to consumers who have separate / dedicated feeder irrespective of capacity of the power plant.

13.3. For the purpose of clarity, the amended Regulation 8 of Tamil Nadu Electricity Distribution Code is extracted below:-

"8. Distribution System Interface with Generators:-

The generators may be permitted to evacuate the power by interfacing with the distribution system. They shall comply with the norms specified by the Commission and the Authority for capacity, connectivity, safety etc.:

Provided that such generators, including those with captive loads within the premises, barring the generators injecting to the grid through net metering system, shall be connected to the substation through a separate feeder, and no other distribution load shall be connected to this feeder."

13.4 The above Regulation exempts generators under net metering from erecting any dedicated feeder. Further, the above Regulation 8 only speaks of power plants connected to the Distribution System and that are evacuating power.

13.5 We note that the cases described by the Licensee in this petition are those of consumers who wish to set up solar power plants in the premises for the in-house loads with no evacuation of power but with connectivity to the grid. There seems to have been a mis-interpretation of the above regulation. The above regulation requiring a separate feeder is applicable to the cases of generators who evacuate / inject power to the grid. Therefore, the question of granting any exemption by the Commission does not arise.

13.6 The Licensee can always exercise prudence check to accord approval for parallel operation with or without dedicated feeder in case of power plants with no export of power to the grid depending on technical feasibility and observing safety norms. However, there needs to be a restriction in granting approval for parallel operation of generators which are not connected exclusively through separate feeders in order to limit effects of any inadvertent injection of energy in the distribution network. It is seen from the petition that approvals have been accorded for plant capacities upto 10 MW to consumers who have dedicated feeders, the highest of which is 4 MW. About 50 applications of solar generating plants of capacities upto 15 MW are reported to be kept pending as the consumers do not have separate feeders. It is noted that TANGEDCO has accorded approvals for parallel operation of solar power plants without insisting on separate feeders prior

to the issue of amendment to Regulation 8. Effects of these parallel operations on the distribution network have not been discussed in the petition.

13.7 In view of the thrust given by Government of India for implementing Grid Connected Rooftop and small solar power plants in order to achieve the cumulative capacity of 40 GW RTS plants by 2022. TANGEDCO may permit parallel operation to HT consumers with Solar Power Plants in a premise with capacities less than 1 MW or equal to the sanctioned demand whichever is less, without the need for a separate feeder upto FY 2021-22, subject to technical feasibility, safety norms and other conditions normally being followed and collection of parallel operation charges as applicable.

With the above orders, the M.P. No.14 of 2018 is finally disposed of.

(Sd.....)	(Sd.....)	(Sd.....)
(K.Venkatasamy)	**(Dr.T.PrabhakaraRao)**	**(M.Chandrasekar)**
Member (Legal)	**Member**	**Chairman**

/True Copy /

Secretary
Tamil Nadu Electricity
Regulatory Commission