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

and

Thiru K. Venkatasamy … Member (Legal)

M.P. No.1 of 2021

M/s. NLC India Limited
135, EVR Periyar High Road
Kilpauk
Chennai – 600 010. … Petitioner
(Thiru K.Harishankar
Advocate for the Petitioner)

Vs.

1. Tamil Nadu Generation and Distribution Corporation Limited
NPKRR Maaligai
144, Anna Salai
Chennai – 600 002.

2. Chief Engineer, NCES
TANGEDCO
NPKRR Maaligai, II-Floor
144, Anna Salai
Chennai – 600 002.

3. Chief Engineer, Transmission
TANTRANSCO
NPKRR Maaligai, II-Floor
144, Anna Salai
Chennai – 600 002.

4. Chief Engineer, SLDC
TANTRANSCO
NPKRR Maaligai
144, Anna Salai
Chennai – 600 002.

5. Superintending Engineer, TANGEDCO
Electricity Distribution Circle
Cuddalore – 607 004.

6. Superintending Engineer, TANGEDCO
Electricity Distribution Circle
Tirunelveli – 627 011.

7. Superintending Engineer, TANGEDCO
Electricity Distribution Circle
Ramnad – 623 503.

8. Superintending Engineer, TANGEDCO
Electricity Distribution Circle
Viruthunagar – 626 001.

9. Superintending Engineer, TANGEDCO
Electricity Distribution Circle
Tuticorin – 628 001.

… Respondents
(Thiru . M. Gopinathan
Standing Counsel for TANGEDCO)

(Thiru V.Anilkumar
Standing Counsel for TANTRANSCO)

Dates of hearing : **12-01-2021; 09-02-2021; 02-03-2021; 16-03-2021;23-03-2021;20-04-2021; 22-06-2021;13-07-2021;03-08-2021; 24-08-2021;21-09-2021;12-10-2021; 09-11-2021; 30-11-2021; 21-12-2021; 11-01-2022 and 08-02-2022**

Date of Order : **05-04-2022**

The M.P.No.1 of 2021 came up for final hearing on12-01-2021. The Commission upon perusing the affidavit filed by the petitioner, counter affidavit

filed by the respondentsand all other connected records and after hearing both the parties passes the following:-

ORDER

1. Prayer of the Petitioner in M.P No.1 of 2021:-

The prayer of the petitioner in this petition is to direct SLDC to strictly follow and enforce "MUST RUN" status on all Solar and Wind Power Plants and to direct SLDC to forthwith stop issuing Backing down/Curtailment instructions to Solar and Wind Plants, except in the situations as contemplated in the applicable Regulations and PPA .

2. Facts of the Case:-

This petition has been filed for seeking compensation with respect to Backing down of Solar & Wind Power of NLCIL.

3. Contentions of the Petitioner:-

3.1. M/s.NLC India Limited (hereinafter referred to as 'NLCIL') has installed 1400 MW capacity of Renewable Energy (Solar and Wind) at a Capital cost of nearly Rs.6000 Cr in Tamil Nadu under Power Purchase Agreement (hereinafter referred to as 'PPA') with Tamil Nadu Generation and Distribution Corporation Limited (hereinafter referred to as 'TANGEDCO') as a part of its contribution towards the Green initiatives of the Government of India.

3.2. M/s.NLCIL Solar installed capacity is nearly 33.5% of the Solar installed capacity of Tamil Nadu, by which TANGEDCO benefited for the Solar Renewable

Purchase Obligation (RPO) which is currently at 17% (RPO Solar-8051 MW) as per the Commission's order dated 27.07.2020.

3.3. The Solar energy being Green and Renewable source of Energy needs to be patronized by permitting the Solar Power plants to run continuously, at its optimum capacity, without backing down. In this regard, the Government ofIndia had come up with various statutory provisions, National Electricity Policy, and other Regulations of the Commission.

3.4. The Ministry of New and Renewable Energy (hereinafter referred to as MNRE') vide LetterNo.336/19/2017-wind, dated 01.08.2019 has clarified that "MUST RUN" status has been accorded to Renewable Energy (Solar and Wind power) as per IndianElectricity Grid code 2010 and various State Grid Codes/Regulations under the Electricity Act, 2003. According to the existing instructions, Solar and Wind power can be curtailed only on the ground of Grid Safety and Security and that too after communicating reasons of curtailment in writing to Generators.

3.5. The Commission vide Order (Ref: MP. No. 16/2016) dated 25.03.2019 had emphasized that the State Load Dispatch Centre (hereinafter, referred to as 'SLDC') cannot curtail the Renewable Power at their convenience. Backing down of RenewableEnergy sources shall be resorted to only after exhausting all other possible means of achieving and ensuring the grid stability.

3.6. Also, as per the Power Purchase Agreements signed between TANGEDCO and NLCIL for various RE Projects, the Renewable Power

generated shall be evacuated to the maximum extent subject to Grid stability and shall not be subjected to Merit Order Dispatch principles.

3.7. It was also brought to the notice of SLDC that, MNRE vide its Resolution (Amendments to the Guidelines for Tariff based competitive bidding for procurement of power from Grid) dated 22.10.2019 has reiterated "MUST RUN" status to Solar Power Projects and no Solar Power Plant, duly commissioned, should be directed to back down by a DISCOM / Load Dispatch Center (as per Indian Electricity Grid Code, under Clause 5.2U). In addition to that, MNRE vide the same Resolution (Page 23, Para 2.6 Clause 5.5.2, Offtake Constraints due to the back down) has given a provision to claim Generation Compensation from the Procurer (TANGEDCO) for effecting back downs in Solar projects.

3.8. Recently, backing down of Solar / Wind (RE) capacity quoting Grid Security is on the rise since April 2019 and NLCIL was forced to reduce Solar Power (RE) Generation to the extent of 25 % of its capacity, which has resulted in Generation losses.

3.9. Therefore, NLCIL had requested SLDC to avoid back downs and to issue guidelines to ensure the "MUST RUN" status ofNLCIL's Solar Energy (Renewable Energy) Projects. After repeated requests made to SLDC by NLCIL the frequency of back downs reduced during the period from November 2019 to March 2020. But, again during the month of April 2020, SLDC had started issuing frequent back down requests to NLCIL's 500 MW & 709 MW Solar PV plants situated in the southern districts of Tamil Nadu namely, Tirunelveli, Virudhunagar,

Ramanathapuram, Tuticorin and Aruppukottai, reducing the power generation ofNLCIL by 25 to 50 % of its capacity.

3.10. India is a signatory to United Nations Framework Convention on Climate Change (Paris Agreement) and under the said Treaty, India has committed to reduce the carbon emissions. But due to the continuing back downs enforced by SLDC, NLCIL is unable to evacuate the power that could have been generated, leading to the excess consumption of non - renewable resources, resulting in increase in carbon emissions. Also, NLCIL's Solar Power Projects have lost a quantity of nearly 98.95 MU of power generation resulting in huge Revenue loss to the tune of Rs.34.615 Crores to NLCIL. NLCIL is also deprived of full recovery of Annual Fixed Charges. This creates difficulties in supplying projected quantum of power for viability of the project as well as ensuring good financial returns for project activities. This approach of SLDC will also discourage future investments in solar sector in the State.

3.11. TNERC had passed Comprehensive Tariff Orders on Solar Powervide Tariff Order No.4 of2014 dated 12.09.2014 and Tariff Order No.2 of2016 dated 28.03.2016 and determined Single Part Levelised tariff for 25 years without considering any Grid outage or Backing down of Solar Power Project. But, if they are facing the problem of Backing down without any compensation for loss of generation it would lead to sheer loss of Revenue and making the huge investment as dead and the economic sustainability of Solar energy generation in the State would be seriously jeopardized.

3.12. Unlike conventional power plant, the applicable tariff of Solar Power Project is based on Single part Tariff and therefore, backing down of such Power directly impacts the Revenue of the Solar power plant and deprive it of full recovery of the legitimate Annual Fixed Charges determined by the Commission on normative basis for meeting the expenses of the plant.

Year	Project	Backdown in MU	Tariff Rs.	Revenue Loss in Rs. Crores
2018-19	Solar-10 MW	1.434	7.01	1.005
	Wind – 51 MW	10.960	3.51	3.847
Year Total		**12.394**		**4.852**
2019-20	Solar-10 MW	0.155	7.01	0.109
	Wind – 51 MW	7.530	3.51	2.643
	Solar-130 MW	0.904	4.5	0.461
	Solar-500 MW	15.866	4.41/3.05	5.233
	Solar-709 MW	9.908	3.47	3.438
Year Total		**34.363**		**11.883**
220-21/till Sep.	Solar-10 MW	0.092	7.01	0.065
	Wind – 51 MW	7.788	3.51	2.734
	Solar-130 MW	0.000	4.5	0.000
	Solar-500 MW	15.518	4.41/3.05	5.090
	Solar-709 MW	28.796	3.47	9.992
Year Total		52.194		17.880
Grand Total		**98.951**		**34.615**

3.13. During the month of October 2020 there is a loss of generation of 11.443 MU of power and consequent loss ofRs.4.025 Crores.

3.14 It can be seen from the above table that backdown is on an increase every year and in the year 2020-21, the backdown for the first 6 months is 152% of the backdown for the entire year 2019-20. Especially in 709 MW Plant which was won through competitive bidding. More backdown instruction are being given on a

daily basis. Even in case of Wind Energy which is seasonal, around 10% of the capacity was backed down in 2020-21 up to October 2020.

3.15. The Regulation/Orders of the Commission in regard to "MUST RUN" status states that the operation of a Solar plant cannot be curtailed except for maintenance of Grid security and that too as a last resort after exhausting all measures including backing down of conventional generators

3.16 In the above stated background, NLCIL has no option but to file the present Petition seeking directions against SLDC in regard to Backing Down instructions. The Petitioner NLCIL reserves its right to claim compensation for the loss of Generation.

4. Affidavit filed on behalf of the Respondent No.2:-

4.1. M/s. NLC India Limited had established 1X10MW,2X65 MW,4X100 MW and 2X50 MW totalling 640 MW solar PV power plant at various Villages in Cuddalore, Virudhunagar, Ramanathapuram and Tirunelveli Districts and for sale of power to Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) under Preferential Tariff Scheme. M/s.NLC India Limited had established 6X100 MW and lX109 MW totaling 709 MW solar PV power plant at various Villages in Virudhunagar,Ramanathapuram and Tirunelveli Districts under Tender scheme the details of solar power plants commissioned in respect of M/s. NLC India Limited are furnished below:-

I. Preferential Tariff Scheme (Solar)

Name of the Developer: M/s. NLC India Limited

Sl. No.	Location	Capacity in MW	Date of EPA	Tariff Rate	Date of Commissioning	HT SC
1	Neyveli, Cuddalore District	10	25-09-2015	Rs.7.01 / Unit	12-09-2014	029414180153
2	Neyveli, Cuddalore District	130	15-07-2016	Rs.4.50 / Unit	01-04-2017	069414420010
3	Tirunelveli District	100	19-10-2016	Rs.4.41 / Unit	30-03-2018	079444720008
4	Virudhunagar District	100	19-10-2016	Rs.3.05 / Unit	04-05-2018	079474620035
5	Virudhunagar District	100	19-10-2016	Rs.3,05/ Unit	16-10-2018	079474620038
6	Virudhunagar District	100	19-10-2016	Rs.3.05 / Unit	02-05-2018	079474620034
7	Ramand District	50	19-10-2016	Rs.3.05 / Unit	09-10-2019	059464780016
8	Tirunelveli District	50	19-10-2016	Rs.3.05 / Unit	04-03-2019	079444720009
	Total	640 MW				

II. Tender Scheme:(Solar)

Name of the Developer: M/s. NLC India Limited

Sl. No.	Location	Capacity in MW	Date of EPA	Tariff Rate	Date of Commissioning	HT SC
1	Manathapuram District	100 MW	26-09-2017	Rs.3.47 / Unit	29-04-2019	059484780018
2	Virudhunagar District	100 MW	26-09-2017	Rs.3.47 / Unit	21-09-2019	079494620043
3	Ramanathapuram District	109 MW	26-09-2017	Rs.3.47 / Unit	23-09-2019	059484780020
4	Tirunelveli District	100 MW	26-09-2017	Rs.3.47 / Unit	07-06-2019	079494720019

5	Tirunelveli District	100 MW	26-09-2017	Rs.3.47 / Unit	05-07-2019	07949472 0022
6	Tirunelveli District	100 MW	26-09-2017	Rs.3.47 / Unit	09-09-2019	07949472 0024
7	Tuticorin District	100 MW	26-09-2017	Rs.3.47 / Unit	24-09-2019	07949490 0401
	Total	709 MW				

4.2. M/s. NLC India Limited has installed Wind Energy Generator as below:-

Preferential Tariff Scheme (Wind)
Name of the Developer: M/s. NLC Limited

Sl. No.	Location	Capacity in MW	Date of EPA	Tariff Rate	Date of Commissioning	HT SC
1	Tirunelveli District	51 MW	18-07-2017	Rs.3.53 / Unit	29-09-2014	07923472 4252

The Energy Purchase Agreement has been entered by TANGEDCO with the above developer in the agreement format duly approved by the Commission under Preferential Tariff Scheme (Solar and Wind) and tender scheme (solar). The clauses relevant to backing down of power generation in the EPA executed are as follows:-

4.3. Interfacing and Evacuation Facilities: (Wind)

Clause3. The Wind Energy Generator and the State Transmission Utility / Distribution Licensee shall comply with the provisions contained in Central

Electricity Authority (CEA) (Technical Standards for interconnecting to the Grid) Regulations, 2007 which includes the following namely.

(a) Connection Agreement
(b) Site responsibility schedule
(c) Access at Connection site
(d)Site Common Drainings
(e) Safety
(f) Protection System and Co-ordination
(g) Inspection Test, Calibration and Maintenance prior to Connection

Clause 4. The Wind Energy Generator agrees to comply with the safetymeasures contained in Indian Electricity Rules 1956 till such time Centre Electricity Authority (Safety and Electric Supply) Regulations come into force.

Clause 5. Both the parties shall comply with provisions contained in the Indian Electricity Gird Code, Tamil Nadu Electricity Grid Code, the Electricity Act 2003, other codes and Regulations issued by the Commission / CEA and amendments issued thereon from time to time.

Clause 7. There shall be no fluctuations or disturbances to the grid or other consumers supply by the grid due to paralling of the Generators. The Wind Energy Generator shallprovide at this cost adequate protection as required by the Distribution Licensee / State Transmission Utility to facilitate safe parallel operation of the Generators with grid and to prevent disturbances to the grid.

Clause 8. The Wind Energy Generator agrees that the Distribution Licensee / State Transmission Utility shall not be responsible for any damage to his Generator resulting from parallel operation with the grid and that the Distribution Licensee / State Transmission Utility shall not be liable to pay any compensation for any such damage.

Clause 10(e). Grid availability shall be subject to the restrictionand control as per the orders of the Sate Load Despatch Centre and as per Tamil Nadu Electricity Grid Code.

Interfacing and Evacuation Facilities: (SOLAR)

Clause 2(b). The Solar Power Generator (SPG) and the DistributionLicensee/STU shall comply with the provisions contained in Commission’s Intra State Open Access Regulations 2014 and Central Electricity Authority (CEA) (Technical Standards for connectivity to the Grid) Regulations, 2007 for grid connectivity which includes the following namely;

(i) Site Responsibility Schedule;
(ii) Access at Connection Site;
(iii) Site Common Drawings;
(iv) Safety;
(v) Protection System and Co-ordination;
(vi) Inspection, Test, Calibration and Maintenance prior to Connection.

Clause 2(c) The SPG shall comply with the safety measures contained in Central Electricity Authority Regulations 2010 and as amended from time to time.

Clause 2(d) Both parties shall comply with the relevant provisions contained in the Indian Electricity Grid Code, Tamil Nadu Electricity Grid Code, the Electricity Act 2003, other Codes and Regulations issued by the Tamil Nadu Electricity Regulatory Commission/ Central Electricity Authority (CEA) as amended from time to time;

Clause 3(a) The solar power generated shall be evacuated to the maximum extent subject to Grid stability and shall not be subjected to merit order dispatch principles.

Clause 3(1) Grid availability shall be subject to the restriction and control as per the orders of the State Load Dispatch Centre (SLDC) consistent with theprovisions of the Electricity Act and regulations made thereon..

4.4. As per clause 3(a) of the EPA,the solar power generated shall be evacuated to the maximum extent subject to grid stability and as per clause (5) of the EPA for wind,bothparties shall comply Indian Electricity Grid Code.In this connection,it is submitted that the SLDC has requested the petitioner to back down their generation only on the ground of maintaining safe, secure and stable operation of grid.

4.5. The grid gets more polluted due to injection of wind and solar power which are largely variant and infirm in nature. In order to maintain grid discipline, it

becomes necessary for the grid operators to back down the power generation including renewable energy sources. Paying charges on the ground of Deviation Settlement Mechanism due to injection of wind and solar power, causes additional financial burden to Tamil Nadu Transmission Corporation Limited which in turn is passed on to the general public by the way of tariff hike.

4.6. In the case of bagasse based co-generation plants coming under renewable energy category, the following restrictions are insisted in considering the quantum of energy considered for payment at preferential tariff. The power generated up to 55% annual plant load factor, is entitled for payment at preferential tariff. The power generated over and above 55% annual plant load factor is entitled for 90% of UI tariff which is less than the preferential tariff.

4.7. In the case of bio mass power plants which also comes under renewable energy category, the following restrictions are there on annual usage of coal:

If the coal usage on annual usage of fuel is up to 15%, the entire energy is entitled for preferential tariff. If the quantum of coal usage exceeds 15% on annual usage of fuel, then the entire energy is entitled for UI tariff which is lower than the preferential tariff. It is respectfully submitted that whereas in the cases of wind and solar, entire power is entitled for payment at preferential tariff without any restrictions as followed in the cases of bagasse and bio mass plants. The un scheduled power which is actually entitled for UI tariff, is now considered for payment at a higher tariff of preferential tariff. Thus the wind and solar generating

companies are enjoying the benefit of availing higher tariff at a loss of respondent (1) TANGEDCO.

4.8. Purchase of unscheduled wind and solar power at preferential tariff (which is actually entitled for lower tariff of UI tariff) causes severe financial burden to respondent (1) TANGEDCO.

4.9. As the Tamil Nadu State is having highest infirm Renewable Energy installed capacity than the rest of the country, in spite of technical constraints and huge financial loss by way of paying penalty, compensation charges, the TN SLDC is taking all measures to accommodate maximum level of renewable resources consciously managing the Grid reliability parameters on a secured manner to maintain 24x7 continuous supply to the common public/consumers as per the Tamil Nadu Government Policy without any major disturbance within the State as well as to avoid any cascaded effects to neighboring States and not to breach the grid discipline/grid security.

Further, the deemed generation and compensation are with respect to the TNERC's Tariff Order and to the PPA/EPA signed by the members of thepetitioner with the first Respondent, TANGEDCO.

4.10. Nowherein the Energy Purchase Agreement format approved by the TNERC, provision is made for claim of compensation for loss of generation caused due to backing down.

4.11. As per Section 32 & 33 of Electricity Act, 2003 and as per clause 2.7 of Indian Electricity Grid Code (IEGC), Clause 4.2(e), 8.4 (iii) and (v) of Tamil Nadu Electricity Grid code (TNEGC), SLDC is maintaining the TN Grid to provide continuous quality power to the common public throughout the State by maintaining Grid discipline and thus providing the public secure power supply without any major disturbance. Hence, SLDC is in the position to restrict any surplus power injected into the grid more than the requirement for reliable grid operation. The relevant clauses that are germane for proper adjudication of the present case is quoted as hereunder:

Section 32 of the Electricity Act, 2003

"(1) The State Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in a State.

(2) The State Load Despatch Centre shall-

(a) be responsible for optimum scheduling and despatch of Electricity within a State, in accordance with the contracts entered into with the licensees or the Generating companies operating in that State ;

(b) monitor grid operations;

(c) keep accounts of the quantity of electricity transmitted through the State grid;

(d) exercise supervision and control over the intra-State transmission system; and

(e) be responsible for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid standards and the State Grid Code."

(3) The State Load Despatch Centre may levy and collect such fee and charges from the generating companies and licensees engaged in intra-State transmission of electricity as may be specified by the State Commission".

Section 33 of the Electricity Act, 2003

"(1) The State Load Despatch Centre in a State may give such directions and exercise such supervision and control as may be required for ensuring the integrated grid operations and for achieving the maximum economy and efficiency in the operation of power system in that State.

(2) Every licensee, generating company, generating station, substation and any other person connected with the operation of the power system shall comply with the direction issued by the State Load Despatch Centre under subsection (1).

(3) The State Load Despatch Centre shall comply with the directions of the Regional Load Despatch Centre.

(4) If any dispute arises with reference to the quality of electricity or safe, secure and integrated operation of the State grid or in relation to any direction given under sub-section (1), it shall be referred to the State Commission for decision:

Provided that pending the decision of the State Commission, the direction of the State Load Despatch Centre shall be complied with by the licensee or generating company.

(5) If any licensee, generating company or any other person fails to comply with the directions issued under sub-section(1), he shall be liable to penalty not exceeding rupees five lacs".

Clause 2.7 of the Indian Electricity Grid Code

"2.7.1 In accordance with section 32 of Electricity Act, 2003, the State Load Despatch Centre (SLDC) shall have following functions:

(1) The State Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in a State.

(2) The State Load Despatch Centre shall -

(a) be responsible for optimum scheduling and despatch of electricity within a State, in accordance with the contracts entered into with the licensees or the generating companies operating in that State;

(b) monitor grid operations;

(c) keep accounts of the quantity of electricity transmitted through the State grid;

(d) exercise supervision and control over the intra-State transmission system; and (e) be responsible for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid Standards and the State Grid Code.

2.7.2 In accordance with section 33 of the Electricity Act, 2003. the State Load Despatch Centre in a State may give such directions and exercise such supervision and control as may be required for ensuring the integrated grid operations and for achieving the maximum economy and efficiency in the operation of power system in that State. Every licensee, generating company, generating station, sub-station and any other person connected with the operation of the power system shall comply with the directions issued by the State Load Depatch Centre under subsection (1) of Section 33 of the Electricity Act, 2003.

The State Load Despatch Centre shall comply with the directions of the Regional Load Despatch Centre".

Clause 4.2.(e) of the Tamil Nadu Electricity Grid Code

" ... The SLDC shall be responsible for carrying out real time operations for Grid control and dispatch the electricity within the State through secure and economic operation of the state grid in accordance with the grid standards and grid code…."

Clause 8.4 (iii) and (v) of the Tamil Nadu Electricity Grid code

8.4 (iii) "…the SLDC may direct the generating stations / beneficiaries to increase or decrease their generation/drawal in case of contingencies e.g. overloading of lines /transformers, abnormal voltages, threat to system security. Such directions shall immediately be acted upon "

8.4 (v) "All entities shall abide by the concept of frequency linked load despatch and pricing of deviations from schedule i.e. unscheduled interchanges. All generating units of the entities and the licensees shall normally be operated according to the standing frequency linked load despatch guidelines issued by the SLDC to the extent possible, unless otherwise advised by the SLDC".

4.12. The Hon'ble Central Electricity Regulatory Commission's (CERC) Deviation Settlement Mechanism does not permitunder drawl of not more than 250 MW and the grid operating frequency range of 49.90-50.05 Hz from 30.05.2016 onwards. Tamil Nadu which is a renewable rich state finds the DSM regulation challenging to maintain Grid Discipline and it becomes very challenging and also proves to be very difficult to maintain discipline and operate the grid during less demand period, night hours, rainy season with higher % mix of infirm power and firm power.

4.13. As stipulated in the IEGC (4th amendment), 2014, the grid operating frequency is 49.90-50.05 Hz. For frequency above 50.05 Hz, no under-drawal is permitted and each unit of under-drawal at frequency above 50.10 Hz had attracted penalty at the rate of Rs.1.78/Kwhrupto 31.12.2018 and from 01.01.2019 onwards, the penalty is around Rs.2.50/- to Rs.3.50/- (Area Clearing Price) which is a variable based on the open market price.

The 'Area Clearing Price (ACP) means "the price of a time block electricity contract established on the Power Exchange after considering all valid purchase

and sale bids in particular area(s) aftermarket splitting, i.e. dividing the market across constrained transmission corridor(s)"

Failure or any in-action to contain the frequency 49.90-50.05 Hz and restriction in under-drawal is viewed as grid indiscipline and attract penal action by the Southern Regional Load Dispatch Centre. Hence, the legal provisions do not permit injection of surplus power into the system.

4.14. Regulation 5.2 (u) of IEGC, 2010 reads as follows: -

> *"(u) Special requirement for Solar and Wind generators: System operator (SLDC/RLDC) shall make all efforts to evacuate the available wind power and treat as a must-run station. However, System operator may instruct the solar / wind generator to back down generation on consideration of grid security or safety of any equipment or personnel is endangered and solar / wind generator shall comply with the same".*

As stipulated in the clause 5.2 (u) of IEGC 2010, the system operator makes all efforts in accommodating maximum power and initiate curtailment action under circumstances of grid security and in consideration of safety of equipment within the grid operating frequency range of 49.90-50.05 Hz specified by the CERC vide the notification dated 06.01.14. Hence, it is a regulatory mandate to curtail injection of power whenever the grid conditions warrant.

4.15. Clause 3(4) of Tamil Nadu Electricity Grid Code reads as follows:-

> *"3(4) ..... It is nevertheless necessary to recognize that the Grid Code cannot predict and address all possible operational situations. Users must therefore understand and accept that, in such unforeseen circumstances, the State Transmission Utility (STU) who has to playa key role in the implementation of the Grid Code may be required to act decisively for*

maintaining the Grid regimes for discharging its obligations. Users shall provide such reasonable co-operation and assistance as the STU may request in such circumstances":

Indian Electricity Grid Code (IEGC) - 2nd Amendment with effect from17.02.2014.

Clause 5.2(m) - All Users, SEB, SLDCs, RLDCs, and NLDC shall take all possible measures to ensure that the grid frequency always remains within the 49.90 - 50.05 Hertz band.

Clause 5.4.2(a)-SLDC/SEB/distribution licensee and bulk consumer shall initiate action to restrict the drawal of its control area, from the grid, within the net drawal schedule.

Clause 6.4.6 - …… Maximum inadvertent deviation allowed during a time block shall not exceed the limits specified in the Deviation Settlement Mechanism Regulations. Such deviations should not cause system parameters to deteriorate beyond permissible limits and should not lead to unacceptable line loadings. Inadvertent deviations, if any, from net drawal schedule shall be priced through the Deviation Settlement mechanism as specified by the Central Commission from time to time.

Clause6.4.7 - The SLDC,SEB/distribution licensee shall always restrict the net drawal of the state from the grid within the drawal schedules keeping the deviations from the schedule within the limits specified in the Deviation Settlement Mechanism Regulations.

CERC (Deviation Settlement Mechanism and related matters) Regulations, 2014, dated 06.01.2014 (with effect from 17.02.2014)

• Clause 3. Objective

The objective of these regulations is to maintain grid discipline and grid security as envisaged under the Grid Code through the commercial mechanism for Deviation Settlement through drawal and injection of electricity by the users of the grid.

- CERC(Deviation Settlement Mechanism and related matters)(Third Amendment) Regulations, 2016 (with effect from 30.05.2016)

Deviation Limits for Renewable Rich States

S. No.	States having combined installed capacity of wind and solar projects	Deviation Limits (MW)- "L"
1	1000-3000 MW	200
2	> 3000 MW	250

As Tamil Nadu having more than 3000 MW of RE power, Deviation Limits for Tamil Nadu is (+/-) 250 MW.

4.16. Under the above regulatory commitments and due to increase in grid frequency above the operating level of 49.90 Hertz to 50.05 Hertz notified by the Central Electricity Regulatory Commission during load crash/off peak period etc., the SLDC is mandated under the Grid Code to issue back down instructions to all the TN grid connected generators including wind and solar generators.

4.17. In order to maintain the grid discipline and grid security after taking all possible steps to reduce generation of conventional power and surrendering of CGS Power etc., the infirm solar and wind generation are curtailed. The last resort of curtailment is only because of the must run status of these infirm generations.

4.18. To avoid any untoward incidents of blackout, the grid security is managed by instant oral instructions to Sub LD centers at Chennai, Madurai and Erode. These Sub LD centers in turn issue back-down instructions to the concerned substations to which the respective solar generators are connected.

4.19. It is essential to have information about how much RE power is expected to be injected into the grid. Such information is lacking for infirm sources such as Wind and Solar. AccurateForecasting and scheduling of generation along with commercial mechanism from these sources is very important for balancing and to procure requisite reserves to maintain load-generation balance for grid reliability.

5. Affidavit filed on behalf of the Respondent No.4:-

5.1. As per Section 32 & 33 of Electricity Act, 2003 and as per Clause 2.7, 5.2(m), 5.4.2(a), 6.4.6, 6.4.7 of Indian Electricity Grid Code (IEGC), Clause 3(4), 4.2(e), 8.4 (iii) and (v) of Tamil Nadu Electricity Grid code (TNEGC), SLDC is maintaining the TN Grid to provide continuous quality power to the common public throughout the State by maintaining Grid discipline and thus providing the public secure power supply without any major disturbance. Hence, SLDC is required to restrict any surplus power injected into the grid more than the requirement for reliable grid operation. The relevant clauses that are germane for proper adjudication of the present case is quoted as hereunder:

Section 32 of the Electricity Act, 2003

"(1) The State Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in a State.

(2) The State Load Despatch Centre shall-

(a) be responsible for optimum scheduling and despatch of Electricity within a State, in accordance with the contracts entered into with the licensees or the Generating companies operating in that State ;

(b) monitor grid operations;

(c) keep accounts of the quantity of electricity transmitted through the State grid;

(d) exercise supervision and control over the intra-State transmission system; and

(e) be responsible for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid standards and the State Grid Code."

(3) The State Load Despatch Centre may levy and collect such fee and charges from the generating companies and licensees engaged in intra-State transmission of electricity as may be specified by the State Commission".

Section 33 of the Electricity Act, 2003

"(1) The State Load Despatch Centre in a State may give such directions and exercise such supervision and control as may be required for ensuring the integrated grid operations and for achieving the maximum economy and efficiency in the operation of power system in that State.

(2) Every licensee, generating company, generating station, substation and any other person connected with the operation of the power system shall comply with the direction issued by the State Load Despatch Centre under subsection (1).

(3) The State Load Despatch Centre shall comply with the directions of the Regional Load Despatch Centre.

(4) If any dispute arises with reference to the quality of electricity or safe, secure and integrated operation of the State grid or in relation to any direction given under sub-section (1), it shall be referred to the State Commission for decision:

Provided that pending the decision of the State Commission, the direction of the State Load Despatch Centre shall be complied with by the licensee or generating company.

(5) If any licensee, generating company or any other person fails to comply with the directions issued under sub-section(1), he shall be liable to penalty not exceeding rupees five lacs".

Clause 2.7 of the Indian Electricity Grid Code

"2.7.1 In accordance with section 32 of Electricity Act, 2003, the State Load Despatch Centre (SLDC) shall have following functions:

(1) The State Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in a State.

(2) The State Load Despatch Centre shall -
(a) be responsible for optimum scheduling and despatch of electricity within a State, in accordance with the contracts entered into with the licensees or the generating companies operating in that State;

(b) monitor grid operations;

(c) keep accounts of the quantity of electricity transmitted through the State grid;

(d) exercise supervision and control over the intra-State transmission system; and (e) be responsible for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid Standards and the State Grid Code.

2.7.2 In accordance with section 33 of the Electricity Act, 2003. the State Load Despatch Centre in a State may give such directions and exercise such supervision and control as may be required for ensuring the integrated grid operations and for achieving the maximum economy and efficiency in the operation of power system in that State. Every licensee, generating company, generating station, sub-station and any other person connected with the operation of the power system shall comply with the directions issued by the State Load Depatch Centre under subsection (1) of Section 33 of the Electricity Act, 2003.

The State Load Despatch Centre shall comply with the directions of the Regional Load Despatch Centre".

Clause 4.2.(e) of the Tamil Nadu Electricity Grid Code

" ... The SLDC shall be responsible for carrying out real time operations for Grid control and dispatch the electricity within the State through secure and economic operation of the state grid in accordance with the grid standards and grid code…."

Clause 8.4 (iii) and (v) of the Tamil Nadu Electricity Grid code

8.4 (iii) "…the SLDC may direct the generating stations / beneficiaries to increase or decrease their generation/drawal in case of contingencies e.g. overloading of lines /transformers, abnormal voltages, threat to system security. Such directions shall immediately be acted upon "

8.4 (v) "All entities shall abide by the concept of frequency linked load despatch and pricing of deviations from schedule i.e. unscheduled interchanges. All generating units of the entities and the licensees shall normally be operated according to the standing frequency linked load despatch guidelines issued by the SLDC to the extent possible, unless otherwise advised by the SLDC".

5.2. The Hon'ble Central Electricity Regulatory Commission's (CERC) Deviation Settlement Mechanism does not permit the under drawl of not more than 250 MW and the grid operating frequency range of 49.90-50.05 Hz from 30.05.2016 onwards. Tamil Nadu which is a renewable rich state finds the DSM regulation challenging to maintain Grid Discipline and it becomes very challenging and also proves to be very difficult to maintain discipline and operate the grid during less demand period, night hours, rainy season with higher % mix of infirm power and firm power.

5.3. As stipulated in the IEGC (4th amendment), 2014, the grid operating frequency is 49.90-50.05 Hz. For frequency above 50.05 Hz, no under-drawal is permitted and each unit of under-drawal at frequency above 50.10 Hz had

attracted penalty of around Rs.2.50/- to Rs.3.50/- (Area Clearing Price) which is a variable based on the open market price.

> *The 'Area Clearing Price (ACP) means "the price of a time block electricity contract established on the Power Exchange after considering all valid purchase and sale bids in particular area(s) aftermarket splitting, i.e. dividing the market across constrained transmission corridor(s)".*

5.4. Failure or any in-action to contain the frequency 49.90-50.05 Hz and restriction in under-drawal is viewed as grid indiscipline and attract penal action by the Southern Regional Load Dispatch Centre. Hence, the legal provisions do not permit injection of surplus power into the system.

5.5. Regulation 5.2 (u) of IEGC, 2010 reads as follows: -

> *"(u) Special requirement for Solar and Wind generators: System operator (SLDC/RLDC) shall make all efforts to evacuate the available wind power and treat as a must-run station. However, System operator may instruct the solar / wind generator to back down generation on consideration of grid security or safety of any equipment or personnel is endangered and solar / wind generator shall comply with the same".*

As stipulated in the clause 5.2 (u) of IEGC 2010, the system operator makes all efforts to accommodate maximum power and initiate curtailment action only in the interest of grid security and considering the safety of the equipment within the grid operating frequency range of 49.90-50.05 Hz specified by the

CERC vide the notification dated 06.01.14. Hence, it is a regulatory mandate to curtail injection of power whenever the grid conditions warrant.

5.6. Clause 3(4) of Tamil Nadu Electricity Grid Code reads as follows:-

> *"3(4) ….. It is nevertheless necessary to recognize that the Grid Code cannot predict and address all possible operational situations. Users must therefore understand and accept that, in such unforeseen circumstances, the State Transmission Utility (STU) who has to play a key role in the implementation of the Grid Code may be required to act decisively for maintaining the Grid regimes for discharging its obligations. Users shall provide such reasonable co-operation and assistance as the STU may request in such circumstances".*

5.7. The relevant Clauses of Indian Electricity Grid Code (IEGC) in the 2nd Amendment with effect from 17.02.2014 is given below:-

> *Clause 5.2(m) - All Users, SEB, SLDCs, RLDCs, and NLDC shall take all possible measures to ensure that the grid frequency always remains within the 49.90 –50.05 Hertz band.*
>
> *Clause5.4.2(a) - SLDC/ SEB/distribution licensee and bulk consumer shall initiate action to restrict the drawal of its control area, from the grid, within the net drawal schedule*
>
> *Clause 6.4.6 - …….. Maximum inadvertent deviation allowed during a time block shall not exceed the limits specified in the Deviation Settlement Mechanism Regulations. Such deviations should not cause system parameters to deteriorate beyond permissible limits and should not lead to unacceptable line loadings. Inadvertent deviations, if any, from net drawal schedule shall be priced through the Deviation Settlement mechanism as specified by the Central Commission from time to time.*
>
> *Clause 6.4.7 - The SLDC, SEB/distribution licensee shall always restrict the net drawal of the state from the grid within the drawal schedules keeping the deviations from the schedule within the limits specified in the Deviation Settlement Mechanism Regulations.*

5.8. Clauses of the CERC (Deviation Settlement Mechanism and related matters) Regulations, 2014, dated 06.01.2014 (with effect from 17.02.2014) with respect to grid discipline and grid security is as below;

- Clause 3. Objective

  "The objective of these regulations is to maintain grid discipline and grid security as envisaged under the Grid Code through the commercial mechanism for Deviation Settlement through drawal and injection of electricity by the users of the grid".
- CERC(Deviation Settlement Mechanism and related matters)(Third Amendment) Regulations, 2016 (with effect from 30.05.2016)

Deviation Limits for Renewable Rich States

S. No.	States having combined installed capacity of wind and solar projects	Deviation Limits (MW)- "L"
1	1000-3000 MW	200
2	> 3000 MW	250

As Tamil Nadu having more than 3000 MW of RE power, Deviation Limits for Tamil Nadu is (+/-) 250 MW.

5.9. Under the above regulatory commitments and due to increase in grid frequency above the operating level of 49.90 Hertz to 50.05 Hertz as and when notified by the Central Electricity Regulatory Commission during load crash/off peak period etc., the SLDC is mandated under the Grid Code to issue back down instructions to all the TN grid connected generators and as a last resort to wind and solar generators.

5.10. The same deals with the petitioner's installed capacity of Renewable Energy (wind and solar) in Tamil Nadu, which is a matter of record and warrants no comments from the answering respondent.

5.11. Backing down instructions is being issued after duly considering the circumstances and in the interest of the grid safety and security solely based on the various Statutory provisions in the Electricity Act, 2003, and regulations of the IEGC, TNEGC, CERC/TNERC from time to time. With regard to the Ministry of New and Renewable Energy (MNRE), letter dated, 01.08.2019, it is submitted that

(a) Tamil Nadu is having installed capacity of 8550 MW in wind and 4007 MW in solar coupled with 247 MW in rooftop generation. Tamil Nadu has met its peak demand of 16151 MW on 03.04.2019 through the installed capacity of 31900 MW of which 13690 MW is from Renewable Energy sources which is 43% of the installed capacity in the state. The energy sources such as solar, wind, biomass, micro Hydro plants, nuclear plants etc are collectively categorized as must run sources.

(b) Nuclear power stations are exempted from scheduling procedure and they are not even operating their plant in the part load operation. Tamil Nadu is having nuclear share of 1705 MW from Kudankulam, MAPS, Kaiga stations.(58.91% share from Unit 1 and 56.75 % share from Unit 2 of Kudankulam, 75.15% share from MAPS, 26.90% from Kaiga units 1&2, 23.72% from Kaiga units 3&4).

(c) To accommodate the solar generation in a day the Supply management has been devised from 01.11.2020 onwards to the agriculture supply as a pilot measure as follows so as to avoid curtailment of solar generation.

Day time (6 Hours)		
Groups	Time in Hours	
	From	To
Delta (all groups)	8.30	14.30
Non Delta Group I	09.00	15.00
Non Delta Group II	09.30	15.30

(d) The Tamil Nadu state has witnessed for absorption of 5129 MW of wind generation and 3109 MW of solar generation on 7.8.2020 and 7.10.2020 respectively which is 40.6% in wind and 21.70 % in solar contribution to the grid. Total annual energy fed into the grid by way of renewable energy for the year 2019-20 is 15.56% as against the previous year's 2018-19 absorption is 14.54%.

(e) As per the above referred MNRE letter, the losses due to curtailment of wind and solar generators shall be made good only if the curtailment is due to any other reasons other than grid security. But, in the case in hand, the curtailment is being done only because of the Grid safety and security as per the Grid Code.

(f) As per the following Central Electricity Authority (CEA) study report, the State Utility is losing Rs.1.57/Kwhr for facilitating the evacuation of highly infirm wind and solar power injection into the grid. The same report has been published by the Central Electricity Authority (CEA), GoI during December 2017 on "The technical committee on study of optimal location of various types of balancing energy

sources/energy storage devices to facilitate grid integration of renewable energy sources and associated issues.

(g) With reference to the backing down instructions to the solar and wind generators including the petitioner to be given in writing in advance is practically not feasible in the real time grid operation to maintain grid safety and grid security.

5.12. SLDC does not curtailment RE power at own conveniences and the Renewable Energy generations are curtailed meagerly for grid safety purposes only that too as a last resort after backing down of all conventional generations.

5.13. The petitioner have entered into Energy Purchase Agreement (EPA) with the first Respondent in which the Clause 2(d), 3(a) & 3(l) of the EPA as and when necessity arose, the solar and wind generators are asked to back down generation to safeguard the grid based on safety measures. As in the present case, the backing down of solar power was done only in the interests of grid security to maintain grid discipline. Hence, SLDC does not subject the RE power to MoD Principles and always strives to provide Must Run Status.

5.14. The petitioner's statement of "No solar power should be directed to back down by SLDC under clause 5.2(u)" is not acceptable under all circumstances as stipulated in the same clause. The PPA between TANGEDCO and the petitioner does not have any mention about the generation compensation for effecting back down and hence the question of compensation does not arise. In the absence of

forecast and scheduling by the petitioner, it is ridiculous to claim 100% RE absorption and also to claim for compensation for the meager quantum of power.

5.15. The RE power backing down is solely for the purpose of Grid safety and security and not as mentioned by the petitioner 25% of the capacity of the generation. The year wise solar generation has continuously increased for the past five years and not as stated by the petitioner and the same is tabulated as below:-

Period of FY	Solar Generation in Million Units
2014-15	159
2015-16	507
2016-17	1478
2017-18	2799
2018-19	3556
2019-20	4947

5.16. During the wind season from April to September, the infirm nature of wind was prevalent and in addition solar generation was also infirm. Hence, in order to keep the grid parameters within the stipulated limits, the RE power was curtailed to a minimal extent and not as claimed by the petitioner. After the wind season got over by November, the solar power was accommodated to a maximum extent and hence the frequency of back down was minimal. Further, as stated by the petitioner, during the month of Apr-2020, the back down instructions were slightly higher due to less demand on account of frequent lockdown in the pandemic situation (COVID 19).

5.17. The claim by the petitioner a loss of cumulative quantum of 98.95 MU during the period from 2018 to 2020 (upto September) is not properly put forth since the total generation which was evacuated was not mentioned. Time and again SLDC emphasis for maximum utilization/absorption of RE power and only in the interest of grid safety and security, the RE curtailment being resorted. Hence, SLDC is well aware of RE Policy and would discourage the RE investments in the solar sector in the State of Tamil Nadu.

5.18. The petitioner has entered into the agreement with TANGEDCO for supplying power subject to the conditions of grid safety and security without which the SLDC would have to violate the IEGC grid code relating to the high frequency as well as high under drawal. SLDC does not curtail RE power unless otherwise utmost necessary and the ground raised by the petitioner that they have faced losses due to curtailment runs contrary to truth and stands devoid of any merits.

Further, the backing down of generation would lead to huge revenue loss is totally unacceptable from the grid security point of view as any threat to system security would lead to the cascaded tripping and thus would result in a very huge financial loss to public which is the ultimate priority.

5.19. The petitioner though has accepted to the conditions of grid security in the agreement between TANGEDCO is now alleging about financial loss incurred by them without bothering the grid security aspects which the SLDC is the apex body to maintain it as per IEGC.

Further the Commission has issued judgement on 25.03.19 in M.P. No.16 of 2016 filed by M/s National Solar Energy Federation that “there is no provision in the agreement signed with the utility for payment of deemed generation charges, we find it not possible to accede to the prayer of the petitioner”.

The year wise back down particulars submitted by the petitioner does not mention the total MU generated during that particular year in comparison to the energy backed down thus providing only partial information and misleading the facts to the Hon”ble court.

5.20. All RE curtailments are carefully done and no intentional backing down is carried out. In the absence of proper and accurate forecasting and scheduling, SLDC is unable to ascertain the exact quantum of RE injection. 100% Must Run Status is not possible without compromising grid discipline and grid safety in the LARGER INTEREST OF THE PUBLIC INTEREST which otherwise would lead to violation grid discipline resulting in cascaded tripping. This would lead to interruption of power to Public.

5.21. As the Tamil Nadu State is having highest infirm Renewable Energy installed capacity than the rest of the country, in spite of technical constraints and huge financial loss by way of paying penalty, compensation charges, the TN SLDC is taking all measures to accommodate maximum level of renewable resources consciously managing the Grid reliability parameters on a secured

manner to maintain 24x7 continuous supply to the common public/consumers as per the Tamil Nadu Government Policy without any major disturbance within the State as well as to avoid any cascaded effects to neighboring States and not to breach the grid discipline/grid security.

5.22. The deemed generation could not be permitted in the absence of forecasting & scheduling along with commercial due to the infirm, volatile nature of RE sources. Due to the huge variation in the RE power, the under drawal exceeds the permissible limit fetches huge penalty apart from generation cost, over drawal from central grid leads to paying DSM charges. Also, during sudden withdrawal of infirm RE power, load restrictions were imposed to the consumers.

6. Additional Affidavit filed on behalf of the Respondent No.4:-

6.1. SLDC was constrained to issue certain curtailments on solar and wind generators, solely due to the high frequency and under drawal from Central Grid. Frequency represents the State of the grid during that instant, while the gird frequency is higher (more than 50.05 Hz), it indicates that, supply (Generation) is more than the existing demand, and when frequency is low (below 49.90 HZ), the same indicates that demand, is more than the supply. Also under drawal indicates that, generation has to be reduced to match the demand. SLDC has to take appropriate action to reduce the under drawal to match the demand. RLDC will give directions to reduce the under drawal/over drawal within +250 MW to -250 MW as maintaining of (+ or -) 250 MW which is a prime action of all SLDCs in the

country in order to maintain the “One Grid One Frequency”, within the prescribed IEGC limit of 49.90 to 50.05 Hz.

6.2. The relevant Clauses of Indian Electricity Grid Code (IEGC) as per the 2nd Amendment with effect from 17.02.2014 are extracted below for the ease of understanding;

> *“Clause 6.4.6 - …….. Maximum inadvertent deviation allowed during a time block shall not exceed the limits specified in the Deviation Settlement Mechanism Regulations. Such deviations should not cause system parameters to deteriorate beyond permissible limits and should not lead to unacceptable line loadings. Inadvertent deviations, if any, from net drawal schedule shall be priced through the Deviation Settlement mechanism as specified by the Central Commission from time to time.*
>
> *Clause6.4.7 - The SLDC, SEB/distribution licensee shall always restrict the net drawal of the state from the grid within the drawal schedules keeping the deviations from the schedule within the limits specified in the Deviation Settlement Mechanism Regulations.”*

6.3. As per the above IEGC Clauses, each State has to stick on to their own schedule, and should not violate deviation limits, which may cause the other parameters (i.e frequency, line loading & voltage) to go beyond permissible limits.Hence, the main operating parameter, namely, Deviation Limit of plus or minus 250 MW (for RE Rich State of Tamil Nadu) is the prime tool in order to control the other parameters such as frequency, line loading & voltage for maintain the grid security/stability. In the same line as above, the violation messages are received from POSOCO (SRLDC) by Tamil Nadu SLDC has

directed to control the under drawal within the specified limit citing IEGC Clauses 5.4.2(a), 5.4.2(b), 6.4.6, 6.4.7, 6.4.10, 6.4.12 with a comment, to restore to schedule stating as emergency condition of the grid.

It is once again, reiterated that maintaining the grid within the schedule is the prime duty of SLDC Operator. If there is a deviation in the limit, SLDC operator, has to take proactive action to maintain the grid security.

6.4. The petitioner had entered into Energy Purchase Agreement (EPA) with the second Respondent, in which Clause, Clause 3(a) provides are as follows:-

> *3(a) "The Solar power generated shall be evacuated to the maximum extent subject to Grid stability and shall not be subjected to merit order dispatch principles"*

In the above clause, it is clearly indicated that, the injection/despatch of solar power, is subject to maintaining Grid Stability. All possible measures are being taken to evacuate the maximum Renewable Energy (wind and solar) subject to real time grid conditions such as variation in infirm Renewable Energy generation, sudden change in State Demand, SLDC is forced to give curtailment instructions to maintain Grid Stability.

6.5. As directed by the State Commission, vide Order, dared 25.03.2019 in MP. No. 16 of 2016, quarterly reports in respect of back down instructions, issued to solar power plants, are being submitted to the State Commission, along with the reasons for such curtailment.

7. Rejoinder filed on behalf of the Petitioner in reply to the Counter filed by the Respondents TANGEDCO (R1) and SLDC (4):-

7.1. NLC India Limited (hereinafter referred to as 'NLCIL') has installed 1400 MW capacity of Renewable Energy (Solar and Wind) at a Capital cost of nearly Rs.6000 Cr in Tamil Nadu under Power Purchase Agreement (hereinafter referred to as 'PPA') with Tamil Nadu Generation and Distribution Corporation Limited (hereinafter referred to as 'TANGEDCO') as a part of its contribution towards the Green initiatives of the Government of India.

7.2. The Petitioner's Solar installed capacity is nearly 33.5% ofthe Solar installed capacity of Tamil Nadu, by which 1st Respondent benefited for the Solar Renewable Purchase Obligation (RPO) which is currently at 17% (RPO Solar-8051 MW) as per the Commission's order dated 27.07.2020.

7.3. The Petitioner has filed a Miscellaneous Petition No. 01/2021 seeking directions against the Respondents in regard to the arbitrary Backing Down instructions by Electricity Distribution Circles in Tamil Nadu and the 1stRespondent has filed the Counter on 12.07.2021

7.4. The Petitioner is aware of the various acts and the Indian Electricity Act 2003 and Indian / TN Electricity Grid Standards /Codes / Regulations,which stipulate that Solar and Wind power can be curtailed by SLDC only on the grounds of Grid discipline /Security (as a contingency measure) in order to ensure secure Power supply with standing frequency during Load crash/off peak period without any major disturbance.

7.5. In terms of the IEGC Regulations, 2010 and MNRE letter dated 0l.08.2019, back down instructions to solar power plants can be issued only if the grid security is endangered or safety of any equipment or personnel is endangered. However, no such reasons have ever been communicated to the Petitioner. The 4th Respondent has been issuing these back-down instructions solely due to lower demand in the system and alleged unavailability of transmission corridor for evacuation of power. However, in spite of revenue loss, the Petitioner is completely adhering to the oral instructions/communications through emails from the 4th Respondent.

7.6. The comparison of solar generation with bagasse by the 1st Respondent is not in order as the tariff costs of solar are recovered based on normative performance only. The projects are established with the understanding that plants will be allowed to operate under Normative parameters. The project developer i.e., the Petitioner did not envisage such frequent backing down leading to huge backing down quantity. If the renewable energy plants are not allowed to operate at their capacity, it may lead to under recovery of costs incurred in setting up the Plant.

7.7. As per the Power Purchase Agreements signed between Petitioner and the 1st Respondent for various Renewable Energy Projects, the Renewable Power generated shall be evacuated to the maximum extent possible, subject to Grid stability and shall not be subjected to Merit Order Dispatch principles. Therefore,

the application of merit order dispatch principles to the Renewable Energy Plants which comes under Must-Run status is not appropriate.

7.8. Based on the TNERC tariff orders, the levelized tariff is applicable for RE projects for 25 years. Based on this the viability of the projects were established and the Petitioner had made huge investments in Renewable Energy sector. As normative the power generation of Renewable Energy plants are taking a toll from the unpredictable weather conditions and the frequent instructions from the 1st and the 4thRespondent to back down the Solar and Wind Power Plants is further deteriorating the financial viability of the plants.

7.9. The backdown is on an increase every year and in the year 2020-2021, thebackdown for the first 6 months is 152% of the backdown for the entire year 2019-20. Especially in 709 MW Plant which was won through competitive bidding there is a significant increase in backdown hours. More backdown instructions are being given on a daily basis by the 4thRespondent. Even in case of the Wind Energy which is seasonal, around 10% of the capacity was backed down in 2020 -2021.

7.10. The Scheduling has not been commercially implemented for solar plants. So, there is no question of unscheduled power. As per Power Purchase Agreements, the DISCOM has to evacuate solar power to the maximum extent. The solar power should not be subjected to merit order dispatch and 'Must run' status has to be maintained by the 4thRespondent.

7.11. The Petitioner has made considerable financial investments to construct and operate Solar plants. However, due to the unexpected and arbitrary instructions to back down the solar power by the 4th Respondent, it has become very difficult for the petitioner to realize the tariff completely. In such a case, it is imperative that 1st Respondent ought to be made liable for the loss of generation being caused to the Petitioner and 1st Respondent must pay deemed generation charges to the Petitioners corresponding to the power which was ready to be evacuated from the solar power projects, but could not be evacuated due to the backdown instructions of 4th Respondent.

7.12. The MNRE vide letter no 336/19/2017-wind dated 01.08.2019 has clarified that "MUSTRUN" status has been accorded to Renewable Energy (Solar and wind power) as per Indian Electricity Grid code 2010 and various state Grid Codes/Regulations under the Electricity Act 2003. According to the existing instructions, solar and wind power can be curtailed only for reasons of grid safety and security and that too after communicating reasons of curtailment in writing to generators.

7.13. The Commission in its order dated 25.03.2019 in M.P. No.16 of 2016 has also emphasized that the SLDC cannot curtail the renewable power at their convenience arbitrarily. Therefore, backing down of the Power Plants which were accorded "Must Run" status shall be resorted to by the Respondent only after exhausting all other possible means of achieving and ensuring grid stability and reliable power supply.

7.14. As per the EPAs signed with the 1st Respondent for various solar projects by the petitioner, the solar power generated shall be evacuated to the maximum extent subject to Grid stability and shall not be subjected to merit order dispatch principles. The frequency of backing down instructions are on the increase every year and this leads to underutilization of Solar Generation.

7.15. In Tamil Nadu solar energy policy 2019 document mentioned that it included a target of 5000MW solar in vision Tamil Nadu 2023. MNRE has proposed a target of 9000MW solar energy for the year 2022. Being a Renewable rich state and having ambitious targets of RE capacity addition in future, the frequent backdown of RE plants will put RE projects under huge financial burden and it will also jeopardize future investments.

7.16. As PPA does not have a clause for backing down compensation, the Petitioner is constrained to approach the Commission in the light of alarming levels of Backing down instructions.

7.17. In the light of above, it is humbly brought to the attention of the Commission that, as per the order of Ministry of Power dated 01.10.2020 on draft electricity (change in law, must run status, and other matters) Rules 2020, in the event of a curtailment of supply from a power plant which comes under the category of Must Run, compensation shall be payable by the procurer to the generator at the rates prescribed in the PPA (4.4) where the rate of compensation is not laid down in the PPA/PSA it shall be at rate of 75% of the PPA rate per unit..

7.18. On 0l.08.2019, MNRE taking note of the violation of Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (hereinafter referred to as 'IEGC Regulations, 2010') by various State Load Despatch Centres (SLDCs) issued a letter with directions that 'must run' status of solar and wind projects must be honoured in letter and spirit and curtailment of such power can be done only for grid security, that too after communicating the instructions detailing the reason for curtailment. If the 4th Respondent curtails solar or wind power for any reason other than grid safety and security as prescribed in the IEGC Regulations, 2010, 1st Respondent shall be made liable for making good the losses incurred by the wind or solar generator towards deemed generation.

7.19. As per PPA Maximum Power has to be evacuated and the Respondents must ensure the "Must Run" status accorded by MNRE. No back downs shall be imposed due to the reasons such as low demand, rainy seasons etc., and in such situation no merit order despatch shall be adopted. After exhausting all options with conventional with conventional energy generators and still the frequency and grid stability is not improved, then only as a last resort the solar power may be backed down. This has not been adhered to by the respondents in the cases of back down of petitioner’s solar plants.

7.20. The procurement of Solar power has been down after studying the Load Flow Study for the projected period by the procurers. The generation from Solar and Renewable sources are to be considered on priority basis for injection into the grid, compared to other sources of energy and without going in to the details

of the merit order despatch. The Solar projects are designed with financial conditionsbased on natural generation level and hence curtailment will be detrimental to the existing plants and de-motivate future capacity addition.

7.21. For the Petitioner's 709MW Solar power project which was awarded by 1st Respondent through tariff based competitive bidding, the PPA condition mentioned that the Capacity Utilization factor shall be 17% to 19%. In case the availability is less than the minimum CUF specified the Petitioner will be required to pay distribution licensee for the actual shortfall in terms of units at the prevailing forbearance price fixed by the CERC. Frequent backdowns will not only deprive project financials but also attracts additional penalties.

7.22. Even though PPA has been signed by 1st Respondent to evacuate maximum extent of power, 1st Respondent could not do so as they have not adequately designed the grid to evacuate maximum extent of power. If back downs are on few days due to grid security reasons it is acceptable, but backing down solar power, which has been envisaged with Must Run status by the Ministry, in the name of grid security almost on all days is against the PPA and Govt. guidelines.

7.23. CERC (Indian Electricity Grid Code) Regulations, 2010 ("IEGC"): As per Clause 5.2 (u), system operator (SLDC/RLDC) shall make all efforts to evacuate the available solar and wind power and treat as a must run station. Such backing down instructions are happening frequently which raises the issue of non-implementation of forecasting and scheduling by TN-SLDC. Only by having

proper forecasting and scheduling mechanism grid can be maintained in healthier condition thereby ensuring full utilisation of the renewable generating stations.

7.24. 1st Respondent is imposing continuous back downs on the Petitioner's Solar plants without complying PPA and Government guidelines in the name of grid security. These continuous back downs put great financial burden as solar plants have single part tariff unlike thermals.

7.25. As per Ministry of Power order dated 0l.10.2020 on draft electricity (change in law, must run status, and other matters) rules 2020 it is mentioned that (4.2) in the event of a curtailment of supply from a power plant which comes under the category of Must run, compensation shall be payable by the procurer to the generator at the rates prescribed in the PPA. (4.4) where the rate of compensation is not laid down in the PPA/PSA it shall be at rate of75% of the PPA rate per unit.

7.26. SLDC at Chennai, EDC at Madurai & Erode should have proper infrastructure to take in to account the Renewable Energy injection, which alone can save the Renewable projects. Any deficiency in evacuation network should not be accounted under grid security. As the entire investment has been made for the project with thin margin due to competition, changing the generation during operation will derail the project.

7.27. Forecasting and scheduling has not been commercially implemented by the 1st Respondent so far. The forced outages in the Petitioner's Plants due to the reasons attributable to the Petitioner is almost NIL and over the year thePetitioner

is delivering a steady power proportionate to solar insolation. As solar insolation is not under our control, small variations in power injection has to be regulated by the Respondents only by cutting out the sources of conventional energy as these small variations are the inherent property of solar power. So, the 1st Respondent taking shield under grid security and effecting continuous back downs for the Petitioner's Solar plants is not acceptable and is to be compensated by the 1st Respondent.

7.28. The Tribunal in the Appeal No.197 of2019 in IA No. 1706 of2019 in the matter of National Solar Energy Federation of India Vs Tamil Nadu Electricity Regulatory Commission & Others, has in its order dated 02.08.2021, directed the Respondents i.e. TANGEDCO, TNSLDC, TANTRANSCO to pay compensation for the claimed period from 01.03.2017 to 30.06.2017 for the 1080 blocks considered by POSOCO, for issuing curtailment instructions for reasons other than grid security, at the rate of75% ofPPA tariff per unit within 60 days from the date of order.

7.29. Further in the same appeal, the Hon'ble Tribunal has presented way forward for curtailment of RE power by State Load Dispatch Centre and the same is reproduced as follows:-

(i) As noticed in the analysis made by POSOCO which is based on the grid parameters, margins available for backing down of conventional energy sources and the status of drawal by the State from the central grid. These

parameters are apt for deciding whether the backing down is for the purpose of grid security or on commercial reasons.

(ii) It was also made clear that the replacement of solar power by purchases of cheaper power from short term power markets shall also be treated as unauthorized activity.

(iii). Accordingly, the following directions are issued to all the State Commissions, DISCOMs and SLDCs with regards to curtailment of power generated fromRenewable Energy sources.

(iv) For Future, any curtailment of Renewable Energy shall not be considered as meant for grid security if the backing down instruction were given under following conditions:

a. System Frequency is in the band of 49.90Hz-50.05Hz

b. Voltage level is between: 380kVto 420kV for400kV systems & 198kV to 245kV for 220kV systems.

c. No network over loading issues or transmission constraints.

d. Margins are available for backing down from conventional energy sources.

e. State is overdrawing from the grid or State is drawing from grid on short-term basis from Power Exchange or other sources simultaneously backing down power from intra-state conventional or non-conventional sources.

(v) As a deterrent, the curtailment of Renewable Energy for the reasons other than grid security shall be compensated at PPA tariff in future. The compensation shall be based on the methodology adopted in the POSOCO report. POSOCO is directed to keep the report on its website

(vi) The State Load Dispatch Centre (SLDC) shall submit a monthly report to the State Commission with detailed reasons for any backing down instructions issued to solar power plants.

(vii) The above guiding factors stipulated by APTEL would apply till such time the Forum of Regulators or the Central Government formulates guidelines in relation to curtailment of renewable energy.

8. Rejoinder filed on behalf of the Petitioner in Reply to the Additional filed by the 4th Respondent:-

8.1. The Petitioner, NLC India Ltd. has filed a Miscellaneous Petition No.01/2021 on 15.12.2020 seeking directions against the Respondents to strictly follow and enforce "MUST RUN" status on all Solar and Wind Power Plants and to direct SLDC to forthwith stop issuing Backing down/Curtailment instructions to Solar and Wind Plants, except in the situations as contemplated in the applicable Regulations and PPA.

8.2. The 1st Respondent and the 4th Respondent have filed their Counter Affidavit on 12.07.2021 and 07.03.2021 respectively, stating that backing down has been instructed only on the ground of maintaining safe, secure and stable operation of the grid.

8.3. Subsequently, the Petitioner filed its Rejoinder in reply to the Respondent's Counters on 16.09.2021 stating that backdown is on the increase every year and in the year 2020-2021, the backdown for the first 6 months is 152% of the backdown for the entire year 2019-20.

8.4. The 4th Respondent again filed an Additional Affidavit on 08.11.2021 with a copy of the quarterly report in respect of backdown instructions issued by them along with reasonsfor curtailment issued to solar power plants.

8.5. In the additional affidavit filed by the 4th Respondent, it was stated that the 4th Respondent was constrained to issue backing down instructions, as supply was more than demand due to under drawl by the 1st Respondent. Only by having proper forecasting and scheduling mechanism, Grid can be maintained inhealthier condition thereby ensuring full utilization of the renewable generating stations. The Renewable Energy forecasting and scheduling has not been implemented by the 1st Respondent so far leading to backing down in the Petitioner's plants. The available Renewable Energy power has to be used in full considering Must-run status of Renewable Energy plants instead of backing down in the name of grid security.

8.6. Even as per the Indian Electricity Grid Code Clause 6.4.7 referred by the 4th Respondent, back down instructions can be issued only if the grid security is endangered. It isreiterated that the 1st Respondent has been issuing backing down instructions solely due to low demand in the system and alleged unavailability of transmission corridor for evacuation of power. Whenever Power

System Operation Corporation (POSOCO) had issued violation instructions to Tamil Nadu the 4th Respondent to control the underdrawl of power, the 1st Respondent ought to have either increased the load on the grid or reduced the generation of conventional energy sources as the Renewable plants are subjected to Must-run status. The backing down of renewable plants shall be resorted to by the Respondents only after exhausting all other possible means of achieving and ensuring grid stability and reliable power supply.

8.7. The 4th Respondent submitted the quarterly report in respect of backdown instructions issued to solar power plants for the period from April 2019 to June 2021. In addition to the 217 days mentioned in the report submitted by the 4th Respondent, the solar energy was curtailed and backdown instructions were issued by the Respondent for 58 more days (Totaling 275 days) resulting in huge revenue loss to the Petitioner. The details of backing down instructions forced on the Petitioner's Renewable Energy Plants for the period from April-2019 to June 2021 and the backdown instructions issued on occasions other than that has been listed in the quarterly report of the 4th Respondent i.e for 58 days.

8.8. The outage ofthe petitioner's plants due to frequent backing down instructions issued by Respondents month-wise vis-a-vis the quarterly report is submitted below:-

Solar Plants Backdown Details-Summary				
Year	Month	No. of backdown days reported by SLDC	Actual No. of days NLCIL Solar Plants subjected to backdown	Difference

2019	April	3	5	2
	May	0	1	1
	June	0	0	0
	July	2	2	0
	August	9	9	0
	September	12	16	4
	October	8	8	0
	November	1	1	0
	December	0	1	1
2020	January	0	2	2
	February	0	3	3
	March	3	3	0
	April	13	14	1
	May	5	8	3
	June	18	23	5
	July	18	20	2
	August	16	24	8
	September	22	25	3
	October	17	22	5
	November	10	10	0
	December	7	7	0
2021	January	12	12	0
	February	8	9	1
	March	12	12	0
	April	7	7	0
	May	10	15	5
	June	4	16	12
Total		**217**	**275**	**58**

8.9. The Hon'ble Tribunal in the Appeal No. 197 of 2019 in IA No. 1706 of 2019 in the matter of National Solar Energy Federation of India Vs Tamil Nadu Electricity Regulatory Commission & Others, the Hon'ble Tribunal has directed that, in future any curtailment of Renewable Energy shall not be considered as meant for grid security if the backing down instruction were given under following conditions:-

(a) System Frequency is in the band of49.90Hz-50.05Hz

(b) Voltage level is between: 380kVto 420kVfor 400kV systems & 198kVto 245kVfor 220kV systems.

(c) No network over loading issues or transmission constraints.

(d) Margins are available for backing down from conventional energy sources.

(e) State is overdrawing from the grid or State is drawing from grid on short-term basis from Power Exchange or other sources simultaneously backing down power from intra-state conventional or non-conventional sources.

8.10. The Hon'ble Tribunal in the above said matter had also directed the Respondents to pay compensation for issuing curtailment instructions for reasons other than grid security, at the rate of75% ofPPA tariff per unit within 60 days from the date of order. Therefore, any backing down instructions given by the 4thRespondent ought to be in line with the conditions and the directions of the Hon'ble Tribunal mentioned above.

8.11. The Petitioner's Solar plants (500MW and 709MW) were subjected to backing down for 275 days. Whereas, the 4thRespondent in its quarterly report mentioned only 217 days. In this also, for about 68 days the frequency was within the limit and backdown instructions given statingunderdrawl and DSM (Deviation Settlement Mechanism) sign change as reasons are also not attributable to the Petitioner. Out of275 days some of the days backdown was done stating that

TANTRANSCO system was overloaded. This is also because of the lack of proper evacuation infrastructure of 1st Respondent.

8.12. As per the Power Purchase Agreements signed between Petitioner and the 1st Respondent for various Renewable Energy Projects, the Renewable Power generated shall be evacuated to the maximum extent possible, subject to Grid stability and shall not be subjected to Merit Order Dispatch principles and Must-Run status has to be maintained by SLDC.

9. Written Submission filed by the Petitioner:-

9.1 The Petitioner NLC India Limited has installed 1400 MW capacity of Renewable Energy(Solar and Wind) at a Capital cost of nearly Rs.6000 Cr in Tamil Nadu under Power PurchaseAgreement (hereinafter referred to as 'PPA') with the 1st Respondent as a part of itscontribution towards the Green initiatives of the Government of India. The Petitioner installedcapacity is nearly 33.5% of the Solar installed capacity of Tamil Nadu, by which TANGEDCObenefited for the Solar Renewable Purchase Obligation (RPO) which is currently at 17% (RPO Solar-8051 MW) as per the Commission's order dated 27.07.2020.

9.2. The Petitioner submits that the Solar energy being Green and Renewable source of Energyneeds to be patronized by permitting the Solar Power plants to run continuously, at itsoptimum capacity, without backing down. In this regard, the Government of India had comeup with various statutory provisions, National Electricity Policy, and other Regulations of theCommission.

9.3. The Ministry of New and Renewable Energy (hereinafter referred to as 'MNRE') videLetterNo.336/19/2017-wind, dated 01.08.2019 has clarified that "MUST RUN" status hasbeen accorded to Renewable Energy (Solar and Wind power) as per Indian Electricity Grid Code, 2010 and various State Grid Codes/Regulations under the Electricity Act, 2003.According to the existing instructions, Solar and Wind power can be curtailed only on theground of Grid Safety and Security and that too after communicating reasons of curtailmentin writing to Generators.

9.4. In terms of the IEGC Regulations, 2010 and MNRE letter dated01.08.2019, back down instructions to solar power plants can be issued only if the grid securityis endangered or safety of any equipment or personnel is endangered. However, no suchreasons have ever been communicated to the Petitioner. The 4th Respondent has been issuingthese back-down instructions solely due to lower demand in the system and allegedunavailability of transmission corridor for evacuation of power. However, in spite of revenueloss, the Petitioner is completely adhering to the oral instructions/communications throughemails from the 4th Respondent.

9.5. The Commission vide Order (Ref: MP. No. 16/2016) dated25.03.2019 had emphasized that the State Load Dispatch Centre (the 4th Respondent herein) cannot curtail the Renewable Power at their convenience. Backing down of Renewable Energysources shall be resorted to only after exhausting all other possible means of achieving andensuring the grid stability. Also, as per the Power

Purchase Agreements signed betweenTANGEDCO and NLCIL for various RE Projects, the Renewable Power generated shall beevacuated to the maximum extent subject to Grid stability and shall not be subjected to MeritOrder Dispatch principles. (Clause 3 of PPA).

9.6. It was also brought to the notice of SLDC (4th Respondentherein) that, MNRE vide its Resolution (Amendments to the Guidelines for Tariff basedcompetitive bidding for procurement of power from Grid) dated 22.10.2019 has reiterated“MUST RUN” status to Solar Power Projects and no Solar Power Plant, duly commissioned,should be directed to back down by a DISCOM / Load Dispatch Centre (as per IndianElectricity Grid Code, under Clause 5.2U). In addition to that, MNRE vide the sameResolution (Page 23, Para 2.6 Clause 5.5.2, Offtake Constraints due to the back down) hasgiven a provision to claim Generation Compensation from the Procurer (TANGEDCO) foreffecting back downs in Solar projects.

9.7. The backing down of Solar/Wind (RE) capacity quoting GridSecurity is on the rise since April 2019 and NLCIL was forced to reduce Solar Power (RE)Generation to the extent of 25 % of its capacity, which has resulted in Generation losses. 3.5.

Therefore, the Petitioner had requested the 4th Respondent to avoid back downs and toissue guidelines to ensure the “MUST RUN” status of the Petitioner’s Solar Energy(Renewable Energy) Projects. After repeated requests made to the 4th Respondent by thePetitioner, the frequency of back downs

reduced during the period from November 2019 toMarch 2020. But, again during the month of April 2020, the 4th Respondent had started issuingfrequent back down requests to the Petitioner's 500 MW & 709 MW Solar PV plants situatedin the southern districts of Tamil Nadu namely, Tirunelveli, Virudhunagar, Ramanatharuram,Tuticorin and Aruppukottai, reducing the power generation of NLCIL by 25 to 50 % of itscapacity.

9.8. The Petitioner submits that, India is a signatory to United Nations Framework Convention onClimate Change (Paris Agreement) and under the said Treaty, India has committed to reducethe carbon emissions. But due to the continuing back downs enforced by the 4th Respondent,the Petitioner is unable to evacuate the power that could have been generated, leading to theexcess consumption of non - renewable resources, resulting in increase in carbon emissions.Also, the Petitioner's Solar Power Projects have lost a quantity of nearly 98.95 MU of powergeneration resulting in huge Revenue loss to the tune of Rs.34.615 Crores to the Petitioner.The Petitioner is also deprived of full recovery of Annual Fixed Charges. This createsdifficulties in supplying projected quantum of power for viability of the project as well asensuring good financial returns for project activities. This approach of the 4th Respondent willalso discourage future investments in solar sector in the State.

9.9. The Commission had passed Comprehensive Tariff Orders onSolar Power vide Tariff Order No.4 of 2014 dated 12.09.2014 and Tariff Order No. 2 of 2016dated 28.03.2016 and determined Single Part Levelised tariff for 25 years

without consideringany grid outage or backing down of Solar Power Project. But if the Petitioners are forced toface the problem of Backing down without any compensation for loss of generation it wouldlead to sheer loss of Revenue and making the huge investment as dead and the economicsustainability of Solar energy generation in the State would be seriously jeopardized.

9.10. Unlike the conventional power plant, the applicable tariff of Solar Power Project is based onSingle part Tariff and therefore, backing down of such Power directly impacts the Revenue ofthe Solar power plant and deprive it of full recovery of the legitimate Annual Fixed Chargesdetermined by the Commission on normative basis for meeting the expenses of theplant. The comparison of solar generation with bagasse by the1st Respondent is not in order as the tariff costs of solar are recovered based on normativeperformance only. The projects are established with the understanding that plants will beallowed to operate under Normative parameters. The project developer i.e., the Petitioner didnot envisage such frequent backing down leading to huge backing down quantity. If therenewable energy plants are not allowed to operate at their capacity, it may lead to underrecovery of costs incurred in setting up the Plant.

Yearwise Backdown Quantum in MU and Revenue loss in Rs.Crs are tabulated as below:

Year	Project	Backdown in MU	Tariff Rs.	Revenue Loss in Rs. Crores
2018-19	Solar – 10 MW	1.434	7.01	1.005
	Wind – 51 MW	10.960	3.51	3.847
Year Total		**12.394**		**4.852**
2019-20	Solar – 10 MW	0.155	7.01	
	Wind – 51 MW	7.530	3.51	
	Solar – 130 MW	0.904	4.5	

	Solar – 500 MW	15.866	4.41/3.05	
	Solar – 709 MW	9.908	3.47	
Year Total		**34.363**		**11.883**
2020-21/till Sep.	Solar- 10 MW	0.092	7.01	
	Wind – 51 MW	7.788	3.51	
	Solar – 130 MW	0.000	4.5	
	Solar – 500 MW	15.518	4.41/3.05	
	Solar – 709 MW	28.796	3.47	
Year Total		**52.194**		**17.880**
Grand Total		**98.951**		**34.615**

9.11. Also, during the month of October 2020 there is a loss of generation of 11.443 MU of powerand consequent loss of Rs.4.025 Crores.

9.12. It can be seen from the above table that backdown is on an increase every year and in the year2020-21, the backdown for the first 6 months is 152% of the backdown for the entire year2019-20. Especially in 709 MW Plant which was won through competitive bidding. Morebackdown instruction are being given on a daily basis. Even in case of Wind Energy which isseasonal, around 10% of the capacity was backed down in 2020-21 up to October 2020.

9.13. The Regulation/Orders of the Commission in regard to “MUSTRUN” status states that the operation of a Solar plant cannot be curtailed except formaintenance of Grid security and that too as a last resort after exhausting all measuresincluding backing down of conventional generators.

9.14. The forecasting and scheduling has not been commerciallyimplemented by 1st Respondent till date. The forced outages in the Petitioner’s Plants due tothe

reasons attributable to Petitioner is almost NIL and over the year the Petitioner is deliveringa steady power proportionate to solar insolation. As solar insolation is not under our control,small variations in power injection has to be regulated by the Respondent's only by cuttingout the sources of conventional energy as these small variations are the inherent property ofsolar power. Therefore, the 1st Respondent taking shield under grid security and effectingcontinuous back downs to the Petitioner's Solar Power plants is not acceptable and is to becompensated by 1stPetitioner.

9.15. The Hon'ble Appellate Tribunalfor Electricity in the Appeal No. 197 of 2019 in IA No. 1706 of 2019 in the matter of NationalSolar Energy Federation of India Vs Tamil Nadu Electricity Regulatory Commission &Others, has in its order dated 02.08.2021, directed the Respondents i.e TANGEDCO,TNSLDC and TANTRANSCO to pay compensation for the claimed period from 01.03.2017to 30.06.2017 for the 1080 blocks considered by POSOCO, for issuing curtailmentinstructions for reasons other than grid security, at the rate of 75% of PPA tariff per unit within60 days from the date of order.

9.16. Further in the same appeal the Hon'ble Tribunal has presented Way forward for curtailmentof RE power by State Load Dispatch Centre and the same is reproduced as follows:

(i) As noticed in the analysis made by POSOCO which is based on the grid parameters, margins available for backing down of conventional energy sourcesand the status of drawal by the State from the central grid. These

parameters areapt for deciding whether the backing down is for the purpose of grid security oron commercial reasons.

(ii) It was also made clear that the replacement of solar power by purchases ofcheaper power from short term power markets shall also be treated as unauthorized activity.

(iii) Accordingly, the following directions are issued to all the State Commissions,DISCOMs and SLDCs with regards to curtailment of power generated fromRenewable Energy sources.

(iv) For Future, any curtailment of Renewable Energy shall not be considered asmeant for grid security if the backing down instruction were given under following conditions:

(a) System Frequency is in the band of 49.90Hz-50.05Hz

(b) Voltage level is between: 380kV to 420kV for 400kV systems & 198kVto 245kV for 220kV systems.

(c) No network over loading issues or transmission constraints.

(d) Margins are available for backing down from conventional energy sources.

(e) State is overdrawing from the grid or State is drawing from grid on shorttermbasis from Power Exchange or other sources simultaneously backingdown power from intra-state conventional or non-conventional sources.

(v) As a deterrent, the curtailment of Renewable Energy for the reasons other thangrid security shall be compensated at PPA tariff in future. The compensation shallbe based on the methodology adopted in the POSOCO report. POSOCO isdirected to keep the report on its website.

(vi) The State Load Dispatch Centre (SLDC) shall submit a monthly report to theState Commission with detailed reasons for any backing down instructions issuedto solar power plants.

(vii) The above guiding factors stipulated by APTEL would apply till such time theForum of Regulators or the Central Government formulates guidelines in relationto curtailment of renewable energy.

10. Written Submission filed by the 4th Respondent:-

10.1 Safe, reliable, and affordable electricity is a fundamental building block for all modern societies. It is one of the key components of sustainable development, providing the backbone for society's social and economic wellbeing. The 4th Respondent is aware of this fact. The acts of the 4th Respondent are in accordance with this stated fact.

10.2. The 4th Respondent has not conducted themselves in a manner that violates the provisions of the Indian Electricity Grid Code, 2010, Tamil Nadu Electricity Grid Code and the Electricity Act, 2003.

10.3. The backing down instructions is being issued, after duly considering the circumstances and in the interest of the grid safety and security, solely based on the various Statutory provisions in the Electricity Act, 2003, and regulations of the IEGC, TNEGC, CERC/TNERC**,** issued from time to time.

10.4 The Respondent has not curtailed Renewable Energy at its ownconvenience, and whims and fanciesbut only based on necessity. The backing down of Renewable Energy Resources was resorted to, only after exhausting all other possible means of achieving and ensuring grid stability.

10.5. The Petitioner has referred to a letter from the Ministry of New and Renewable Energy, dated 01.08.2019 (Page 282 of the Petition) which is addressed to the Additional Chief Secretaries/ Principal Secretary/ Secretary (Energy) of all States and Union Territories. It has been clearly stated, in unambiguous and unequivocal manner that :

"… Solar and wind power can be curtailed only for reasons of grid safety…."

The 4th Respondent, has not acted in defiance of the said direction given in this letter issued by the Ministry of New and Renewable Energy.

10.6. Paragraph 3 of the letter from the Ministry of New and Renewable Energy dated 01.08.2019 (Page 282 of the Petition) states that:

"……the 'must run' status of wind and solar power projects be honoured in letter and spirit and curtailment of such power be done only for reasons of grid safety and security and that too after communicating the instructions detailing reasons for curtailment to the generators in writing."

It is evident, from the oral arguments of the Learned Counsel for the Petitioner that, reasons were communicated in writing. Thus, there was no violation of the directions contained in this letter, from the Ministry of New and Renewable Energy dated 01.08.2019 (Page 282 of the Petition).

10.7. The letter from the Ministry of New and Renewable Energy, dated 01.08.2019 (Page 282 of the Petition) is only a clarification of the Provisions of IEGC, 2010. Even assuming without admitting that, this letter from the Ministry of New and Renewable Energy dated 01.08.2019 (Page 282 of the Petition) is a direction, the same enables the Respondent, to curtail the Solar and Wind Power Projects, for the reasons of grid safety and security.

10.8. According to the letter from the Ministry of New and Renewable Energy, dated 01.08.2019 (Page 282 of the Petition), the losses due to curtailment of Wind and Solar Generators, shall be made good, only if the curtailment is due to any other reasons, other than grid security. But, in the case on hand, the curtailment was done, only because of the Grid Safety and Security, as per the Grid Code.

10.9. The Respondent SLDC does not curtail Renewable Energy power, at its own conveniences. However, the Renewable Energy generations are curtailed,

for grid safety purposes only that too, as a last resort, after backing down of all conventional generations.

10.10.The Petitioner has referred to the Page 23, Para 2.6. Clause 5.5.2. of the Ministry of New and Renewable Energy Resolution (Amendments to the Guidelines for Tariff based competitive bidding for procurement of power from Grid) dated 22.10.2019. The said reference strengthens, the arguments, in favour of the Respondent only Page 23, Para 2.6. Clause 5.5.2. of the Ministry of New and Renewable Energy Resolution (Amendments to the Guidelines for Tariff based competitive bidding for procurement of power from Grid) reads as follows:

> *"……except for the cases where the Back down is on account of events like consideration of grid security or safety of any equipment or personnel or other such conditions, the Solar Power Generator shall be eligible for a Minimum Generation Compensation ……"*

10.11. The Petitioner has referred to the Page 23, Para 2.6. Clause 5.5.2., of the Ministry of New and Renewable Energy Resolution (Amendments to the Guidelines for Tariff based competitive bidding for procurement of power from Grid) dated 22.10.2019 , which clearly states that back-down instructions should be in writing. The said Clause reads as follows:

> *" (c) No back-down /curtailment to be ordered without giving formal/ written instruction for the same"*

It is an admitted fact by the Learned Counsel for the Petitioner, during oral arguments that, there were written instructions, issued by the 4th Respondent SLDC.

10.12. The State Load Despatch Centre is responsible for optimum scheduling and despatch of electricity within a State, in accordance with the contracts entered into, with the licensees or the generating companies operating in the State. The same has been observed, in the case of *Jaiprakash Power Ventures Limited v. Madhya Pradesh Power Management Company Limited*, reported in 2021 SCC On Line APTEL 51.

10.13. In *Tata Power Renewable Energy Limited v. Andhra Pradesh ERC*, reported in 2021 SCC On Line APTEL 32,SLDC had merely submitted the data, and no explanation for such backing down has been provided by the SLDC, in that case. But in the present case, clear explanation has been provided by the 4th Respondent for issuing backing down and curtailment instructions before the Commission.

10.14. *National Solar Energy Federation of India v. Tamil Nadu ERC*, reported in 2021 SCC On Line APTEL 39, Hon'ble APTEL has observed that, Section 33(1) empowers Respondent No. 4(SLDC) to issue necessary directions to the Electricity Generators, to ensure efficient operation of the grid and that the said directions are binding on the Generators.

10.15. The Tamil Nadu State Load Despatch Centre, is the Apex Body to ensure, integrated operation of the power system in Tamil Nadu. It is the strategic

functional unit for discharging, various functions under Section 32 of the Electricity Act.

10.16. Backing down, is justified, because, generation is to be reduced prior to reaching the alert state (i.e.) limit of frequency band of 50.05 Hz. Hence in order to ensure the optimum frequency operating level of 49.90 Hz to 50.05 Hz, the SLDC, requires to issue backing down instructions which otherwise would lead to more generation availability than the demand thereby increasing the frequency beyond the upper limit of the frequency 50.05Hz. The SLDC is authorized under section 32 to issue backing down instructions to ensure secure economic operation of the State Grid. Backing down instructions in writing in advance, is practically not possible during real time, operation of the Grid as it would delay in safeguarding the grid stability from the alert state.

10.17. *National Solar Energy Federation of India v. Tamil Nadu ERC*, reported in 2021 SCC On Line APTEL 39, it was observed

> *"…. it is settled law that to establish misfeasance on the part of SLDC, it is enough to show that SLDC is guilty of legal mala fide by knowingly breaching its statutory duty and with knowledge that its action is likely to cause losses to the generating company. Further, it is also settled law that once misfeasance by SLDC with its knowledge has been established, the party aggrieved is entitled to claim compensation from SLDC."*

In the present case, the Petitioners have not established any misfeasance on part of SLDC. For misfeasance it is necessary, that the public officer must have acted maliciously or in bad faith oragainst the Provisions of the GRID CODE.

10.18. In the case of *Common Cause, A Registered Society v. Union of India.*, AIR 1999 SC 2979 that, for misfeasance, there should be malicious abuse of power, deliberate maladministration, and unlawful acts.In*Rajkot Municipal Corpn. v. Manjulben Jayantilal Nakum*, reported in (1997) 9 SCC 552 at page 582, it has been observed that, “Misfeasance” is wilful, reckless or heedless conduct in commission of a positive act lawfully done, but with improper conduct. But none of the ingredients of misfeasance is present in this case, and the same has not been proved by the Petitioner. The Respondent was only performing its duty conferred on it, under the provisions of Indian Electricity Grid Code, 2010, Tamil Nadu Electricity Grid Code, and the Electricity Act, 2003. Since no misfeasance on part of the Respondent is established, the reliance placed by the Learned Counsel for the Petitioner, to the case of *National Solar Energy Federation of India v. Tamil Nadu ERC*, reported in 2021 SCC OnLine APTEL 39, is not correct, and is inapplicable to the facts of the case, in the absence of any proof, attached to the same.

10.19. The Hon’ble Supreme Court, has clearly held in *PTC India Ltd. v. Secy. CERC,* reported in (2010) 4 SCC 603: AIR 2010 SC 1338, at Para 9 that “the 2003 Act is an exhaustive Code on all matters concerning electricity” It is

submitted that, Section 30 of the Electricity Act, 2003, mandates the State Commission to facilitate and promote intra-State transmission by constituting SLDC, to be established by the State Government, under Section 31 Electricity Act, 2003.

10.20. The Electricity Act, 2003 is exhaustive on all matters concerning electricity. As such, all aspects relating to Generation, Transmission, Distribution, and Trading of Electricity are governed by the provisions of the Act, and section 173 of Act, gives the Statute an overriding power. Sections 174 and 175 provide that, whatever has been provided for, in any other law for the time being in force, or in any instrument having the force of law, will not take effect, when they be found inconsistent with, andis repugnant to the provisions of the Electricity Act, 2003. The same has been held in the case of *Bhakra-Beas Management Board (BMBM) v. Central Electricity Regulatory Commission,* reported in 2012 SCC On Line APTEL 203. In the present case, the Indian Electricity Grid Code, 2010, Tamil Nadu Electricity Grid Code, 2005 framed in accordance with the Electricity Act, 2003, give powers to the Respondent SLDC, to issue backing down and curtailment instructions, whenever such a, situation warrants.

10.21. When any other Statute or any instrument having the force of Statute, is not in conflict with the Electricity Act, 2003 then both the enactments, will have their corresponding role to play, in its respective spheres. In the present case, the Indian Electricity Grid Code, 2010, Tamil Nadu Electricity Grid Code, 2005,

framed in accordance with the Electricity Act, 2003, give powers to the Respondent SLDC, to issue backing down and curtailment instructions depending on the situation prevalent at the relevant period.

10.22. Regulatory curtailment is necessary for maintaining a safe and secure grid, which is the mandate of the 2003 Act, and under the Indian Electricity Grid Code.

10.23. In terms of Section 79(1)(h) of the Electricity Act, 2003, the Indian Electricity Grid Code (IEGC) was notified by the Central Commission, based on the Grid Standards, specified by the Authority. The Grid Code, has been defined in section 2(33) with reference to the Grid Code notified by the Central Commission (and notby the State Commission). The IEGC is applicable throughout the Country, both for Inter State and Intra State lines. The same has been held so, in the case of *Power Grid Corporation of India Ltd. v. Chattisgarh State Electricity Regulatory Commission*., reported in 2018 SCC On Line APTEL 41

10.24. Under Section 32(2)(e) of the Electricity Act, 2003, Tamil Nadu State Load Despatch Centre, is responsible for carrying out, real time operations for Grid Control, and Despatch of Electricity, within the State of Tamil Nadu, through secure and economic operation of the State grid, in accordance with the IEGC.

10.25. SLDC has to operate within the specified limits, prescribed under the IEGC. SLDC operates on a real-time basis, taking into account, the frequency bandwidth and over drawl/under drawl, at any particular point of time. The

frequency range of 49.90-50.05 Hz and over drawl/under drawl permitted, is +/- 250 MW. As stipulated in, the Clause 5.2 (u) of IEGC 2010, the system operator makes all efforts in accommodating maximum power, and initiate curtailment action, depending upon circumstances for grid security and in consideration of safety of equipment within the grid operating frequency range of 49.90-50.05 Hz specified by the CERC, vide notification dated 06.01.14. Hence, it is a regulatory mandate to curtail injection of power, whenever the grid conditions warrant. The same was observed in *National Solar Energy Federation of India v. Tamil Nadu ERC*, reported in 2021 SCC OnLine APTEL 39.

10.26. Tamil Nadu State Load Despatch Centre, no doubt has to take is taking all the efforts to accommodate the solar energy at the maximum possible, within the Regulatory Norms. However, in real time operation, in order to maintain grid security/discipline, after backing down the conventional generation to the technical minimum, even after taking out the generating units for reserve shutdown, surrendering of CGS power, and as a last resort, backing down of renewable energy is inevitable as per section 32 & 33 of the Electricity Act, 2003, Clause 2.7, 5.2(u) of Indian Electricity Grid Code (IEGC),2010 Clause 4.2(e), 8.4(iii) and (v) of Tamil Nadu Electricity Grid code (TNEGC), 2005.

10.27. No concrete facts have been produced to show that, SLDC has not followed any norm, or operational principle, for issuing the backing down

instructions or that SLDC has acted contra to, the provision of the Electricity Code, and its Regulations.

10.28. Underlying principle, governing the Indian Electricity Grid Code, 2010 ("IEGC") and all grid operations across India (in Transmission and Distribution) is securing the Grid stability, by regulating frequency, voltage and load. To achieve this, Indian Electricity Grid Code, 2010 provides for, a dynamic balance to be maintained between demand and supply, so that, the Grid operation is kept closest to its ideal frequency of 50 Hz. The same has been held in the case of *Tata Power Company Limited v. Maharashtra Electricity Regulatory Commission.*, reported in 2020 SCC OnLine APTEL 90- Paragraph 28.

10.29. The duties of Load Dispatch Centre have been specified in clause 6.4 of the Indian Electricity Grid Code, 2010 ("IEGC") as observed in the case of *Vandana Vidhyut Limited v. Chhattisgarh State Electricity Regulatory Commission*., reported in 2015 SCC Online APTEL 30. The same has been scrupulously followed by the Respondent, SLDC, in the present case and no evidence to the contra has been produced by the Petitioner.

10.30. Every generating company, is obliged to comply with the directions issued by the Regional Load Dispatch Centres, and State Load Dispatch Centres, constituted under Sections 27 and 31 respectively, for ensuring stability of grid operations, and for achieving the maximum economy and efficiency, under Sections 29(1) and 33(1). These Regional and State Load

Dispatch Centres, are responsible for optimum scheduling and dispatch of electricity, within a region and State, in accordance with the contracts, entered into with the Generating Companies, operating in that Region/State, under Sections 28(3)(a) and 32(2)(a). Therefore, the Load Dispatch Centres, have to ensure that, directions issued are duly complied with by the Generating Companies. Failure of compliance with the directions, the generating companies have been made liable for pecuniary liability, under Sections 29(6) and 33(5).

10.31. The preamble of a statute, can also be used to aid and interpret an enactment or legislation. the policy and purpose of the Act can be legitimately derived from its preamble. In *Global Energy Ltd. v. Central Electricity Regulatory Commission*, reported in (2009) 15 SCC 570 it was held that, "the object of legislation should be read in the context of the Preamble. Preamble of the Act, is a guiding Light, to its interpretation. Such a rule of interpretation has been supported by the decisions of the Hon'ble Supreme Court, in a catena of cases. The preamble to the Electricity Act, 2003 reads as follows:

> *" An Act to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas…."*

10.32. To give effect to the objectives of Transmission and Supply of electricity to all areas only, the Indian Electricity Grid Code, 2010, Tamil Nadu Electricity Grid Code, 2005, have been framed. It is not prayed as to whatever the provisions of these codes have been challenged in any Courts. Hence, the Respondent has

acted in accordance with the Statutory Directions conferred on it, through the Indian Electricity Grid Code, 2010, Tamil Nadu Electricity Grid Code, 2005, and the Electricity Act, 2003, all of which are perfectly Constitutional Legislations.

10.33. Section 32 of the Electricity Act, 2003 reads as follows :-

> *Section 32. (Functions of State Load Despatch Centres): ---*
> *(1) The State Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in a State.*
> *(2) The State Load Despatch Centre shall –*
> *(a) be responsible for optimum scheduling and despatch of electricity within a State, in accordance with the contracts entered into with the licensees or the generating companies operating in that State;*
> *(b) monitor grid operations;*
> *(c) keep accounts of the quantity of electricity transmitted through the State grid;*
> *(d) exercise supervision and control over the intra-State transmission system; and*
> *(e) be responsible for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid Standards and the State Grid Code.*
> *(3) The State Load Despatch Centre may levy and collect such fee and charges from the generating companies and licensees engaged in intra-State transmission of electricity as may be specified by the State Commission.*

From the reading of this Section 32, it is clear that the State Load Despatch Centre is responsible for optimum scheduling and despatch of electricity within a State. The Respondent State Load Despatch Centre is conferred with the management over the grid operations. The Respondent State Load Despatch Centre, is bestowed with the responsibility for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid Standards and

the State Grid Code. The Respondents have not violated the provisions of this Section 32 of the Electricity Act, 2003.

10.34. Section 33 of the Electricity Act, 2003 reads as follows:-

> *Section 33. (Compliance of directions): ---*
> *(1) The State Load Despatch Centre in a State may give such directions and exercise such supervision and control as may be required for ensuring the integrated grid operations and for achieving the maximum economy and efficiency in the operation of power system in that State.*
> *(2) Every licensee, generating company, generating station, sub-station and any other person connected with the operation of the power system shall comply with the directions issued by the State Load Despatch Centre under sub-section (1).*
> *(3) The State Load Despatch Centre shall comply with the directions of the Regional Load Despatch Centre.*
> *(4) If any dispute arises with reference to the quality of electricity or safe, secure and integrated operation of the State grid or in relation to any direction given under sub-section (1), it shall be referred to the State Commission for decision: Provided that pending the decision of the State Commission, the directions of the State Load Despatch Centre shall be complied with by the licensee or generating company.*
> *(5) If any licensee, generating company or any other person fails to comply with the directions issued under sub-section(1), he shall be liable to a penalty not exceeding rupees five lacs.*

On a perusal of the above said provisions of law, it is clear that, the State Load Despatch Centre in a State, is authorised to give such directions, and exercise such supervision and control, as may be required, at a given point of time, for ensuring the integrated grid operations, in order to achieve Maximum Economy and Efficiency, in the operation of power system, in a State. The Respondents have not violated the provisions of this Section 33 of the Electricity Act, 2003.

10.35. Clause 2.7. of the Indian Electricity Grid Code, 2010 states that as per section 32 of Electricity Act, 2003, the State Load Despatch Centre (SLDC) shall be the Apex Body, to ensure integrated operation of the power system in a State. It further states that, SLDC shall exercise supervision and control over the intra-State transmission system. SLDC is responsible for carrying out real time operations for grid control and despatch of electricity within the State, through secure and economic operation of the State grid in accordance with the Grid Standards, and the State Grid Code. The SLDC has to comply with the directions of the RLDC. Clause 2.7.of the Indian Electricity Grid Code, 2010 reads as follows:-

Clause 2.7 of the Indian Electricity Grid Code

"2.7.1 In accordance with section 32 of Electricity Act, 2003, the State Load Despatch Centre (SLDC) shall have following functions:

(1) The State Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in a State.

(2) The State Load Despatch Centre shall -

(a) be responsible for optimum scheduling and despatch of electricity within a State, in accordance with the contracts entered into with the licensees or the generating companies operating in that State;

(b) monitor grid operations;

(c) keep accounts of the quantity of electricity transmitted through the State grid;

(d) exercise supervision and control over the intra-State transmission system; and

(e) be responsible for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid Standards and the State Grid Code.

2.7.2 In accordance with section 33 of the Electricity Act, 2003. the State Load Despatch Centre in a State may give such directions and exercise such supervision and control as may be required for ensuring the integrated grid operations and for

achieving the maximum economy and efficiency in the operation of power system in that State. Every licensee, generating company, generating station, sub-station and any other person connected with the operation of the power system shall comply with the directions issued by the State Load Depatch Centre under subsection (1) of Section 33 of the Electricity Act,2003.
The State Load Despatch Centre shall comply with the directions of the Regional Load Despatch Centre".

10.36. Regulation 5.2 (u) of IEGC, 2010 reads as follows: -

"(u) Special requirement for Solar and Wind generators: System operator (SLDC/RLDC) shall make all efforts to evacuate the available wind power and treat as a must-run station. However, System operator may instruct the solar / wind generator to back down generation on consideration of grid security or safety of any equipment or personnel is endangered and solar / wind generator shall comply with the same".

As stipulated in clause 5.2 (u) of IEGC 2010, the Respondent system operator makes all efforts, to accommodate, maximum power and initiate curtailment action, only in the interest of grid security, and considering the safety of the equipment, within the grid operating frequency range of 49.90-50.05 Hz specified by the CERC vide the notification dated 06.01.14. Hence, it is a regulatory mandate to curtail injection of power whenever the grid conditions warrant.

The above clause, is to be read as mandatory, rather than directory. The safety of the grid is chief aim of this provision. Treating the said provision as mandatory will lead to an absurd and a redundant provision. It will give rise to a meaning interpretation that, solar and wind generator, cannot be ordered to back down

their generation, while considering of grid safety. Such an interpretation, is definitely not the one envisaged, by clause 5.2 (u) of IEGC 2010.

10.37. The Petitioner's case rests upon the first part of clause 5.2 (u) of IEGC 2010. The Petitioner has thus disregarded the second part of the clause 5.2 (u) of IEGC 2010, which enables the Respondent SLDC, to issue back down and curtailment orders, taking into account the grid safety. The whole scope of the statute, is to be considered, to know the real intention of the legislation. The real intention of the IEGC 2010, is to ensure grid safety and security, integrity and reliability. Hence, Clause 5.2 (u) of IEGC 2010, should be read as a whole which gives the Respondent SLDC, to issue back down and curtailment orders, taking into on account grid safety, security , integrity and reliability.

10.38. The relevant Clauses of Indian Electricity Grid Code (IEGC) in the 2nd Amendment with effect from 17.02.2014 is given below;

> ***Clause 5.2(m) -*** *All Users, SEB, SLDCs, RLDCs, and NLDC shall take all possible measures to ensure that the grid frequency always remains within the 49.90 –50.05 Hertz band.*
>
> ***Clause5.4.2(a)*** *- SLDC/ SEB/distribution licensee and bulk consumer shall initiate action to restrict the drawal of its control area, from the grid, within the net drawal schedule*
>
> ***Clause 6.4.6*** *- …….. Maximum inadvertent deviation allowed during a time block shall not exceed the limits specified in the Deviation Settlement Mechanism Regulations. Such deviations should not cause system parameters to deteriorate beyond permissible limits and should not lead to unacceptable line loadings. Inadvertent deviations, if any, from net drawal schedule*

shall be priced through the Deviation Settlement mechanism as specified by the Central Commission from time to time.

Clause6.4.7*- The SLDC, SEB/distribution licensee shall always restrict the net drawal of the state from the grid within the drawal schedules keeping the deviations from the schedule within the limits specified in the Deviation Settlement Mechanism Regulations*.

10.39. The Clauses of the CERC (Deviation Settlement Mechanism and related matters) Regulations, 2014, dated 06.01.2014 (with effect from 17.02.2014) with respect to grid discipline and grid security is as such below:-

Clause 3. Objective

"*The objective of these regulations is to maintain grid discipline and grid security as envisaged under the Grid Code through the commercial mechanism for Deviation Settlement through drawal and injection of electricity by the users of the grid".*

CERC(Deviation Settlement Mechanism and related matters)(Third Amendment) Regulations, 2016 (with effect from 30.05.2016) Annexure- III Deviation Limits for Renewable Rich States

S. No	States having combined installed capacity of Wind and Solar projects	Deviation Limits (MW)- "L"
1	1000– 3000 MW	200
2.	> 3000 MW	250

As Tamil Nadu having more than 3000 MW of RE power, Deviation Limits for Tamil Nadu is (+/-) 250 MW.

The Clause 3(4) of Tamil Nadu Electricity Grid Code reads as follows:-

"3(4) ….. It is nevertheless necessary to recognize that the Grid Code cannot predict and address all possible

> *operational situations. Users must therefore understand and accept that, in such unforeseen circumstances, the State Transmission Utility (STU) who has to play a key role in the implementation of the Grid Code may be required to act decisively for maintaining the Grid regimes for discharging its obligations. Users shall provide such reasonable co-operation and assistance as the STU may request in such circumstances".*

The Tamil Nadu Electricity Grid Code, 2005 clearly recognises in an unambiguous language that, under unforeseen circumstances, the State Transmission Utility (STU) has to play a key role in the implementation of the Grid Code. The Respondent, SLDC, has acted decisively in the present case for maintaining the grid stability, integrity, and reliability.

Clause 4.2.(e) of the Tamil Nadu Electricity Grid Code states that, SLDC shall be responsible for carrying out real time operations for Grid control. The relevant extract of the provision is as follows:

> *" … The SLDC shall be responsible for carrying out real time operations for Grid control and dispatch the electricity within the State through secure and economic operation of the state grid in accordance with the grid standards and grid code…."*

The Respondent SLDC thus has the powers to carry out and issue orders for backing down and curtailment of the Petitioner, by virtue of this provision and has acted in accordance to the said provision only.

10.40. Clause 8.4 (iii) and (v) of the Tamil Nadu Electricity Grid code states that SLDC can direct the Generating Stations / Beneficiaries to increase or decrease

their generation/ drawal, in case of contingencies. It is imperative on the Petitioner to act upon such directions.

> 8.4 (iii) *"…the SLDC may direct the generating stations / beneficiaries to increase or decrease their generation/drawal in case of contingencies e.g. overloading of lines /transformers, abnormal voltages, threat to system security. Such directions shall immediately be acted upon "*
>
> *8.4 (v) "All entities shall abide by the concept of frequency linked load despatch and pricing of deviations from schedule i.e. unscheduled interchanges. All generating units of the entities and the licensees shall normally be operated according to the standing frequency linked load despatch guidelines issued by the SLDC to the extent possible, unless otherwise advised by the SLDC".*

10.41. Thus, it is evident that, the Respondent has acted according to the Statutory provisions only, and has not violated, any of the provisions of the Indian Electricity Grid Code, 2010, Tamil Nadu Electricity Grid Code, 2005 and the Electricity Act, 2005.

10.42. The Respondent is a party to the Energy Purchase Agreement, filed as Document Nos. 1,2,3,4,5 dated 19.10.2016, 19.10.2016, 19.10.2016, 18.07.2017 and 26.09.2017, respectively.

10.43. Clauses 2(d), 3 (a) and 3 (l) of the Energy Purchase Agreement filed as Document Nos. 1,2,3,4,5 dated 19.10.2016, 19.10.2016, 19.10.2016, 18.07.2017 and 26.09.2017, respectively, reads as follows:-

> *"Clause 2 (d)Both the parties shall comply with the relevant provisions contained in the Indian Electricity Grid Code, Tamil Nadu Electricity Grid Code, the Electricity Act, 2003,*

other codes and Regulations issued by the Tamil Nadu Electricity Regulatory Commission/ Central Electricity Authority (CEA) as amended from time to time.

Clause 3(a) "The Solar power generated shall be evacuated to the maximum extent subject to Grid stability and shall not be subjected to merit order dispatch principles"

Clause 3 (l) "Grid availability shall be subject to the restriction and control as per the orders of the State Load Despatch Centre (SLDC) consistent with the provisions of the Electricity Act and regulations made thereon."

Therefore, it is evident that, curtailment instructions issued for grid safety is not a contrary to the contractual obligations, contained under the respective Energy Purchase Agreements.

10.44. In accordance with the well-known legal that, at the outset, a contract is a matter of freewill, but when it has been made, it becomes a matter of compulsion. Hence, the Petitioner is bound to comply with the backing down and curtailment instructions of the Respondent SLDC, for the purposes of Grid Safety, reliability and integrity.

10.45. It is well settled principle of law that the contract makes the law and the agreement of the parties, makes the law of the contract, and agreement takes the place of the law. Thus, the stipulations of parties constitute the law of the contract, and agreements give contracts, the force of law. The contractual clauses 2(d), 3 (a) and 3 (l) of the Energy Purchase Agreement, filed as Document Nos. 1,2,3,4,5 dated 19.10.2016, 19.10.2016, 19.10.2016, 18.07.2017 and 26.09.2017 respectively, provides that, the Petitioner is bound to comply with

all the backing down and curtailment instructions of the Respondent SLDC, for the purposes of Grid Safety, reliability and integrity.

10.46. The Petitioner contends that, it is not bound to comply with the backing down and curtailment instructions of the Respondent SLDC, issuedfor the purposes of Grid Safety, reliability and integrity, and thus violates the principle that, 'agreements are meant to be kept'. Thus, agreements must be honoured. Agreements and stipulation of a party to a contract must be observed.

10.47. The Petitioner was fullyaware of the Statutory Provisions, at the time of entering into the Energy Purchase Agreement, filed as Document Nos. 1,2,3,4,5 dated 19.10.2016, 19.10.2016, 19.10.2016, 18.07.2017 and 26.09.2017 respectively. The Petitioner was aware that, the Respondent SLDC would issue backing down and curtailment instructions for the purposes of Grid Safety, reliability and integrity. This argument of the Respondent is correct because, he who contracts with another either is or ought not to be ignorant of his condition and who wills a thing to be or to be done cannot complain of that thing as an injury.

10.48. Section 37 of the Indian Contract Act, 1872 reads as follows:-

> *"Section 37 – Obligation of parties to contracts- The parties to a contract must either perform or offer to perform their respective promise."*

There is a promise on the part of the Petitioner to abide by clauses 2(d), 3 (a) and 3 (l) of the Energy Purchase Agreement, filed as Document Nos. 1,2,3,4,5 dated 19.10.2016, 19.10.2016, 19.10.2016, 18.07.2017 and 26.09.2017 respectively.

10.49. The basic rule of contract law is that, the promisor must perform exactly, what he/it has undertaken to do. The obligation to perform is absolute, as held in the case of *Magnum Films v. Golcha Properties Pvt. Ltd.* reported in AIR 1984 Del 162. It is the obligation of each party to perform its respective promise as agreed, unless the promise has dispensed with the performance, or it is excused by this Act or any other law.

10.50. The difficulty of performance or the fact that the contract is burdensome, are not excuses, which Petitioner can take, in order to wriggle out of the obligations that it has assumed, under Clauses 2(d), 3 (a) and 3 (l) of the Energy Purchase Agreement, filed as Document Nos. 1,2,3,4,5 dated 19.10.2016, 19.10.2016, 19.10.2016, 18.07.2017 and 26.09.2017 respectively. It is a well-settled principle of contract law, that a party to a contract cannot be absolved from its performance of obligation under Contract, merely because it became onerous. Hence, the loss of revenue as alleged by the Petitioner in Para 3.7. of its Petition cannot be a ground for absolving its obligation, to observe, the backing down and curtailment instructions, issued by the Respondent in the safety of the Grid. Without prejudice to this Respondent rights and contentions, itis to be stated that, though the Back down and curtailment instructions may cause some hardship to the Petitioner, the same cannot be a ground, for not following the Back down and curtailment instructions of the Respondent, because, the Petitioner has assumed such obligations, under clauses 2(d), 3 (a) and 3 (l) of the Energy Purchase Agreement filed as Document Nos. 1,2,3,4,5 dated 19.10.2016,

19.10.2016, 19.10.2016, 18.07.2017 and 26.09.2017 respectively. Reliance for the abovementioned argument is placed on the cases of *Naihati Jute Mills Ltd. v. Khyali Ram Jagannath.,* reported in AIR 1968 SC 522 at 528.

10.51. The Petitioner in Para 3.7. of its Petition, has alleged that, there is a loss of revenue. In this regard, it is pertinent to note that, it is a well settled principle of contract law, that, commercial impossibility, extreme cost or difficulty of performance, is not a ground for excuse of obligations assumed under the contract. The Petitioner is bestowed, with the liability and obligation to obey the directions given by the Respondent, issued for the protection of grid security, safety, reliability, by virtue of clauses 2(d), 3 (a) and 3 (l) of the Energy Purchase Agreement filed as Document Nos. 1,2,3,4,5 dated 19.10.2016, 19.10.2016, 19.10.2016, 18.07.2017 and 26.09.2017 respectively. The relevant clauses are extracted and are as follows:-

> *"Clause 2 (d)Both the parties shall comply with the relevant provisions contained in the Indian Electricity Grid Code, Tamil Nadu Electricity Grid Code, the Electricity Act, 2003, other codes and Regulations issued by the Tamil Nadu Electricity Regulatory Commission/ Central Electricity Authority (CEA) as amended from time to time.*
> *Clause 3(a) "The Solar power generated shall be evacuated to the maximum extent subject to Grid stability and shall not be subjected to merit order dispatch principles"*
> *Clause 3 (l) "Grid availability shall be subject to the restriction and control as per the orders of the State Load Despatch Centre (SLDC) consistent with the provisions of the Electricity Act and regulations made thereon."*

This proposition of law that, commercial impossibility, extreme cost or difficulty of performance, is not a ground for excuse of obligations assumed under the

contract, has been reiterated in the cases of *Keshavlal Brothers & Co. v. Diwan Chand &Co.,* reported in AIR 1923 PC 105.

10.52. The Respondent SLDC, has given reasons for the Back down instructions. The Reasons are clearly stated in Quarterly report submitted to TNERC, along with the reasons for curtailment, Page 1 of Annexure B of Additional Affidavit filed on behalf of the Respondent 4. Annexure B of Additional Affidavit clearly states the following details:

a) Date
b) Block Time
c) De block Time
d) Duration
e) Frequency
f) Maximum Deviation during previous five blocks in Mega Watts
g) Requested Back down in Mega Watts
h) Realised Back down in Mega Watts
i) Demand at the time of Back down in Mega Watts
j) Back down Quantum in Mega Watts
k) Reasons for Back down

10.53. There is no general rule of the common law, or principles of natural justice, that requires reasons to be given for administrative decisions, even decisions which have been made in exercise of a statutory discretion and may adversely affect the interests or defeat the legitimate or reasonable expectations, of other persons.

10.54. Lord Denning, the eminent English Jurist has remarked that, "*the giving of reasons is one of the fundamentals of good administration"*. The Respondent SLDC has given reasons for back down in the Page 1 of Annexure B of Additional Affidavit filed on behalf of the Respondent 4 and stands as a example for good grid administration in the Country.

10.55. Clause 2.7.2 of the Indian Electricity Grid Code, 2010 does not mandate giving of reasons by SLDC. Despite the above said provision of the code, the Respondent, has given reasons and has not acted against the principles of Natural Justice. clause 2.7.2 of the Indian Electricity Grid Code , 2010 is extracted :

> *"2.7.2 In accordance with section 33 of the Electricity Act,2003 . the State Load Despatch Centre in a State may give such directions and exercise such 21 supervision and control as may be required for ensuring the integrated grid operations and for achieving the maximum economy and efficiency in the operation of power system in that State. Every licensee, generating company, generating station, sub-station and any other person connected with the operation of the power system shall comply with the directions issued by the State Load Depatch Centre under subsection (1) of Section 33 of the Electricity Act,2003"*

10.56. Back down and curtailment instructions are issued to other generators also, depending upon the grid conditions, following the applicable and prescribed laws and regulations. The Petitioner cannot claim a right, that, they have a must-run status, and hence should not be made to back down. This is against Section 32 & 33 of the Electricity Act, 2003, Clause 2.7, 5.2(u) of Indian Electricity Grid Code (IEGC),2010, Clause 4.2(e), 8.4(iii) and (v) of theTamil Nadu Electricity Grid code (TNEGC), 2005.

10.57. The Learned Counsel for the Respondent has orally argued on 08.02.2022 before the Commission that *"the reasons given by the Respondent SLDC is not correct, Lok Sabha election cannot be a reason for issuing backing down and curtailment orders".* The Lok Sabha Election happened on 18th April

2019, and it is a fact that, Lok Sabha Elections took place in the State of Tamil Nadu on the said date, and there was low demand as offices, Commercial and Industrial places and premises, were shut on the said date. It is for the Petitioner to prove that, the reasons given for Back down and Curtailment orders to the Petitioner, in the Annexure B of Additional Affidavit filed on behalf of the Respondent 4 are wrong.

10.58. The Petitioner during the final argument submitted that, load crash due to festival holiday, is the reasons stated in the quarterly report and that in page 1 of Annexure B, are not mentioned for Grid Security reasons, in the APTEL Judgement dated 02.08.2021. In this regard, it is submitted that, in the same table in column 6 and 7, it has been clearly mentioned that the grid security parameters are mentioned, which are breached the upper limits, due to the load crash conditions. Hence, the statement of the Learned Counsel for the Petitioner may not be correct.

10.59. The Doctrine of Legitimate Expectation too, cannot arise in the present case. Legitimate expectation is subject to conditions stipulated in clauses 2(d), 3 (a) and 3 (l) of the Energy Purchase Agreement, filed as Document Nos. 1,2,3,4,5 dated 19.10.2016, 19.10.2016, 19.10.2016, 18.07.2017 and 26.09.2017 respectively and the Section 32 & 33 of the Electricity Act, 2003, Clause 2.7, 5.2(u) of Indian Electricity Grid Code (IEGC),2010 Clause 4.2(e), 8.4(iii) and (v) of Tamil Nadu Electricity Grid code (TNEGC), 2005.

10.60. The doctrine of legitimate Expectation was adopted in India in the Case of *State of Kerala v. K.G. Madhavan Pillai .,*reported in (1988) 4 SCC 669.

10.61. The conditions for the application of the Doctrine of legitimate Expectation, has been explained in the case of, *National Building Construction Company v. S.Raghunathan.,* reported in AIR 1998 SC 2779. For getting the benefit of Legitimate Expectation there must be a representation and reliance on the representation made, and resultant detriment. The Respondent SLDC, has nowhere in the Energy Purchase Agreement, filed as Document Nos. 1,2,3,4,5 dated 19.10.2016, 19.10.2016, 19.10.2016, 18.07.2017 and 26.09.2017 respectively, has held out that, the Petitioner's Solar Power Plants situated in various parts of Tamil Nadu, will function as Must-Run Power plant, and all the electricity generatedwill be evacuated from the plant, even in adverse grid conditions which affect the stability, security and reliability and integrity of the Grid. Legitimacy of expectation can be inferred only if it is founded, on the sanction of law as observed in the case of *Union of India v. Hindustan Development Corporation.,* reported in (1993) 3 SCC 499 Regulation 5.2 (u) of IEGC, 2010 reads as follows: -

> *"(u) Special requirement for Solar and Wind generators: System operator (SLDC/RLDC) shall make all efforts to evacuate the available wind power and treat as a must-run station. However, System operator may instruct the solar / wind generator to back down generation on consideration of grid security or safety of any equipment or personnel is endangered and solar / wind generator shall comply with the same".*

Nowhere in the said Regulation, it is stated that, Solar and Wind Generators will not be ordered to back down generation even on consideration of grid security. The Petitioner is definitely not ignorant of this provision of IEGC, 2010. Hence the Petitioner cannot legitimately expect the Respondent to treat the Petitioner as a must-run station at times when the grid is endangered.

10.62. The Legitimate Expectation can be denied when there is an overriding public interest, as held in the case of *Union of India v. Hindustan Development Corporation.,* reported in (1993) 3 SCC 499. Smooth operation and maintenance of Grid Stability, Reliability, Integrity and Security is in the interest of public and is not for anything else.

10.63. Grid Safety is for the greater public good. The Respondent SLDC's decision is based on the theory of, greater public good/interest, while overriding upon the interest of an individual generator *i.e.* the Petitioner. *(privatumcommodum publicocedit*-private convenience (rights) give in to the public interest, *salus publica salusmea*- the public good, my good). Thus, the good of the people is my good and *salus publica suprema lex*-public safety (the welfare of the people) is the supreme law.

10.64. The claim by the Petitioner is loss of cumulative quantum of 98.95 MU, during the period from 2018 to 2020 (up to September) is not properly proved, since the total generation which was evacuated, has not been clearly mentioned. The 4th Respondent SLDC, emphasizes for maximum utilization/absorption of

Renewable Energy power, and only in the interest of grid safety and security, the Renewable Energy curtailment, are being resorted to. Hence, SLDC is aware of Renewable Energy Policy, and would not discourage the Renewable Energy investments in the solar sector, in the State of Tamil Nadu.

10.65. All Renewable Energy curtailments were carefully done after taking into account the conditions of the Grid and no intentional backing down was carried out. The Complete details were submitted in a fair and transparent, by the 4th Respondent.

10.66. The year wise back down particulars submitted by the Petitioner, do not mention the total MU generated, during that particular year, in comparison to the energy backed down, thus providing only partial information and is thus, may not be correct.

10.67. The obligation on one party who approaches the Commission should convince the Commission of the truth which are in issue and is vital to the case on hand . In the present case, the Petitioner has failed to prove its case and convince the Commission as to how it has been affected by the backing down instructions, which were issued in in the interest of grid stability and security as stated earlier. Thus the Petitioner has failed to show how the Respondents have acted in breach of their statutory requirement much less the contractual obligations.

10.68. Onus is on the person who asserts a proposition or fact as held in *State Bank of India v. Shyama Devi*reported in(1978) 3 SCC 399. The burden of proof is of importance, where, by reason of not discharging the burden which was put upon it, a party must eventually fail.

10.69. No concrete proof has been, brought on record by the Petitioner herein, before the Commission to substantiate its allegation that, the back down instructions were issued arbitrarily.

10.70. A party who asserts a fact is required to prove it, and not by the other party. Burden of proof and existence of certain facts, lies on the person asserting any legal right, on the basis off-acts stated. The Petitioner has not proved as to how, it is entitled to a must run status, even in times, when there is a compromise in the grid safety, stability, security and reliability.

10.71. The Petitioner alleges, that the Respondent SLDC has issued the back-down and curtailment instructions with certain *mala fides.* It is imperative on the Petitioner to establish the *mala fide.* Reliance is placed on the case of *C.K. Gangadharan v. CIT.,* reported in (2008) 8 SCC 739 at page 744.

10.72. The burden lies on the party who pleads to prove his case. Reliance is placed on the cases of *State of M.P. v. Ushadevi.,* reported in (2015) 8 SCC 672.The Petitioner, has not proved its case that the back-down and curtailment instructions were issued to petitioner by the Respondent for wrong reasons or mala fide reasons. Section 101 of the Indian Evidence Act, 1872 clearly states that

> *" whoever desires any Court to give judgement as to any legal right or liability dependant on the existence of facts which he asserts, must prove that these facts exist."*

10.73. The Petitioner asserts that, the Respondent has not issued the back-down and curtailment instructions to maintain grid safety, stability, security, and reliability. The Respondent has adduced evidence to show that back down and curtailment instructions, were issued to the Petitioner to maintain grid safety, stability, security and reliability, in Page 1 of Annexure B, Additional Affidavit, filed on behalf of the Respondent 4 which are as per the relevant Codes mentioned in earlier paragraphs. The onus is on the Petitioner to prove that, there were no such circumstances to existed, which justified the back-down and curtailment instructions, in order to maintain grid safety, stability, security, and reliability. The onus of proof is, on the Petitioner, and shifting of onus is a continuous process while evaluating evidence. Reliance is placed on the case of *Raghavamma v. A.Chenchamma*., reported in AIR 1964 SC 136,143.

10.74. The Petitioner has only raised a mere suspicion that no circumstances existed, which justified the back-down and curtailment instructions in order to maintain grid safety, stability, security and reliability. Merely raising a suspicion would not discharge the burden of proving that there were no circumstances that existed and justified the back-down and

curtailment instructions which were made in order to maintain grid safety, stability, security and reliability. Reliance is placed, on the case of *J.A. Naidu v. State of Maharashtra.,* reported in (1980) 1 SCC 206.

10.75. Solar energy needs to be patronised to address the issues of environmental degradation and climate change. However it is well-known that it is practically impossible to allow and permit the Solar Power Plants to operate to its fullest capacity due to grid constraints.

10.76. It is unavoidable that, the generation from solar generators need to be curtailed, albeit to a small extent, if the grid conditions so warrants at a given point of time.

10.77. Renewable Energy power backing down is solely for the purpose of Grid Safety and Security, and it is not so as mentioned by the Petitioner, as to be 25% of the capacity of the generation. The year wise solar generation has continuously increased for the past five years, and not as stated by the petitioner, and the same is tabulated as below:

Period of FY	Solar Generation in Million Units
2014-15	159
2015-16	507
2016-17	1478
2017-18	2799
2018-19	3556
2019-20	4947

10.78. During the wind season from April to September, the infirm nature of wind are prevalent and in addition, to it, solar generation is also infirm. Hence, to keep the grid parameters within the stipulated limits, the Renewable Energy power was curtailed to a minimal extent, and not as claimed to be so, by the petitioner. After the wind season gets over by November, the solar power is accommodated to a maximum extent. Hence the frequency of back down was minimal. Further, as stated by the Petitioner, during the month of Apr-2020, the back down instructions were slightly higher, due to less demand on account of frequent lockdown in view of the pandemic situation (COVID 19).

10.79. The backing down of generation, would lead to huge revenue loss, is totally unacceptable because of grid security, as any threat to system, security, would lead to the cascaded tripping, and would result in a very huge financial loss and is an ultimate priority.

10.80. Operating frequency range is 49.90 HZ to 50.05 Hz with under drawl limit at 250 MW as per the CERC DSM Regulations. To maintain the grid security, corrective action must be taken, prior to the breach of both, the upper limit of the frequency band of 50.05 Hz, and under drawl limit of, 250 MW. Hence the back down instruction is given when the frequency starts raising from 50.01 Hz and under drawl reaches 200 MW.

10.81. In so far as the must-run status is concerned, it is not an absolute one. In the very nature of the existence of a grid system, which is integral part of the functioning of generation, transmission and supply of electricity, the must-run norm must yield to other factors as well. The Grid Code, has larger technical, economic, and public interest dimensions. It is submitted that, even renewable energy power plants, enter the power generation and supply framework and scheme, subjecting themselves to the Provisions of the Grid Code, and depends upon its operational requirements. The ever watchful attention involved, in the operation and maintenance of the grid system, will necessarily demand certain amount of flexibility, in the matter of backing down instructions. In the final analysis the balancing of the Grid Code requirement vis-a-vis the must-run norm, is a matter in the domain of the State Load Despatch Centre and no exception can be taken into this by the Petitioner. Thus, balancing will also not be subjected to rigorous scrutiny and standards, which by themselves cannot be laid down accurately. Therefore the question of any legal malice that can be attributed to State Load Despatch Centre do not arise.

10.82. The Respondent has issued the backing down and curtailment instructions to ensure Grid Safety, reliability and integrity and has according to the norm that prevention is better than cure. Thus, the Respondent has discharged its obligations prudently based on the Indian Electricity Grid Code, 2010, Tamil Nadu Electricity Grid Code, 2005 and the Electricity Act, 2005.

10.83. A key limitation in the distribution of electric power is that, electrical energy cannot be stored, and therefore must be generated as per the requirement

10.84. The breakdown of transmission lines due to over or under frequency, is called a Power Grid Failure. When the states overdraw power, crossing its limits, the same also becomes one of the cause of grid failure, due to excessive load on the transmission lines.

10.85. The amount of electricity fed into the electricity grid must always be equal to the amount of electricity consumed. As otherwise there will be a black-out. With the increase in renewable production, which greatly depends on the weather, the control over production/distribution becomes much more complex. Conventional power plants, must compensate for these constant fluctuations, especially when, it is not possible to store electricity in large quantities over a long period of time or at any given point of time. Further, if too much electricity is fed into the grid in relation to the quantity consumed, the electrical frequency increases. Since power plants are designed to operate within a certain frequency range, there is a risk that, they will disconnect from the grid after a period.

10.86. For a power grid, to remain stable, it needs to respond to volatility in voltage and frequency disturbance. For example, if more power is generated than consumed or more energy consumed from the grid than generated, in which case, adjustments are necessary, within an acceptable timeframe, in order to

balance the frequency disturbances and power outages. Equilibrium is what is most important. Further, it is submitted that, in the production of power with solar energy, the fluctuations in the supply and demand of energy, for a particular place can cause grid instability.

10.87. The stochastic nature of wind and solar energy production, makes the frequency and voltage unreliable to a certain extent. Also, due to increased loads during peak hours, the existing transmission lines, face a challenge of capacities, in order to match the inflow and outflow of power. A surge can occur, when producers generate too much power without warning, resulting in violation of the grid parameters leading to threat to grid security and subsequently, the entire system would be forced to shut down. A transmission line has its specified capacity, and if it goes beyond this limit,it will lead to damage.

10.88. In order to maintain the grid discipline and grid security after taking all possible steps to reduce generation of conventional power and surrendering of CGS Power etc., the infirm solar and wind generation are curtailed. The last resort of curtailment, is only because of the must run status of these infirm generations. Otherwise, grid collapse will occur which is a well-known phenomenon.

10.89. The system operator of the SLDC, monitors the grid parameters 24x7. The main grid parameters are Gird Frequency (49.90-50.05 Hertz) and Deviation

(Plus or minus 250 MW). The system operator(SLDC) makes all efforts to accommodate maximum power and initiate curtailment action, only in the interest of grid security as stated earlier.

10.90. SLDC performs real time operation to safeguard the grid security by controlling the grid parameters. within limits, asotherwise, will lead to Grid Violation, in real time. Hence, the Real time operation cannot be analysed *post-facto.* Back down instruction is being issued to control frequency, deviation within the permissible limits, for grid safety. If SLDC does not control any one the above parameters, then violation message issued by SRLDC (POSOCO) to control the above parameters. In the violation messages, POSOCO (SRLDC) has directed to control the under drawal within the specified limit, citing IEGC Clauses 5.4.2(a), 5.4.2(b), 6.4.6, 6.4.7, 6.4.10, 6.4.12, with a comment to restore to schedule, stating as emergency condition of the grid (A Sample violation message issued by SRLDC is enclosed vide Page 47 of the typed set of counter).

10.91. The POSOCO (NLDC) has itself issued violation message to RLDC, citing the deviation as one of Grid Security parameters. Subsequently, SRLDC has also issued violation messages to control deviation and frequency, within the permissible limits.

10.92. In the Paragraph 7& 8 of the Rejoinder filed by the Petitioner, it has been alleged that, SLDC curtailed Energy for 275 days instead of 217 days, furnished

by the SLDC. SLDC furnished the curtailment details for 217 days with respect to Grid Parameters only, whereas, the remaining 58 days furnished by the petitioner is with respect to local network conditions i.e. curtailment was done due to overloading of Auto transformers, which is evident from the Rejoinder page Nos 41 to 63. Hence, the Quarterly Report furnished by SLDC is correct, and the petitioner cannot be heard to contend otherwise.

10.93. The decision of the Hon'ble APTEL in Appeal No. 197 of 2019, filed by M/s National Solar Energy Federation of India for verification/scrutinizing of data for curtailment has been appealed by SLDC/Tamil Nadu Transmission Corporation Limited before the Hon'ble Supreme Court of India vide Diary No. 31011 of 2021 and is pending. Hence, at this stage, referring the APTEL Order with respect to this is left to the decision of the Commission.

10.94. The Hon'ble Central Electricity Regulatory Commission's (CERC) Deviation Settlement Mechanism do not permit the under drawing of power, more than 250 MW, and the grid operating frequency range of 49.90 to 50.05 Hertz from 30.05.2016 onwards.

10.95. The Respondent State Load Despatch Centre (SLDC) instructs the generators to regulate power, in order to maintain Demand-Generation balance, keeping in view of the grid parameter, such as frequency, deviation, and voltage and loading constraints, based on the situations prevailing in real time. SLDC has to take decisions based on the instantaneous grid security/discipline parameters,

at the relevant time only, to maximize grid stability and therefore no exception could be taken to this having regard to the relevant Code.

10.96. The back down instructions are issued purely as perthe CERC Regulations/Codes and instructions of RLDC issued from time to time. The back down of Renewable Energy power is already contemplated in Energy Purchase Agreement in order to avoid grid violation and safeguard the grid.

10.97. For the grid safety purpose only, the Clauses are stipulated in the Energy Purchase Agreement, obliging the Petitioner to be bound by the Grid Codes. Once, the Petitioners are bound by Codes, the allegations made by the Petitioners, regarding unlawful back down instructions, cannot be countenanced. Once, SLDC has acted within the parameters of the Act / Codes, which are binding on both the parties, the petitioner cannot claim any violation on the part of 4th Respondent.

10.98. Back down instructions were issued to the petitioners based on the instantaneous grid security/discipline parameters. After the curtailment is done, the grid parameters come down within the permissible limits. If any analysis made, taking into consideration only the subsequent blocks in which the grid parameters were brought under control, after curtailment of RE, then the true picture, as to why the curtailment was carried out would not be revealed.Therefore, post-facto analysis, never reveals the actual conditions which warranted the cause of curtailment in real time by the SLDC. Hence, post-facto analysis should take into account the real time conditions which prevailed at the

time of decision making by SLDC, which otherwise, will prove completely faulty Analysis done by POSOCO and being relied upon by the Petitioner.

10.99. Even after backing down the conventional generation, the frequency and deviation limits tends to breach the permissible limits. Therefore, crossed limits, back down instructions were issued to certain quantum of RE power, to maintain the grid parameters. After the curtailment is done, the grid parameters come down, within the permissible limits. If any analysis is made, taking into consideration, only the subsequent blocks, in which the grid parameters were brought under control, after curtailment of RE, then the true picture, as to why the curtailment was carried out, would not be revealed. Therefore, post-facto analysis never reveals the accurate conditions, which warranted the cause of curtailment in real time, by the SLDC. Hence, post-facto analysis may not be accurate. A decision which has been taken in the real time operation for grid safety situation, and on later date, by considering the recorded 15 minutes average value of grid security parameters, and thereafter, questioning the decision taken, based on the instantaneous grid parameters on real time by SLDC, may not be appropriate and runs contra to the Energy Purchase Agreement (EPA), executed by the petitioners.

10.100. The practical problems with maintaining the Must Run Status for Renewable Energy are:

a) The grid demand varies every minute, i.e., it is dynamic in nature.
b) Highly volatile, sudden variations in the infirm for and solar energy forms

higher percentage mix of infirm power.

c) In the absence of proper and accurate forecasting and scheduling mechanism, SLDC is unable to ascertain the exact quantum of RE injection.

d) The State peak demand is around 15,000 MW and off-peak demand is around 12,500 MW (which vary day to day & season to season also) where grid operators have to take decision according to real time grid conditions.

e) Less demand in night hours, Sundays and festival and other holidays, rainy & winter season, according to demand variation and high variation in infirm Renewable Energy, the available generation is being regulated by SLDC in order to match the demand thereby maintaining the grid security/discipline within 49.90 Hz to 50.05 Hz, with deviation Limit between +/-250 MW, are based on the provisions of the IEGC and CERC (Deviation Settlement Mechanism and related matters) Regulations.

10.101. In order to maintain the grid frequency with the above limits:

a) Conventional generation is regulated by backing down to its technical minimum.

b) Hydro generation to be balanced / regulated according to monsoon rains and floods.

c) After regulating all other sources of conventional generation, as a last resort, wind and solar generation is backed down to meet the prevailing situation on a real time basis.

10.102. POSOCO in its report submitted to APTEL, with respect to Appeal No. 197 of 2019, has clearly mentioned as follows:-

> *"Note: - All the above analysis is based on post facto Frequency, generation and Drawal data, whereas TN SLDC system operator may have taken actions based on prevailing frequency and estimate on likely frequency, RE generation and drawal in subsequent blocks".*

From the above, it is clearly evident that, POSOCO report cannot be relied upon, to assess the real time operation of SLDC. In a nutshell, instantaneous data should not be compared with average data, taken on Post facto basis. i.e. Because when back down is done, the grid parameters come down within the permissible limits and will persist, till such time, the back down gets normalized.

10.103. As stipulated in the IEGC Regulations, the real time grid operations, to be carried out, within the frequency bandwidth of 49.90 to 50.05 Hz, is in order to maintain grid discipline/grid safety, and the CERC permitted, Tamil Nadu SLDC, to maintain the deviation within (+/-) 250 MW from the CGS schedules, with effect from 30.05.2016, to maintain grid security. Thereforeno motives can be attached to it, owing to real time decision taken. As per the above IEGC Clauses, each State must stick to their own schedule, and should not violate deviation limits which may cause the other parameters (i.e., frequency, line loading & voltage) to go beyond permissible limits. Hence, the main operating parameter, namely frequency and Deviation Limit of plus or minus 250 MW (for RE Rich State of Tamil Nadu) is the prime tool, to control the parameters, such as line loading & voltage, for maintaining the grid security/stability. Hence, once again it is reiterated that, in order to maintain grid within the schedule, is the prime duty of SLDC Operator. If there is a deviation in this limit by monitoring the instantaneous grid parameters, SLDC operator must take pro-active action, to maintain the grid security.

10.104. It is the statutory duty of the SLDC to maintain the Load - Generation balance (LGB) for which, the frequency to be maintained, within the permissible limit, between 49.90 – 50.05 Hz and deviation within +/- 250 MW, during real-time grid operation, in order to avoid, any possible grid collapse. The non-maintenance of frequency between 49.90 and 50.05 Hz or deviation from schedule, meant for Tamil Nadu of 250 MW, will pose threat to grid security, and lead to grid violation, and the same is seriously viewed by SRLDC. Since pan India, it is, One Nation, One Grid- One Frequency is to be maintained scrupulously, any sustained grid violation may lead to, islanding/blackout, which can extend to the other parts of the Nation, and deteriorate the grid stability. Thereafter, restoration of the grid may take few days. One such Incident happened during July-2012 in Northern, Eastern & Central part of India and 620 million people were without power supply for 3 consecutive days.

10.105. If any failure or in-action to contain the frequency within 49.90-50.05 Hz, and restriction in under-drawal within 250 MW, is viewed as grid violation, and the same attracts penal action, by the Southern Regional Load Dispatch Centre (SRLDC). The actual violations messages issued by the SRLDC (POSOCO) at various instances including violation message from NLDC to RLDCs, are attached as ANNEXURE-A to the Additional Affidavit filed by the 4thRespondent, which clearly indicates that, the Deviation and Frequency are one of the main Grid Security parameters. On the contrary, POSOCO in its report furnished to APTEL submitting that frequency, voltage level and equipment within their loading

are the Grid Security parameters is afteromitting Deviation Limits framed by the Hon'ble CERC. Further, it has been mentioned that Presently definition of 'Grid Security' is not specifically defined in Grid Code.

10.106. During the final arguments, the Petitioner cited para 135(i) of the Judgment dated 02.08.2021, passed by the Hon'ble Appellate Tribunal, for Electricity, in Appeal No. 197 of 2019, based on the Report furnished by the POSOCO which is reproduced as below.

"Para 135(i) For Future, any curtailment of Renewable Energy shall not be considered as meant for grid security if the backing down instruction were given under following conditions:

a) System Frequency is in the band of 49.90Hz-50.05Hz
b) Voltage's level is between: 380kV to 420kV for 400kV systems & 198kV to 245kV for 220kV systems
c) No network over loading issues or transmission constraints
d) Margins are available for backing down from conventional energy sources
e) State is overdrawing from the grid or State is drawing from grid on short-term basis from Power Exchange or other sources simultaneously backing down power from intrastate conventional or non-conventional sources."

10.107. In the above directions, the Deviation limits for drawl of power from Central grid, fixed by the Hon'ble Central Electricity Regulatory Commission, through its CERC (Deviation Settlement Mechanism and related matters)(Third Amendment) Regulations, 2016 (with effect from 30.05.2016), has not been taken into account, even though the said Regulations are not amended till date.

10.108. If the petitioners are aggrieved by the SLDC instructions for curtailment, according to the EPA entered into between the Petitioner and the first Respondent, the petitioners have an option to refer to the first respondent, by issuing 90 days' notice, for further proceedings. Further, the Petitioner has agreed through the EPA signed with the first Respondent, that SLDC is the authority for maintaining the grid safety and security, stating it, as an emergency condition of the grid.

10.109. When the question of grid security surfaces, it attains the superior position, when compared to all other aspects, including the issue of absorption of renewable power. The issue of "Must Run Status' cannot be viewed in isolation, and **is** to be viewed, from the point of view of the stability of the grid, and for securing the safety of the same. The Petitioner only wants, its 100% generation to be injected. Must Run status, is best implemented under normal conditions, and not when, the Load–Generation balance/Grid stability is, under stress, which may lead to further complications.

10.110. As directed by the State Commission, vide Order, dared 25.03.2019 in MP. No. 16 of 2016, quarterly reports in respect of back down instructions, issued to solar power plants, are being submitted to the State Commission, along with the reasons for such curtailment. A copy of the quarterly report is annexed in the typed set of papers, for the perusal of the Commission.

10.111. The curtailment was done not intentionally, and was done depending upon the situation prevalent at that relevant time. It is clearly seen that, for the first quarter from April 2019 to June 2019, back down instructions were issued only for 4 incidents. During the month April2019 and May 2019 and June 2019 there was no back down instructions issued. For the above quarter, only, 12:07 Hours out of 2184 hours was backed down of certain percentage , (i.e 0.5%)which is very meagre, and that too, only for grid safety purposes and not with any other motive.

10.112. The letters from TANTRANSCO Sub Stations addressed to the Petitioners have been submitted by the Petitioners from Page Nos. 40 to 63, 72 to 83, 96 to 131. These letters request the Petitioner to back down generation due to local network constraints including but not limited to reason such as:-

a. Transformer Overloading
b. Heavy Glow Observations

These are not orders from SLDC, Chennai and were not issued owing to Grid Security. Hence, SLDC can be need liable to such acts done due to local conditions prevalent at the relevant time.

10.113. With great respect that the APTEL order, in *National Solar Energy Federation of India v. Tamil Nadu ERC*, reported in 2021 SCC OnLine APTEL 39 did not take into consideration, the deviation limits specified by CERC in Deviation Settlement Mechanism, 2014 i.e. (+/-) 250 MW. Grid Security is also not defined in the said order.

10.114.Section 2 (54) defines real time operations. SLDC has done the present acts only by following the above definition.

> *2(54). "real time operation" means action to be taken at a given time at which information about the electricity system is made available to the concerned Load Despatch Centre;*

10.115. Abiding the Grid Code, is a statutory requirement, and under the EPA, and the Petitioner has agreed to abide by the same. The EPA is governed by Regulations framed under the Electricity Act. The back down instructions are issued, only to maintain grid discipline and grid security, according to the Electricity Laws in force, to maintain the electricity grid, in a safe and secured manner, which is inbuilt in Clause 2(d), 3(a) & 3(l) of the EPA. Hence, the terms and conditions of the Contract (EPA) have not been breached and on the other hand have been scrupulously followed in its letter and spirit.

10.116. The Respondents have not committed any violation of any of the provisions of the Indian Electricity Grid Code, Tamil Nadu Electricity Grid Code, The Electricity Act, 2003, other Codes and Regulations, issued by the Commission/Central Electricity Authority(CEA) and the EPA entered between the Petitioner and the First Respondent.

10.117. Under the circumstances stated above, the action taken by SLDC on real time basis, towards maintaining grid security, are/has always within the framework of Statutory provisions contained in the Electricity Act, 2003, IEGC,

TNEGC and CERC Regulations, to be considered as bona fide, reasonable, genuine and the Petitions be dismissed.

11. Findings of the Commission:-

11.1. The prayer of the petitioner in this petition is to direct SLDC to strictly follow and enforce "MUST RUN" status on all Solar and Wind Power Plants and to direct SLDC to forthwith stop issuing Backing down/Curtailment instructions to Solar and Wind Plants, except in the situations as contemplated in the applicable Regulationsand PPA .

11.2. Having considered the prayer and submissions of the petitioner and the counter affidavit and other submissions of the respondent, we find that the issue is no longer *res integra* and squarely covered by the judgment of Hon'ble APTEL in Appeal No. 197 of 2019 and thereafter by the consequential order dated 05-10-2021 issued in M.P. No.14 of 2012, D.R.P. No.28 of 2012, M.P. Nos.21 to 23 of 2014 and M.P. No.45 of 2014. The relevant portions of the order issued by the Commission are reproduced for reference:-

"*12. Findings of the Commission:-*

……..

12.4. At this juncture, we find that there is no need to pass any fresh order oradjudicate the issue afresh as the issue has attained finality in another matter,namely, in Appeal No. 197 of 2019 filed by National Solar Federation of Indiaagainst the orders passed by the Commission in M.P. No. 16 of 2016. While theorder in M.P. No. 16 of 2016 addressed one of the issues raised in these petitions

namely, backdown of WEGs by upholding the Must Run Status, the issue ofDeemed Generation benefit was left open in the said order. However, the

saidissue of deemed generation also attained finality in judgment dated 02-08-2021 of
APTEL in Appeal No. 197 of 2019 when the Tribunal affirmed both the Must Run Status and deemed generation benefit as well.

12.5. Hence, we find that there is nothing to adjudicate on these petitions and theresent order has to necessarily confine itself to the extent of issuing directions tothe Distribution Licensee and SLDC to follow the Must Run Status in letter andspirit in line with the directions of APTEL in Appeal No. 197 of 2019 and avoiddeemed generation in its own interest.

……...

12.7. Though we find that there is nothing to adjudicate on the issue of Must Run and Deemed Generation, we are of the well considered that much more remains tobe done with reference to state specific conditions and there is an urgent need toissue practice directions to the SLDC and the Licensee. We are conscious of thefact that the real time operation of the grid is the function of SLDC under section 32of the Act and the SLDC should be free to act independently. But going by thereport of POSOCO which the Tribunal relied upon to set aside the orders of theCommission, we have to necessarily evolve a mechanism where there is greaterco-ordination among all stakeholders, namely, RE generators, DistributionLicensee, Transmission Licensee and SLDC so as to ensure that the situation doesnot drift or go out of control in future.

12.8. This is all the more important in view of the fact that the concept of ringfencing has failed in the instant case and as we see from the POSOCO report, theSLDC and the Licensees have acted in concert to defeat the real purpose for whichthe back down should be ordered. We find, therefore, nothing amiss in steppinginto rein in the SLDC and the Licensees to avoid multiplicity of litigations in variousfora. It is needless to state that the issue of Must Run has witnessed litigation notonly before the Commission but also before High Court and it has almost become asubject of never ending debate with both sides sticking their position with tenacitythat no solution in sight for years.

12.9. In the present context where there is almost finally to issue of Must Run, we think it would be appropriate embark upon the task of supplementing thedirectionsof the Tribunal to set things in order. It is patently clear from the order of theTribunal that the very concept of ring fencing has failed and the SLDC has notseparated itself from the Licensee in terms of its functions. We cannot hazard aguess at this stage as to whether the SLDC acted on compulsion or exercised itsjurisdiction on its own by ordering backdown in concert with the Licensee, butcertainly the report of POSOCO speaks for itself with the Tribunal furtherhighlighting practice which ails the system for many years.

12.10. In view of the same, we have to go by the report of POSCO as reproduced

in the order of the Tribunal which presents a disconcerting picture of affairs onbackdown and take remedial measures. But the report concerns itself with thebackdown instructions during a particular period of time and it cannot be assumed
that the matter ends there itself and there will be no recurrence. A prudentapproach is necessary to ensure that such occurrences do not become regularfeature leading to litigation all over again. A Committee on the lines of CodeReview Panel in the Distribution Code or Special Power Committee in DSMRegulations, in our view can be constituted to oversee and certify the validity ofbackdown done in each case for reason of grid security and sent to the Commission for scrutiny. Such Committees shall act as per the following directionsof the APTEL in terms of backing down. The Tribunal has already defined GridSecurity and there is no need to elaborate it. The relevant portions are reproducedbelow:-

> ***"4.2 Indicate whether there was intentional curtailment of scheduling ofpower by the Respondents/SLDC or whether it was on account of grid safetymeasure taken by SLDC as contended by theRespondents. The followingpoints are noteworthy from the Grid code provision and grid conditions.***
>
> ***It is noted that TN SLDC has indicated 'Deviation & Frequency' as the onlyreason for curtailment. All generators have indicated 'Grid Security'as theonly reason for curtailment. Both the parties have indicated that all theinstructions were oral in nature. Further APTEL has directed to Indicatewhether there was intentional curtailment of scheduling of power by theRespondents/SLDC or whether it was on account of grid safety measuretaken by SLDC as contended by the Respondents.***
>
> ***Hence, it is necessary to analyse the aspects related to 'Grid security' andascertain whether 'Grid Security' was a concern which prompted thesecurtailments. The Important Aspects/Definitions of 'Grid Security' issummarised below***
>
> ***i .Presently definition of 'Grid Security 'is not specifically defined in GridCode***
>
> ***.ii. The same has been defined in the 'Report of the Expert Group: Review ofIndian Electricity Grid Code' which was submitted to the CERC in January2020 which has defined 'Grid Security' as "means the power system'scapability to retain a normal state or to return to a normal state as soon aspossible, and which is characterized by operational security limits;".***

iii. Further 'Normal State' is defined as "means the state in which the systemis within the operational parameters as defined in this Grid Code;"

iv. Further In the context of system state classification viz Normal, Alert,Emergency, Extreme Emergency and Restorative state, 'Normal State' isstated as "Power system is operating within the operational limits andequipment are within their loading limits. The system is secure and capableof maintaining stability under contingencies defined in the CEA Transmission

Planning Criteria"

v. Further Operational parameters defined in IEGC are summarized below
a. Frequency band : 49.90Hz-50.05Hz
b. Voltages: 380kV-420kV for 400kV systems, 198kV-245kV for 220kV systems
c. Equipments within their loading limits

The following points are noteworthy from the Grid code provision and gridconditions:-

i. Grid frequency is collectively controlled by all entities connected in thegridand not by any individual state or entity. The operating frequency band of49.90-50.05 Hz indicated above in no way implies that frequency cannot gooutside this band. It can go below 49.90 Hz in case of any generator trip butactions by other entities should bring the frequency back to within the band.Adequate generation reserves for UP regulation is to be maintained at boththe interstate and intra state level to minimize operation below 49.90 Hz.Similarly, adequate reduction or DOWN capability of generation would helpavert operation above 50.05 Hz which signifies generation is greater thanload."

12.11. Further, the Tribunal has given a categorical finding that the backdowninstructions cannot be given for commercial reasons. The relevant portions are setout below:-

"Summary of findings
It appears from the above three indicators that most of the solar generatorswith per unit cost of Rs.7.01 is curtailed more both in

terms of instances ofcurtailment as well as in terms of percentage generation as compared toother solar generators."

"135. We have noticed that the analysis made by POSOCO is based on thegrid parameters, margins available for backing down of conventional energysources and the status of drawal by the State from the central grid. Theseparameters are apt for deciding whether the backing down is for the purposeof grid security or on commercial reasons. We also make it clear that thereplacement of solar power by purchases of cheaper power from short termpower markets shall also be treated as unauthorized activity. Accordingly,the following directions are issued to all the State Commissions, Discomsand SLDCs with regards to curtailment of power generated from RenewableEnergy sources.

(i) For Future, any curtailment of Renewable Energy shall not beconsidered as meant for grid security if the backing down instructionwere given under following conditions:

a) System Frequency is in the band of 49.90Hz-50.05Hz

b) Voltages level is between: 380kV to 420kV for 400kV systems & 198kV to245kV for 220kV systems

c) No network over loading issues or transmission constraints

d) Margins are available for backing down from conventional energy sources

e) State is overdrawing from the grid or State is drawing from grid on shorttermbasis from Power Exchange or other sources simultaneously backingdown power from intrastate conventional or non-conventional sources.

(ii) As a deterrent, the curtailment of Renewable Energy for the reasonsother than grid security shall be compensated at PPA tariff in future. Thecompensation shall be based on the methodology adopted in the POSOCOreport. POSOCO is directed to keep the report on its website.

(iii) The State Load Dispatch Centre (SLDC) shall submit a monthly report tothe State Commission with detailed reasons for any backing downinstructions issued to solar power plants.

(iv) The above guiding factors stipulated by us would apply till such time theForum of Regulators or the Central Government formulates guidelines inrelation to curtailment of renewable energy."

12.12. As can be seen from the above, the Tribunal has settled the issue for compliance by all entities and the Commission directs that the same shall be scrupulously followed. There is a need to frame regulations to suit state specific needs and direct appointment of Committee on the lines of Code Review Panel or

State Power Committee to monitor the cases of wilful backing down and set right the matter then and there. Until regulations are framed, the SLDC, the Generator, Distribution Licensee and Transmission Licensee shall abide by directions issued herein. But in the meanwhile, order to ensure that such recurrences do not become the regular feature, the Commission would like to step in and supplement the above directions to suit State specific needs as follows:-

12.13. SLDC shall evolve a protocol for curtailment of renewable sources of energy for reasons of Transmission constraints, grid safety and security. Curtailment shall be done after communicating reasons of curtailment to generators in writing or through SLDC website. Curtailments shall be done on rotational basis .Director/Operation shall monitor the procedure followed for curtailment. The LRS data and generation curtailment details shall be published in the SLDC's website. The State Power Committee formulated under Commission's DSM Regulations,2019 shall review the back down instructions issued to the generators and verify ifthe curtailments have been made in accordance to the directions of the Tribunal referred to in this order. The petitions are disposed of accordingly."

It may be seen from the above, that there is nothing to adjudicate on the prayer as the issue have been well settled by the Hon'ble APTEL and Commission has gone a step ahead and issued supplemental directions.

However, it is made clear that going by the prayer of the petitioner, the relief in the present petition shall confine only the extent of enforcement of “MUST RUN” status and curtailment of backing down instructions. The present order cannot be construed to confer entitlement to Deemed Generation on the petitioner as any relief can be ordered only to the extent prayed for. A separate Dispute Resolution Petition with required fees as per the Regulations will have to be filed for seeking commercial relief, if any, such as Deemed Generation.

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

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

/True Copy /

Secretary
Tamil Nadu Electricity
Regulatory Commission