



नई दिल्ली
NEW DELHI

याचिका संख्या/ Petition No.: 287/MP/2019

कोरम/ Coram:

श्री आई. एस. झा, सदस्य/ Shri I. S. Jha, Member
श्री अरुण गोयल, सदस्य/ Shri Arun Goyal, Member
श्री पी. के. सिंह, सदस्य / Shri P. K. Singh, Member

आदेश दिनांक/ Date of Order: 14th of November, 2023

IN THE MATTER OF:

Petition invoking Regulation 1.5(iv) read with Regulation 5.2(u) and Regulation 6.5(11) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 for enforcement of 'must run' status granted to solar power projects and Regulation 111 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 seeking direction to State Load Dispatch Centre to stop issuing backing down instructions to the Petitioners.

AND IN THE MATTER OF:

- 1. Wardha Solar (Maharashtra) Private Limited (WSMPL),**
Sambhaav House, Judges Bungalow Road,
Bokadev, Ahmedabad, Gujarat-380015
- 2. Parampujya Solar Energy Private Limited,**
Sambhaav House, Judges Bungalow Road,
Bokadev, Ahmedabad, Gujarat-380015

...Petitioners

VERSUS

- 1. Karnataka State Load Despatch Centre,**

27/1, Race Course Road, Madhava Nagar,
Gandhi Nagar, Bengaluru, Karnataka 560001

- 2. Solar Energy Corporation of India,**
1st Floor, A-Wing, 0-3, District Centre, Saket,
New Delhi – 110017
- 3. Ministry of New and Renewable Energy,**
Block – 14, CGO Complex,
Lodhi Road, New Delhi - 110003
- 4. Karnataka Power Transmission Corporation Limited,**
KPTCL, Corporate Office,
Kaveri Bhavan, Bengaluru-560009
- 5. Power System Operation Corporation Limited,**
Registered Office: B-9 (1st Floor)
Qutab Institutional Area, Katwaria Sarai,
New Delhi – 110016

...Respondents

Parties Present:

Shri Amit Kapur, Advocate, WSMPL
Ms. Gayatri Aryan, Advocate, WSMPL
Shri Ankitesh Ojha, Advocate, WSMPL
Shri Shabaaz Hussain, Advocate, KSLDC & KPTCL
Shri Fahad Khan, Advocate, KSLDC & KPTCL
Ms. Stephania Pinto, Advocate, KSLDC & KPTCL
Ms. Ilma Subhan, Advocate, KSLDC & KPTCL
Shri Yeshwanth, Advocate, KSLDC & KPTCL
Shri Venkateshan M., POSOCO
Shri Gajendra Singh, POSOCO

आदेश/ ORDER

The Petitioner no. 1, M/s Wardha Solar (Maharashtra) Private Limited (WSMPL) is a generating company and has set up nine (9) solar PV power projects in the State of Karnataka after being selected under the competitive bidding process conducted by the Solar Energy Corporation of India under the Guidelines for Implementation of Scheme for setting up 2000 MW Grid-connected Solar PV Power Projects under Batch-III - 'State Specific VGF Scheme'

under the JNNSM Phase-II issued by the Ministry of New and Renewable Energy, Government of India. The Petitioner No. 2, M/s Parampujya Solar Energy Private Ltd. (PSEPL) is the parent company of M/s Wardha Solar (Maharashtra) Private Ltd. (Petitioner no. 1). The Petitioner no. 1 & the Petitioner no. 2 are herewith collectively referred as the Petitioners. The Petitioners are seeking directions to be issued to the State Load Dispatch Centre (SLDC) to stop issuing backing down instructions to the Petitioners

2. The Respondent No. 1, Karnataka State Load Despatch Centre (KSLDC) is the apex body to ensure integrated operation of the power system in the State of Karnataka. KSLDC is responsible for real-time load dispatch functions, operation and maintenance of the supervisory control and data acquisition system and energy accounting in the State of Karnataka.
3. The Respondent No. 2, Solar Energy Corporation of India (SECI) is a Central Public Sector Undertaking under the administrative control of Ministry of New and Renewable Energy, to facilitate the implementation of Jawaharlal Nehru National Solar Mission (JNNSM). SECI is acting as an inter-State trading licensee and selling the power purchased from the Petitioner's projects to the distribution licenses of the State of Karnataka on a back-to-back basis.
4. The Respondent No. 3, Ministry of New and Renewable Energy (MNRE), is the nodal ministry of the Government of India for all matters relating to new and renewable energy in India.
5. The Respondent No. 4, Karnataka Power Transmission Corporation Limited (KPTCL), is a wholly owned company of the Government of Karnataka and vested with the functions of transmission of power in the State of Karnataka and also construction of stations , transmission lines and maintenance of sub-stations. It operates under a license issued by Karnataka Electricity Regulatory Commission (KEREC).
6. The Respondent No. 5, Power System Operation Corporation Limited is the system operator and is the National Load Despatch Centre.
7. The Petitioner has made the following prayers:
 - a) *Admit the Petition;*
 - b) *Direct KSLDC to enforce the 'must run' status granted to the solar power projects of the Petitioners;*

- c) *Direct KSLDC to forthwith stop issuing instructions to back down the solar power from the Petitioners' solar power projects;*
- d) *Consider deemed generation to solar plants for the loss of generation due to outages/backing down instructions of Respondents and approve the methodology for estimating deemed generation;*
- e) *Direct KSLDC to pay deemed generation charges to the Petitioners in order to compensate the Petitioners for the loss of generation due to the back down of solar power with retrospective effect at the rate of the tariff of the PPAs along with interest;*
- f) *Direct Respondent No.1, KSLDC that the backing down of the solar power plants having must run' status power can be resorted to only after exhausting all other possible means of achieving and ensuring grid stability and reliable power supply.*
- g) *Direct Respondent No.1 KSLDC that any whimsical, uncheduled and unauthorised backing down instructions (other than for system security events) would attract penal action under section 142 of the Act, by fixing personal responsibility on the official(s) concerned;*
- h) *To pass such other and further order or orders as this Hon'ble Commission deems appropriate under the facts and circumstances of the present case.*

Factual matrix:

8. The brief detail of the Petition is as under:

Particulars	Date
The Government of India launched the Jawaharlal Nehru National Solar Mission (<i>JNNSM</i>)	11.01.2010
MNRE issued Guidelines for Implementation of Scheme for Setting up of 2000 MW Grid-connected Solar PV Power Projects under Batch-III - 'State Specific VGF Scheme' under JNNSM Phase-II (<i>JNNSM Guidelines</i>)	04.08.2015
SECI issued Request for Selection (<i>RFS</i>)	15.02.2016
SECI executed Power Supply Agreement (PSA) with distribution licensees of Karnataka (<i>ESCOMs</i>) for supply of power to be procured by SECI (up to 1000 MW)	29.06.2016
Letter of Intent (<i>LoI</i>) issued by SECI to the Petitioners for development of solar PV projects of 390 MW in the State of Karnataka.	02.07.2016

Particulars	Date
Petitioner No. 2 (Parampujya Solar Energy Pvt. Ltd.) entered into PPA for supply of 40 MW power	02.08.2016
Petitioner No. 1 (Wardha Solar (Maharashtra) Pvt. Ltd.) entered into PPAs with SECI for supply of 350 MW power	22.09.2016
Solar power projects of the Petitioners were commissioned.	February to May 2018
Karnataka State Load Despatch Centre (KSLDC) has been issuing telephonic instructions to the Petitioners to back down generation from their power projects in Karnataka citing grid safety and security as the reason for back down.	February 2018 onwards
The Petitioners wrote to Karnataka Power Transmission Corporation Ltd. (KPTCL) with reference to the verbal backdown instructions issued by KSLDC/KPTCL to the Petitioners' solar power projects.	13.05.2019
KPTCL wrote to the Petitioner No. 2, stating that solar power projects have been backed down as a last resort in view of grid security.	31.05.2019
MNRE taking note of the violation of Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (IEGC) by various State load despatch centres (SLDCs)	01.08.2019
MNRE issued amendment to the Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Solar PV Power Projects.	22.10.2019

9. Between February and May 2018, the solar power projects of the Petitioners were commissioned in the following manner:

S. No.	Project ID	PPA	Capacity (MW)	Location in Karnataka	Commercial Operation (COD)	Date
1	P2B3T5-PSEPL-B-4KA-7V	22.09.2016	40	Yetnal	12.04.2018 (30 05.05.2018 (10 MW)	MW)
2	P2B3T5-PSEPL-B-1KA-8V	22.09.2016	10	Yetnal	12.04.2018	
3	P2B3T5-PSEPL-B-5KA-3V	22.09.2016	50	Madhuvana hally	14.03.2018	
4	P2B3T5-PSEPL-B-5KA-4V	22.09.2016	50	Madhuvana hally	14.03.2018	
5	P2B3T5-PSEPL-B-5KA-1V	22.09.2016	50	Rajeshwar	28.02.2018	

S. No.	Project ID	PPA	Capacity (MW)	Location in Karnataka	Commercial Operation (COD)	Date
6	P2B3T5-PSEPL-B-5KA-2V	22.09.2016	50	Maskal	29.03.2018	
7	P2B3T5-PSEPL-B-5KA-6V	22.09.2016	50	Hattigudur & Bommanahalli	16.03.2018	
8	P2B3T5-PSEPL-B-5KA-5V/4P	22.09.2016	40	Nalwar	28.03.2018	
9	P2B3T5-PSEPL-B-5KA-5V/1P	22.09.2016	10	Kallur	07.04.2018	
10	P2B3T5-PSEPL-A-4KA-1V	02.08.2016	40	Kallur	07.04.2018 (20 MW) 30.05.2018 (20 MW)	
	TOTAL		390			

10. The present petition was initially reserved for order on admissibility on 05.05.2020. The Commission vide Order dated 16.07.2020 admitted the petition and listed it for further hearings. Thereafter, subsequent hearings were conducted on 22.10.2021, 24.03.2022, 23.06.2022, 22.09.2022 and 15.12.2022 wherein the Commission permitted the parties to file their respective submissions.

Submissions of the Petitioners:

11. The Petitioners have submitted as under:

Re. Solar power plants are ‘must run’ plants

- a) The Petitioners solar power plants are to be treated as ‘must run’ in terms of the applicable extant law viz. Regulation 5.2(u) and Regulation 6.5(11) of the Indian Electricity Grid Code (IEGC). The curtailment of evacuation of solar power from the Petitioners projects is contrary to the aforesaid provisions of the IEGC.
- b) The Scheduling and Despatch Code of the Karnataka Electricity Grid Code (KEGC) notified by KERC, also confers ‘must run’ status on renewable energy power plants and mandates SLDC to not subject such plants to ‘merit order dispatch’ principles.
- c) In terms of Article 4.4.1 of the PPAs signed by the Petitioners with SECI, in case the Petitioners are unable to generate the minimum units of energy as specified in the PPA, the Petitioners are liable to pay SECI compensation corresponding to the shortfall in generation during the Contract Year.

- d) MNRE's letter dated 01.08.2019 has taken note of the irregular curtailment of solar and wind power by the various SLDCs and issued directions to all SLDCs to honour the 'must run' status of solar and wind power plants in letter and spirit. MNRE has instructed that curtailment of solar and wind power can only be done for reasons of grid safety and security and that too after communicating written instructions detailing the reasons for curtailment to generator . However, KSLDC has been issuing back down instructions to the Petitioners telephonically (without writing) solely due to routine system operations requirements such as lower demand in the system; alleged unavailability of transmission corridor for evacuation of power etc.
- e) This Commission has notified the 4th Amendment to the IEGC on 06.04.2016, wherein, Regulation 6.3 of the IEGC has been amended and Regulation 6.3B has been inserted to fix the minimum schedule for operation of Central Generating Stations and Inter-State Generating Stations.
- f) The Respondents are not backing down the State generating stations and not surrendering the Central Generating Stations' share of State of Karnataka to the technical minimum i.e. 55% of Maximum Continuous Rating (MCR) loading or installed capacity so as to accommodate full generation from solar generators.
- g) In view of the IEGC and the express directions of MNRE, KSLDC is obligated to compensate the Petitioners for the loss incurred by the Petitioners towards deemed generation. Reliance has also been placed on judgment dated 30.05.2019 of Appellate Tribunal for Electricity (APTEL) in Appeal No. 350 of 2017 in *Ramnad Solar Power Ltd. v. TNERC & Ors.* under which APTEL has upheld the 'must run' status of solar power plants under the IEGC and the Tamil Nadu Grid Code.

Re: KSLDC instructions are contrary to statutory and regulatory framework.

- h) The power generated by the solar power plants have been curtailed arbitrarily by KSLDC without even recording reasons for such back down.
- i) The analysis of block wise grid frequency data obtained from the website of the SRPC establishes that during the day time when solar generation is available, the frequency has hardly crossed the limit of 50.05 Hz.
- j) Prior to the installation of the solar power plants, connectivity approval was issued by KPTCL after carrying out load flow/system studies for analysing all possibilities and infrastructure available to evacuate the available power to the point of consumption even

under worst conditions. KPTCL was required to resolve all issues pertaining to transmission constraints prior to the commissioning of the solar power plants. Therefore, now transmission constraint cannot be a ground for curtailment particularly when the responsibility of development of transmission systems lies with KPTCL.

- k) Non-availability of the appropriate evacuation facility or transmission constraint cannot be a ground for initiating backing down of solar generators. Only those constraints which are encountered suddenly in real time operation of grid can come under operational grid security issues.

Re. Deemed generation charges ought to be paid to the Petitioner

- l) KSLDC ought to be made liable for the generation loss being caused to the Petitioners as the power was ready to be evacuated from the solar power projects, but could not be evacuated due to the arbitrary instructions of KSLDC.
- m) This Commission in the Statement of Reasons issued along with *CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2017 (RE Tariff Regulations, 2017)* had considered it relevant to issue direction to NLDC and KSLDC to reach a consensus and formulate a framework guarantying ‘deemed generation’ mechanisms in cases of back-down or grid unavailability to renewable energy projects. Even though no framework has been formulated yet, the intent of this Commission is clear regarding payment of deemed generation charges to renewable energy projects in case of back-down.
- n) If capacity charges can be and have been granted to power plants operating on conventional sources of energy, then granting the same benefit to renewable energy power plants is only logical. Therefore, the Petitioner’s solar power projects ought to be granted deemed generation charges for the period of illegal backing down of power by KSLDC.
- o) The Ministry of Power, Government of India on 08.12.2017 had notified the Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from the Grid Connected Wind Power Projects. In terms of clause 7.6.2 of the said guidelines, in case of generation loss due to off take constraints due to backdown, the Procurer shall be liable to pay generation compensation to the generator which shall be calculated as under:

“Generation Compensation=

50% x (Average Generation during the month corresponding to the capacity backed down) x PPA Tariff

Where, Average Generation during the month corresponding to the capacity backed

$down (kWh) = (CUF \text{ during the month}) \times \sum (\text{backed down capacity in MW} \times \text{Corresponding time of backdown in hours} \times 1000)$

- p) The same logic must also be applied in case of solar power projects (being a renewable source of energy) and generation compensation must be granted to the Petitioners.
- q) MNRE had published Draft Renewable Energy Act, 2015 on its website under which the deemed generation charge is contemplated. Clause 42(2) of the Draft Renewable Energy Act, 2015 is extracted hereunder:

“42 (2) (iii). Deemed Generation: Provided further that if the grid is not available for power evacuation after the project has commenced generation or is already operational, the power will considered to be deemed generated and sold, with charges being payable to the RE generator. Detailed guidelines in this respect shall be issued as part of RE Policy.”

Reply of Respondents No. 1 and 4 dated 27.10.2021:

12. The Respondents contested the jurisdiction of this Commission on the petition on the following grounds:
- a) that the matter between the State transmission licensee and a State embedded entity, which generates and supplies within the State, lies within the jurisdiction of State Commission. Section 33 (1) of the EA, 2003 authorizes the State Commission to issue requisite direction to ensure secure integrated grid operations and section 33 (4) subjects the disputes arising from such directions issued by SLDC to the jurisdiction of the State Commission.
- b) The contention that KEGC disables the Petitioner from approaching KERC is untenable. When the parent Act does not disable the Petitioner from approaching KERC, KEGC cannot be construed to introduce as disability that was not contemplated under the Parent Act. Reliance has been placed on the Supreme Court of India in Civil Appeal No 3457-3458 of 2009 in Global Energy Ltd. And Anr. V. CERC.
- c) IEGC in its objective at Regulation 1.2 states that the IEGC is a culmination of rules which regulates the utilities connected to or using the inter- State transmission system. Regulation 1.2 of KEGC defines the objective of KEGC as *“The KEGC covers a single set of technical and commercial rules, encompassing all the utilities connected to/ or using the intra state transmission system and provides the following.....”*
- d) KEGC is in conformity with IEGC as mandated under Regulation 86 (1) (h) of the EA,

2003. The grievances of petitioner have been covered under Regulations 6.2 and 8.2 of the KEGC as provided below:

“6.2 System Security Aspects:

xxi. Special requirements for Renewable Energy System Operator (SLDC) shall make all efforts to evacuate the available Solar, mini-hydel, co-generation and wind power and other Renewable Energy (RE) sources and treat the plants as must-run stations. However, SLDC may instruct such generator to back down generation in case grid security or safety of any equipment or personnel is likely to be endangered and Renewable Energy (RE) sources shall comply with the same. For this, Data Acquisition System facility shall be provided by the generator for transfer of information to the SLDC.

.....”

“8.5 Scheduling and Despatch procedure:

.....

8. Since variation of generation in run-of-river power stations shall lead to spillage, these shall be treated as must-run stations. All renewable energy power plants, except for biomass power plants and non-fossil fuel based cogeneration plants whose tariff is determined by the KERC shall be treated as ‘MUST RUN’ power plants and shall not be subjected to ‘merit order despatch’ principles.

Provided that, in case of low load conditions, the SLDC shall regulate the generation of Renewable energy power plants to maintain Grid security.”

- e) Reliance is placed on the Appellate Tribunal for Electricity’s Order in Appeal No. 70 of 2015 and this Commission’s stance in 2017 ACC Online CERC 296.
- f) APTEL in Appeal No. 350 of 2017, related to “Must Run” Status of solar project, and relied on by the Petitioner in its petition in this instant case, deemed it fit to remit the matter to the State Commission after rectifying a procedural defect. Thus, this instant matter should also be adjudicated by KERC.

The petitioner has also submitted as under:

- g) The Petitioner has highlighted the select part of clause 5.2 (u) of the Indian Electricity Grid Code and clause 8.5 (8) of the Karnataka Electricity Grid Code in order to further its unjust claims at the cost of grid security. A bare perusal of the provisions reveal that the Must Run status of Solar and wind power is subject to grid security and the

Respondents regulate the generation of renewable energy power plants to maintain grid security.

- h) The load on the grid system is purely dependent on the demand/ of electricity at a given point of time. The Respondent No.1 is entrusted with the responsibility of maintaining such balance between the load and demand of power in order to maintain grid security.
- i) The grid system in India works at an optimal frequency range between 49.90Hz-50.05Hz. Any deviation in demand results in variation of grid frequency from its stated range. Further, if the frequency is 50.10Hz and above, the State has to pay additional charge at the rate corresponding to that at 50Hz for the quantum of under drawl. As per the prevailing DSM Regulations, the DSM Limits are +/- 250 MW. For any under drawal which exceeds 250MW, the State will not be paid any money for the quantum under drawn irrespective of system frequency.
- j) In the event of drop in consumption/ demand of electricity, the Respondents issue back down instructions to the generators of power to maintain grid security. Such instructions are a result of change in the demand of electricity and are not out of own volition of the Respondents. The Petitioners' allegation that the Respondents have issued unjust and unfair back down instructions are not maintainable for the same are warranted in the interest of grid security.
- k) In issuing back down instructions, the Respondents follow the KEGC and ensure maximum generation of power from solar and wind producers while maintaining the conventional energy plants at bare minimum. In the instant case, the back down instructions have been issued by the Respondents after ensuring the minimum level of generation in conventional plants.
- o) As the available capacity of thermal power varies on day to day basis, the technical minimum of 55% shall translate to different numbers on different days. Overall thermal capacity of the State is 4123MW and the generation of thermal during curtailment time is between 448.76MW and 1847.10 MW indicating prioritization of RE over thermal.
- p) During the months of June, 2019 and July, 2019, there was widespread rainfall beyond normal level at most of the places and hydro stations were to be operated on "Must Run" state. At this time, the generation from thermal plants were already reduced and further reduction was not possible. Further, in accordance with Regulation 6.3 B of IEGC, the solar generation was backed down, as last resort, after backing down of State and central thermal generating stations in the interest of grid security under low load conditions.

- q) The Petitioner has misinterpreted that the Grid Frequency barely crossed the limit of 50.05 Hz. Contrary to the claim of the Petitioner that there was no issue with the grid frequency when the instructions were issued, the fact is that the grid frequency issue did not arise due to the timely back down instruction issued by the Respondent. Further, the steps taken by other SLDCs also had a bearing on the grid frequency. The Petitioner has failed to understand that the task of maintaining grid security does not solely rest upon the Respondent but involves various other State players in the country.
- r) The load flow study conducted for integration of the solar projects of the Petitioners reveals that there are no bottlenecks in the transmission system under consideration for evacuation of the power from these solar power projects with exception of 10 MW project at Kallur interconnected to KPTCL's 110 kV Yelaburga sub-station. The study predicted inadequacy of the existing transmission network for evacuation of proposed 10 MW generation at 110 kV Yelaburga and the evacuation scheme was communicated to the Petitioners with restriction to generate power upto the safe loading limits of the upstream KPTCL network. The Petitioner has given its acceptance to the scheme.
- q) Though the Commission in *the RE Regulations, 2017* acknowledged the loss of units due to grid unavailability, the Commission has not enforced any compensation mechanism. Further, the Draft Renewable Energy Act, 2015 has no binding authority unless the same has come to fruition and is an enforced Act.
- r) The Petitioner has taken a judicious decision to sign a PPA that does not contain provisions for deemed generation charges. Thus, it cannot claim the same now for loss of generation due to outage/ back down instructions.
- s) The Respondent No.1 has only favoured solar generation when compared to thermal energy and solar generation has been maintained at maximum possible levels at all times. Further, there exists no provision in law, no contract that entitles the Petitioner to the right of availing deemed generation charges.
- t) The Petitioner cannot be permitted to tag the action of the Respondent No.1 in interest of maintaining the grid security as being arbitrary. Exemption to the Petitioner from paying compensation can be allowed strictly subject to verification of the data confirming that such generation loss was attributable to the Respondent No.1's back down instructions.
- u) All the solar power projects are subject to the Grid Code and the Petitioner cannot be compensated for generation loss due to back down instructions given in the interest of

grid security.

- v) The Commission in its Order in 14/MP/2017 in NTPC Ltd. Vs BSES & Ors. has allowed recovery of a part of annual fixed cost limited to the extent of O&M expenses and interest on loan only as the Delhi Pollution Control Committee directed the petitioner to shut down the plant on account of non-fulfilment of environmental norms. Such suspension of generation was construed as a change in law event and Regulation 30 (2) of the Tariff Regulations allowed recovery of O&M cost and interest on loan as part of annual fixed charges. This is not the case in the instant petition.

Rejoinder of the Petitioner on the reply filled by Respondent No 1 and 4:

13. The Petitioners vide rejoinder have reiterated its submissions already made in the plaint. For the sake of brevity, the same are not reproduced herewith. Additionally, the Petitioners has submitted as under:
- a) The Respondents be directed to furnish a report detailing the reasons for each instance of back-down for every time block with regard to the Petitioners' projects and such information may then be analysed in view of the parameters set out by the Tribunal vide judgement dated 02.08.2021 in A.No. 197 of 2020 titled as *National Solar Energy Federation of India v. Tamil Nadu Electricity Regulatory Commission*.
 - b) Article 4.4.1 of the PPA obligates the Petitioners to pay compensation to SECI (implementing agency) in case the Petitioners are unable to generate the minimum units of energy as specified in the PPA. Therefore, the failure of Respondent No. 1 to comply with the provisions of IEGC and KEGC is detrimental for the Petitioners as the Petitioners will be impacted for non-compliance with the provisions by Respondent No. 1.
 - c) The data available with respect to the frequency, clearly demonstrates that the frequency has never been an issue, and solar power is being backed down on account of the arbitrary decisions of Respondent No. 1. It was the responsibility of Respondent No. 4 to resolve all issues pertaining to transmission constraints prior to the commissioning of the solar power plants. Therefore, now transmission constraint cannot be a ground for curtailment particularly when the responsibility of development of transmission systems lies with Respondent No. 4.
 - d) Respondent No. 1 has not explained the reasons which prompted it to issue backing down instructions. Such a conduct is unwarranted as Respondent No. 1 is under the obligation

to ensure evacuation of solar power generation connected to the grid to the fullest possible extent and to give effect to the must run status assigned to the solar plants.

- e) There is no data submitted by the Respondents to substantiate their claim that they have reduced thermal plants to the technical minimum. The Respondents have not provided any details qua the available margins for backing down of conventional energy sources and the status of drawal by the State from the central grid. These parameters are to be considered for deciding whether the backing down is for the purpose of grid security or for commercial reasons. In the absence of such information, it is clear that there was no violation of optimum range of frequency, and the curtailment instructions were not issued for grid security. Non-generation of solar power due to such backing down instructions is not only illegal but also amounts to national wastage of natural resource.
- f) Respondent No. 1 is compelling the Petitioners to reduce generation when they are operating well within the acceptable frequency range. This manifestly shows that the solar plants were backed down by Respondent No. 1, not for any grid security.
- g) The Respondents have not placed any material showing (i) if similar curtailment orders were issued for thermal plants or any other conventional generators, and (ii) the duration/frequency of backing down orders issued to thermal and all other power plants along with the frequency of the grid during such duration. The Respondents ought to be directed to furnish data for each time-block when solar power was curtailed along with details of curtailment of conventional power plants when such backing down instructions were issued to the Petitioners.
- h) The Respondents have selectively picked time-blocks in a particular day to show instantaneous frequency at the time of backing down of solar generation and have not provided the backing down data of each source up to their technical minimum limit. Evidently, the backing down instructions were issued only on economic considerations i.e., to off-take cheaper power. Further, the Respondents reliance on data (demand and generation from different sources) showing details of two months (June, 2019 & July, 2019) does not show the actual reasons for curtailment orders issued by the Respondent No. 1. Therefore, such data provided by Respondents alone would not prove prioritisation of solar power vis a vis thermal power.
- i) Deemed generation charges must be paid in the event a generator is prevented from evacuating power due to no fault of its own. There is a settled position of law that the SLDCs are bound to pay compensation/deemed charges on account of their failure to

adhere to the provisions of IEGC and KEGC, etc. Hence the Respondents' contention that the Petitioners are not entitled to deemed charges/compensation is totally misplaced.

Hearing held on 23.06.2022:

14. During the hearing held on 23.06.2022, the Commission directed Petitioner to implead Power System Operation Corporation Limited (POSOCO) as a party to the present petition. Thus, POSOCO was made Respondent No. 5 to the present petition. Through the same RoP, this Commission directed POSOCO to conduct an independent inquiry into whether the backing down/curtailment of generation in the case of the Petitioners was on account of grid safety/security or for any other purpose and submit its report to the Commission within four weeks.

Hearing held on 22.09.2022:

15. During the hearing conducted on 22.09.2022, POSOCO informed the Commission that the requisite information was not provided by Karnataka SLDC. The Commission directed KSLDC to provide all the data in a format provided by POSOCO within a period of one month failing which the matter will be proceeded further based on the data available with POSOCO.

Submission of GRID-INDIA Report dated 15.12.2022 on RE Curtailment in Karnataka by POSOCO:

16. POSOCO has submitted as under:
- a) The station wise summary considering both global curtailment given by Karnataka SLDC & local transmission constraint is given below:

i. 110kV Nalwar Substation

Category Type	Considered transmission line limit on the limiting transmission line	Total No of blocks during the specified period	Total cases of curtailment under consideration	Grid Security	Other than Grid Security
		A	B	C	D
Category 1a (Local constraint as considered by the substation)	20 MW	35040	5953	4514	1439
Category 1b (Local constraint as per technical data noted from public domain)	85 MW			0	5953
Category 2	NA		156	4	152

(Global instruction by Karnataka SLDC)					
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Station wise Summary of analysis for Nalwar S/S

Note for Nalwar S/S

- a. Evacuation scheme issued vide letter No: CEE /(P&C) SEE(Plg/EE(PSS)/KCO-94/64177/F-883/19516-32 Dtd: 10.03.2017 does not mention any specific condition for connection/evacuation limits. However, a generic condition was noted that, in case of any line outage/ grid constraint, the generation has to be backed down as per KPTCL instructions.
- b. The upstream constraints in 220kV and above KPTCL network if any was not considered during the analysis, as KSLDC has not submitted any specific information.

ii. 110kV Yelburga(Kallur) Substation

Category Type	Considered transmission line limit on the limiting transmission line	Total No of blocks during the specified period	Total cases of curtailment under consideration	Grid Security	Other than Grid Security
		A	B	C	D
Category 1a (Local constraint as considered by the substation)	69 MW	35040	6175	16	6159
Category 1b (Local constraint as per technical data noted in KPTCL SPS implementation letter)	86 MW			4	6171
Category 2 (Global instruction by Karnataka SLDC)	NA		117	4	113

Station wise Summary of analysis for Yelburga S/S

Note for Yelburga S/S:

- a. 69MW considered for SPS has been considered as the limit in lieu of the condition mentioned in the connection approval.
- b. The upstream constraints in 220kV and above KPTCL network, if any, were not considered during the analysis, as KSLDC has not submitted any specific information.

Common Notes:

1. All the above analysis is based on post facto Frequency, generation and drawl data whereas Karnataka SLDC system operator may have taken actions based on prevailing frequency and estimate on likely frequency, RE generation and drawl in subsequent blocks.
2. Curtailment quantum is something that cannot be measured exactly and at best is reasonably estimated based on several data points. Information gap or inconsistency in information from different sources or information asymmetry poses difficulty in automatic estimation of curtailment quantum.

Hearing dated 07.03.2023

17. The Commission vide RoP dated 07.03.2023 observed as follows:

At the outset, the representative of POSOCO (now, Grid Controller of India Ltd.) submitted that in compliance with the direction of the Commission, POSOCO has already filed its report conducting an inquiry into whether the backing down/curtailment of generation in the case of the Petitioners herein was on account of grid safety/ security or for any other purpose. The representative of POSOCO further referred to the said report and mainly submitted as under:

(a) In the said report, POSOCO has carried out the curtailment analysis based on the data submitted by KSLDC and the Petitioners for the period from 1.4.2018 to 31.3.2019. Also, the curtailment analysis has been done in two categories, Category 1 is for the blocks where the curtailment was instructed locally based on the transmission constraints and Category 2 is for the blocks where curtailment was instructed from KSLDC globally for the State. POSOCO has also classified the curtailment data into two categories, namely, cases of curtailment for grid security and the cases of curtailment for 'other than grid security'.

(b) Insofar as WSMPL's 40 MW project connected to 110 kV Nalwar S/s is concerned, it has been indicated that under Category 1a, out of the total cases of curtailment in 5953 time blocks, curtailment in 4514 time blocks had been for grid security whereas in 1439 time blocks, it had been for the reasons other than grid security. However, for this Category 1a, the transmission line limit has been considered as 20 MW as remarked by KSLDC which stated that the said line had been commissioned in the year 1964 and is not taking the permitted load due to aging of conductors. However, as per the technical data noted from the public domain, limit of the said line worked out to 85 MW and considering this limit, the report at Category 1b indicates that curtailment in entire 5953 time blocks had been due to the reasons other than grid security. For Category 2, out of the total cases of curtailment under 156 time blocks, curtailment in 4 time blocks had been due to grid security and in balance 152 time blocks it had been for the reasons other than grid security.

(c) For WSMPL's balance 10 MW project and PSEPL's 40 MW project, which are connected to 110 kV Yelburga S/s, it has been indicated that under Category 1a (considering transmission line limit @ 69 MW), out of total cases of curtailment in 6175 time blocks, curtailment in 16 time blocks had been due to grid security whereas in balance 6159 time blocks, it had been due to reasons other than grid security. Under Category 1b (considering transmission line limit @ 86 MW as per KPTCL's

implementation letter), time blocks under which the curtailment had been for the grid security worked out to 4 and for the balance 6171 time blocks, the curtailment had been for the reasons other than grid security. Under Category 2, out of the total case of curtailment in 117 time blocks, in 113 time blocks the curtailment had been for the reasons other than grid security and only in 4 time blocks the curtailment had been for the purpose of grid security.

2. Learned counsel for the Petitioners submitted that as such the report prepared by POSOCO supports the contention of the Petitioners that the curtailment instruction by KSLDC in respect of their Projects had been for the reasons other than the grid security. However, the Petitioners may be permitted to file its response once the Respondents, KSLDC/KPTCL file their comments on such report.

3. Learned proxy counsel for the Respondents No. 1 to 4 sought time to file reply on the report submitted by POSOCO.

4. **Considering that neither the Petitioner nor the Respondents, KSLDC & KPTCL have filed any comments/response on the report submitted by POSOCO, the Commission permitted the Respondents file their respective comments/response, as last opportunity, within three weeks with copy to the Petitioner who may file its response thereon within three weeks thereafter.**

5. **Subject to the above, the Commission reserved the matter for order**

Reply of the Respondent No. 1 & Respondent No. 4 on the POSOCO Report dated 05.04.2023

18. The Respondents No. 1 & 4 have submitted as under:

Back-down of hydro generation in the background of Regulations issued by the State Commission

- a) During rainy season most of the hydro generators are on must run status, in accordance with the Regulation 8.5 (8) of KEGC. The KEGC directs SLDC not to back down hydro generation during peak rainy season and allows for backing down of solar generation. This is because issuing back down instructions to hydro generators during peak rainfall season could result in dam overflow severely impacting the life of people.
- b) POSOCO has mistakenly assumed that the hydro power stations are not accorded must run status in the State of Karnataka. Thus, in its analysis, for assessing the quantum of power that can be backed down so as to enforce “must run” status to solar plants, POSOCO has considered reduction of 50% of actual generation of hydro plants. Therefore, the report of the POSOCO is highly inaccurate and unreliable

Outage planning based on seasons

- c) The Grid Code contemplates situations requiring back down of renewable energy generation regardless of the must run status in the interest of grid security. Regulation

6.7.1 of KEGC directs KSLDC and KPTCL to plan outages of generating stations with respect to capacity to generate power based on seasons. The Grid Code mandates that outage of solar generators is idle during rainy season. This implies that hydro power stations would be prioritized over the solar stations during rainy season. The report of the POSOCO disregards the conditional must run status under the Grid Code accorded and the practical issues/ difficulties such as dam over flow and flooding which are direct consequences of backing down the hydro generation during rainy season.

Consideration of post facto frequency as a parameter to examine validity of back down instructions

- d) POSOCO, although acknowledges that the actions of the Respondents is based on the pre-facto frequency and likelihood of breach of frequency parameters, proceeds to consider only the post-facto frequency as the basis for analysis in its report. Such consideration of the post-facto frequency is justified by POSOCO by relying on the APTEL judgment dated 02.08.2021 in A.No. 197/2019, wherein POSOCO was impleaded as a party to investigate the validity of back down instructions issued by the Tamil Nadu SLDC. As POSOCO has adopted post facto frequency as a parameter to validate the back-down instructions in the aforementioned Appeal, the said methodology has been adopted once again despite the lack of any logical reasoning and clear admission of possibility of relevance of pre-facto frequency in issuing back-down instructions.
- e) The Respondents have clearly communicated vide its objections and orally to POSOCO that the instructions were accorded on the basis of pre-facto frequency. In such an event, POSOCO ought to have considered the pre-facto frequency along with the post-facto frequency especially in the absence of any impediment under the judgment in A.No. 197/2019.
- f) The Hon'ble Supreme Court in *Ambica Quarry Works v. State of Gujarat [(1987) 1 SCC 213]*, has held that the principle that emerges from an Order holds precedential value. However, any assumptions on the said principle cannot be said to hold any precedential value. Accordingly, POSOCO cannot assume that the methodology adopted by it during the proceedings before the APTEL can identically be adopted in a case with different set of facts.

Accuracy of the report is dependent on minute-to-minute based analysis and not

upon 15 minute block analysis

- g) The load generation balance directly impacts the grid frequency which necessitates monitoring of the grid on a minute-to-minute basis. The KSLDC controls the grid in real time and not on a block wise basis. Thus, the 15-minute block wise data cannot be considered as KSLDC is involved in real time grid operation and thus granular data ought to be considered by POSOCO. However, POSOCO has sought for average of 15-minute block data for the purpose of the report though KSLDC and KPTCL have provided granular data to the POSOCO.

KSLDC and KPTCL cannot be faulted for technical limitations on the generators end to back down generation

- h) KSLDC and KPTCL have resorted to RE curtailment only after backing down thermal units. The margin of thermal capacity is less than 20MW in more than 100 blocks. However, due to technical constraints at the generators end, some of the generators could not back down their generation to the technical minimum. KSLDC has done the needful by directing back down of thermal generation. Hence, it is crucial that the report considers the ramp down time of the thermal generators. KSLDC has no control over the technical limitations due to the design of the thermal generators. In more than 100 blocks, technical limitations of the generators due to design have prevented them from backing down generation further below the technical minimum.

Backdown instructions accorded for the purpose of maintenance and over loading issues

- i) The Petitioner is connected to 110KV Nalwar sub-station and 110KV Yelburga Sub station for the purpose of evacuation of power. The Regular Evacuation Scheme was granted to the Petitioner for its 40MW (as against allotment of 50MW by SECI) Solar PV project. The Petitioner was granted connectivity to 110/33/11kV Nalwar substation for 40MW. The regular evacuation was granted subject to construction of 110kV SC line with lynx ACSR conductor from the generating plant to the Nalwar sub-station. Further, on 29.07.2017, the regular evacuation scheme for balance 10MW was granted to the Petitioner. This evacuation approval was granted only after the acceptance of the tentative evacuation scheme by the Petitioner wherein the Petitioner was made aware of the constraint in the transmission network. Further, it is crucial to note that the Petitioner

has furnished an undertaking not holding KPTCL responsible for loss in generation due to system constraints/ line outages.

- j) The Petitioner's plant is connected to 110kV Shahabad-Shahpur DC line which was made LILO at 110kV Nalwar Station. The 1st circuit of the 110KV Shahapur-Shahbad line was commissioned in the year 1962 using wolf conductor and 2nd circuit was commissioned in the year 1972 using partridge conductor. The 110kV Nalwar sub-station was commissioned on 25.11.2015. The Nalwar sub-station was feeding from 220kV R/s Shahabad on 110kV Shahabad- Nalwar line. The existing old 110kV Shahabad-Shahapur 2nd circuit line was made LILO to 110kV sub-station at Nalwar station.
- k) Thus, it is clear that although the Petitioner was granted connectivity, the said interconnection approval was a conditional one and the Petitioner has undertaken to curtail generation upon issuing of backdown instructions in the event of transmission constraints.
- l) POSOCO in its report has considered that the line load capacity is at 85 MW as opposed to 20MW suggested by KSLDC and KPTCL. The POSOCO has placed its reliance on technical specifications of ACSR conductors as manufactured by MMIP, India. As per the MMIP, the ACSR wolf conductors have a current capacity of 470Amps. However, as per the Indian Standards (IS) 398 (Part-II), the wolf conductor has a current carrying capacity of 329 Amps at 65°C and 405 Amps at 75°C. Hence, the basis for arriving at the load limit of the line in itself is faulty, making the applicability of the report to the instant facts is highly erroneous.
- m) The Respondents have submitted that 5953 backdown instructions were on account of local transmission constraints given by local substation officers who have in the interest of protection of transmission assets and safety of the officers maintaining the said lines accorded backdown instructions. In-spite of the instructions to the generators by the sub-station officers, the generators have generated more than the restricted capacity causing tripping of the line to which the said generators are connected for the period from 01.04.2018 to 31.03.2019.
- n) The State Transmission Utility has maintained availability of more than 98% as stipulated in the KERC Regulations In every quarter of a year, maintenance at the sub-station takes place and back down instructions are issued to ensure safety of personnel carrying out the maintenance work. Such maintenance is scheduled downtime of the grid and the transmission system, the Respondent No. 4 cannot be unduly penalized for scheduled

maintenance.

- o) The Respondents in view of grid safety and security was affected by a force majeure event and performance of its obligations under the contract was impossible and beyond its control. If the obligations under the contract were fulfilled, the Respondents would be in contravention of the Grid Code and the Electricity Act, 2003 as the grid and the transmission system of the Respondents would be severely affected. The damage would not only be limited to the Petitioner's plant but also to several other generators connected to the system of the Respondent. Wherefore, as per the mandate of the Clause 11.3.1 (Force Majeure) of PPA, the Respondent cannot be held responsible to compensate the Petitioner for generational loss, as such events leading to alleged losses to the Petitioner were beyond the control of the Respondent.

Submission of Petitioner dated 26.05.2023 on the replies filed by Respondent No 1 and 4 on POSOCO report

19. The Petitioner has submitted as under:

- a) As per POSOCO Report, there has never been an issue with respect to maintenance of frequency.
- b) POSOCO has the statutory duty to supervise Regional Load Despatch Centres, schedule and despatch electricity over interregional links, coordinate with Regional Load Despatch Centres for achieving maximum economy and efficiency in the operation of National Grid, monitor operations and grid security etc.
- c) POSOCO has the requisite technical know-how on proper evaluation of data for the purpose of grid security, including data on frequency variations and back down instructions.
- d) IEGC and KEGC both provide for each day being divided into 96 time blocks with each time block of 15 minutes for the purpose of scheduling and despatch of generation. The mechanism of time blocks was devised in order to bring uniformity and ease of commercial calculation. In this view, the frequency cannot be determined or considered on minute to minute basis. More so, in case frequency is taken into consideration on minute to minute basis, the generators will have to ramp up and down on minute to minute basis which is not feasible.
- e) The Respondents have failed to furnish any supporting data substantiating their claim viz

backing down thermal power plants before backing down solar plants. Thus, POSOCO has done time block wise analysis as per IEGC and KEGC.

- f) The APTEL Judgment dated 02.08.2021 which dealt with the identical issue is a binding precedent in this case. It is settled law that courts do not normally interfere with the decision of an expert body unless the decision is unreasonable. In the present case, KPTCL has failed to prove the decision to be unreasonable.
- g) APTEL Judgment clearly records respondent submissions which includes contentions viz frequency analysis done only on the basis of post facto frequency which should not be considered. APTEL Judgment only upon consideration of all submissions, has stated that the data set considered by POSOCO was representative enough to arrive at a rationale conclusion where the data submission was done by TNSLDC itself. Similarly, in the present case, KPTCL has submitted the requisite data for POSOCO's consideration which has been analysed sufficiently to reach a rational conclusion. Further, questions involved in APTEL Judgment as well as the present case are identical. Consistency and certainty in the development of law is paramount. Reliance is placed on *Central Board of Dawoodi Bohra Community v. State of Maharashtra (2005) 2 SCC 754*.
- h) The objective of outage planning is to use every renewable source to the maximum capability i.e. to plan outage for solar in rainy season, outage of wind in lean wind season, outage of run of river hydro plant in lean water season due to lack of required natural resource. Outage planning has to be carried out annually and is not implemented suddenly. Outage planning cannot be an excuse to back down the Petitioners RE solar generating stations on regular basis throughout the year.
- i) Further, the back down instructions were issued in times beyond rainy season i.e. before and after. It is also important to note that it is nowhere provided that must run status of a hydro power plant can be honoured before must run status of solar power plants. The Respondents have also not provided any details qua the available margins for backing down of conventional energy sources and the status of drawl by the state from the central grid.
- j) The Petitioners cannot be made to suffer for any transmission constraints. Be that as it may, constraints of the transmission line were to be resolved in a definite time period. As per the applicable industry standards, the same should not have taken more than a year for completion of activities as it involved the system strengthening by placement of additional ICT along with associated bays. However, despite more than six (6) years

already having been elapsed, Respondent No. 4's system is having transmission system constraint for evacuation of the power, which could have been avoided and resolved earlier if planning and execution was done in a systematic manner.

Analysis and Decision:

20. We have heard the learned counsels for the Petitioner, and the Respondents and have carefully perused the records.

21. Before discussing the issues on merit, we consider it is appropriate to mention here that the Respondents No. 1 to 4 had contested the jurisdiction of this Commission to adjudicate on the disputes raised by the Petitioner. It is pertinent to mention here that the issue of jurisdiction already stands decided vide separate Order dated 16.07.2020 by this Commission. It was held by this Commission as under:

63. As per the above provisions of CPC, if any issue raised in a matter before a court is also directly or substantially in issue before a previously instituted suit by the same parties either in the same court or any other court in India competent to grant relief in the matter, the court shall not proceed in the said matter. We note that Hon'ble High Court of Andhra Pradesh has stayed the proceedings in Petition No.342/MP/2019 in Writ Petition No.1286 of 2020. Since the litigants in the writ petition before Hon'ble High Court of Andhra Pradesh are not the same as in the present petition, the stay by the Hon'ble High Court of Andhra Pradesh issued vide order 23.1.2020 and as extended from time to time, cannot be construed as stay of the proceedings in the present petition in terms of Section 10 of CPC. Further, as per the material placed on record, no proceeding has been instituted with regard to the Must Run status of the renewable energy power projects of the Petitioners in any other court in India including the superior courts in the State of Karnataka. Hence, lis pendis, the Commission is of the view that a stay of proceedings by Hon'ble High Court of Andhra Pradesh in Petition No. 342/MP/2019 is applicable to that Petition only and cannot be applied to the instant petition involving the generating station and SLDC in the State of Karnataka.

64. In view of the above, Petition No. 287/MP/2019 is admitted. The parties are directed to complete the pleadings. The Petition shall be listed for hearing in due course for which separate notice will be issued.

22. Now, from the submissions of the contracting parties, the following issues emerge for adjudication before the Commission:

Whether the instructions for backing down of the RE generation issued by the Respondent No. 1 and Respondent No. 4 were due to grid security or otherwise and whether the Petitioners should be compensated for the loss of generation due to such orders.

23. We observe that vide Order dated 23.06.2022, the Commission directed Grid India Ltd. (formerly POSOCO) to conduct an independent inquiry into whether the backing down/curtailment of generation in the case of the Petitioners was on account of grid safety/security or for any other purpose and submit its report to the Commission. Grid India had submitted its report to the Commission on 15.12.2022. We have gone through the details of the report submitted by Grid India and the submissions made by both the parties on the Grid India inquiry report.
24. We observed that POSOCO has carried out its analysis for the duration 01.04.2018 to 31.03.2019 based on irradiance data, post facto Frequency, generation and drawl data collected from the parties to the petition. Further, in the report, POSOCO has indicated that curtailment quantum is something that cannot be measured exactly and at best is reasonably estimated based on several data points. In its report, Grid India has also indicated that at the time of filing of Petition in 2019, the backing down instruction issues were prevalent in 10 Generating Stations. However, over a period of time, only 3 generating stations interconnected at 2 substations i.e. (1) Wardha Solar Maharashtra Pvt. Ltd. 40 MW S/S connected at 110kV Nalwar S/S (2) Wardha Solar Maharashtra Pvt. Ltd. 10 MW connected at 110kV Yelburga S/S and (3) Parampujya Solar Energy Pvt. Ltd. 40MW connected at 110kV Yelburga S/S in the State of Karnataka were facing the issues. Thus the project developers made available the data for these three (3) projects only. Hence, analysis was carried out for these three projects only.
25. In its report, Grid India has indicated the station wise curtailments considered for the analysis and the results thereof considering both global curtailments given by Karnataka SLDC & that due to local transmission constraint. The same has been reproduced below:

i. 110kV Nalwar Substation

<i>Category Type</i>	<i>Considered transmission line limit on the limiting transmission line</i>	<i>Total No of blocks during the specified period</i>	<i>Total cases of curtailment under consideration</i>	<i>Grid Security</i>	<i>Other than Grid Security</i>
		<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
<i>Category Ia (Local constraint as considered by the substation)</i>	<i>20 MW</i>	<i>35040</i>	<i>5953</i>	<i>4514</i>	<i>1439</i>
<i>Category Ib</i>	<i>85 MW</i>			<i>0</i>	<i>5953</i>

(Local constraint as per technical data noted from public domain)					
Category 2 (Global instruction by Karnataka SLDC)	NA		156	4	152

Station wise Summary of analysis for Nalwar S/S

Note for Nalwar S/S

- c. Evacuation scheme issued vide letter No: CEE /(P&C) SEE(Plg/EE(PSS)/KCO-94/64177/F-883/19516-32 Dtd: 10.03.2017.(Copy enclosed as Annexure-16) does not mention any specific condition for connection/evacuation limits. However a generic condition was noted that, in case of any line outage/ grid constraint the generation has to be backed down as per KPTCL instructions.
- d. The upstream constraints in 220kV and above KPTCL network if any was not considered during the analysis, as KSLDC has not submitted any specific information.

ii. 110kV Yelburga(Kallur) Substation

Category Type	Considered transmission line limit on the limiting transmission line	Total No of blocks during the specified period	Total cases of curtailment under consideration	Grid Security	Other than Grid Security
		A	B	C	D
Category 1a (Local constraint as considered by the substation)	69 MW	35040	6175	16	6159
Category 1b (Local constraint as per technical data noted in KPTCL SPS implementation letter)	86 MW			4	6171
Category 2 (Global instruction by Karnataka SLDC)	NA		117	4	113

Station wise Summary of analysis for Yelburga S/S

Note for Yelburga S/S:

- c. 69MW considered for SPS has been considered as the limit in lieu of the condition mentioned in the connection approval.
- d. The upstream constraints in 220kV and above KPTCL network if any was not considered during the analysis, as KSLDC has not submitted any specific information.

Common Notes:

- All the above analysis is based on post facto Frequency, generation and drawl data whereas Karnataka SLDC system operator may have taken actions based on prevailing frequency and estimate on likely frequency, RE generation and drawl in subsequent blocks.
- Curtailment quantum is something that cannot be measured exactly and at best is reasonably estimated based on several data points. Information gap or inconsistency

in information from different sources or information asymmetry poses difficulty in automatic estimation of curtailment quantum.

26. We observe that the Respondent No. 1 and Respondent No. 4 have objected to the methodology adopted by POSOCO in its enquiry report. The Respondents have submitted that though the report is based on the methodology adopted in APTEL in its judgment dated 02.08.2021 under Appeal No. 197 of 2019 and I. A. No. 1706 of 2019, it does not factor the unique conditions under this case.

27. APTEL in its judgement dated 02.08.2021 under appeal No. 197 of 2019 and I.A. No. 1706 of 2019 has held as under:

130. Thus, the party has to establish the three ingredients of the tort, as laid down in Para 47 of the above judgement, to maintain an action for misfeasance in public office for claiming compensation. In the present Appeal, there is no denial that SLDC is a statutory body. We have held that the actions of Respondent No 2 (TANGEDCO) and Respondent No 3(TNSLDC) are undoubtedly mala-fide in issuing backing down instructions for commercial reasons. The misfeasance being established from the conduct of SLDC, who in collusion with TANGEDCO has made common representations/submissions in the present appeal through a common legal counsel. Further, POSOCO has indicated in the report that most of the solar generators with per unit cost of Rs 7.01 were curtailed more. The curtailment was done by SLDC at the behest of TANGEDCO for commercial reasons is also evident from the following submission made by Respondent No 2 to 4 in their common reply to the Appeal wherein it is being justified to curtail power of private solar developers.

“18. It is respectfully submitted that, with respect to the Ground (FF) to (II), the conventional power plants are operating from their rated capacity to technical minimum. The maintenance cost of the thermal generators of the state increases, cost of generation increases, Plant Load Factor (PLF) of the thermal generation decreases and all the above costs due to RE injection as Must Run is added in the Aggregate Revenue Requirement (ARR) and paid by the consumers. The private solar developers are unduly benefited at the cost of consumers. In addition to the difficulties faced during infirm penetration, the TANGEDCO faces financial implications by purchasing power at high cost in the real time market, penalty towards DSM charges etc”

131. Thereafter, the Respondents vide their common reply dated 18.10.2020 to POSOCO report have admitted to have curtailed generators with tariff of Rs 7.01/- per unit to get higher relief as under without such provision being present in the Regulations.

“It is respectfully submitted that there is no regulations laid for backing down of RE generators for grid security after backing down of conventional sources, to get higher relief, curtailment instructions issued to the higher capacity generators (1052 MW) which fall under in Rs 7.01/- category and it is essential to start to curtail in this category. If required further to maintain the grid

parameters within the stipulated limits, curtailment instructions issued to the rest of the category. Also, it is submitted that low capacity generators were not asked to back down as the quantum of relief for grid requirement was meagre”

132. The above being a submission of a supposedly, independent statutory body like SLDC, shows its callous attitude towards the Regulations of the Commissions (both Central and State) and its mala-fide intent in issuing curtailment instructions. Therefore, TANGEDCO and TNSLDC were hand in glove in violating the provisions of Grid code for the commercial benefit of TANGEDCO. It is also apparent that the members of the Appellant Association have suffered financial loss as a result of the actions of TNSLDC and TANGEDCO.

133. The investments made in establishing solar projects, and the solar tariffs so determined, was premised on Must Run status as contemplated in the regulations framed under Act and the provisions in energy purchase agreement. If must run status is not adhered to by the Respondent TANGEDCO and SLDC in violation of law, the members of the Appellant association would be deprived of recovery of legitimate tariff. As solar power tariff is single part and it is predominantly fixed cost in nature, unauthorised curtailment will ultimately result in solar generators failing to repay their loans. If such actions are not penalised, the unauthorized curtailment will go unabated jeopardising the whole objective and intent of the Act. This conduct on the part of the State Load Despatch Centre which is public office cannot be said to be bona-fide and genuine. Therefore, we are of the view that since misfeasance has been established against TANGEDCO and TNSLDC, a statutory body under the Act, the Appellant is entitled to claim for compensation from TNSLDC and TANGEDCO. Both these entities shall jointly pay the compensation to the members of the Appellant Association.

134. In the light of above discussions, we issue following directions:

(i) For the period 01.03.2017 to 30.06.2017, the Respondents shall pay compensation for 1080 blocks considered by POSOCO, during which curtailment instructions were issued for reasons other than grid security, at the rate of 75% of PPA tariff per unit within 60 days from the date of this order. The computation shall be made separately for individual members of the Appellant Association based on the curtailment period/blocks falling in 1080 blocks.

(ii) POSOCO shall carryout similar exercise for the period up to 31.10.2020 on the same lines and submit report to Respondent Commission within 3 months. Tamil Nadu SLDC and Appellant are directed to submit details to POSOCO. Based on POSOCO report, State Commission shall allow compensation for the backed down energy at the rate of 75% of the PPA tariff per unit.

(iii) Curtailment quantum shall be considered as per POSOCO report.

(iv) The Respondents shall pay compensation along with interest at 9% for the entire period.

Way forward for curtailment of RE power by State Load Dispatch Centre

135. We have noticed that the analysis made by POSOCO 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. We also make it clear that the replacement of solar power by purchases of cheaper power from short term power markets shall also be treated as unauthorized activity. Accordingly, the following directions are issued to all the State Commissions, Discoms and SLDCs with regards to curtailment of power generated from Renewable Energy sources.

- (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) Voltages 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 intra-state conventional or non-conventional sources.
- (ii) 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.
- (iii) 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.
- (iv) The above guiding factors stipulated by us would apply till such time the Forum of Regulators or the Central Government formulates guidelines in relation to curtailment of renewable energy.

ORDER

136. For the foregoing reasons, we are of the considered view that the issues raised in the Appeal No. 197 of 2019 have merits and hence, the appeal is allowed.

137. The impugned order dated 25.03.2019 passed by the Tamil Nadu Electricity Regulatory Commission in Petition M.P. No. 16 of 2016 is set aside to the extent of denial of deemed generation charges / compensation for issuing backing down instructions to the Members of the Appellant's Association for reasons other than the grid security and our findings and directions, stated supra.

138. The Registry is directed to circulate copy of the Order along with POSOCO report to all the State Electricity Regulatory Commissions, MNRE and Ministry of Power to ensure compliance of directions in Para 135 above.

139. The Pending IA, if any, stands disposed of. No order as to costs.

140. Pronounced in the Virtual Court on this 2nd day of August, 2021.

28. From the above, we note that APTEL has already laid down the conditions under which an event may be termed as being not attributable to grid security. The *ratio decidendi* that emerges from the aforesaid decision of APTEL is as follows:

- (i) In the absence of specific provisions in the PPA with respect to deemed generation charges, the renewable energy generator cannot be allowed to claim the same.
- (ii) There is a clear mandate in the Electricity Act, 2003 and the National Tariff Policy to promote renewable energy generation. The 'Must Run status' conferred to renewable energy is meant for its promotion and given its nature renewable energy shall not be curtailed.
- (iii) In many states SLDCs are violating the provisions of the IEGC and the applicable State Grid Codes by curtailing the renewable energy generation for reasons other than grid safety and security.
- (iv) In case the curtailment is done by SLDC at the behest of *Transmission Company* and 'must run status' is not adhered to by the Respondents in violation of law, the renewable energy generator would be deprived of recovery of legitimate tariff.In case *misfeasance* is established with the knowledge of SLDC, the renewable energy generator is entitled to claim for compensation from Respondents.
- (v) For the period before 02.08.2021 (date of APTEL Judgment) during which curtailment instructions were issued for reasons other than grid security, the renewable energy generator is to be compensated at the rate of 75% of PPA tariff per unit within 60 days from the date of the order. The Respondents shall also pay interest at 9% for the entire period. Curtailment quantum shall be considered as per POSOCO report. The computation is to be made separately for individual members based on the curtailment period/blocks falling in 1080 blocks.
- (vi) For the period after 02.08.2021 (date of APTEL Judgment) the curtailment of renewable energy for the reasons other than for grid security shall be compensated at PPA tariff.

29. In the instant case, we are of the view that as the methodology for assessment regarding curtailment, attributable to grid security or otherwise, has already been settled by APTEL and the Grid India has adopted the same methodology under the present case, there is no question of revisiting the methodology adopted.

30. In view of the decision of the APTEL in appeal No. 197 of 2019 and I.A. No. 1706 of 2019 and the technical enquiry report submitted by Grid India based on the methodology approved by APTEL, this Commission approves the curtailment details as has been indicated in the Grid

India report and directs that the curtailment of renewable energy for the reasons other than grid security shall be compensated as follows:

- (a) For the period before 02.08.2021 (date of the APTEL Judgment) during which curtailment instructions were issued for reasons other than for grid security, the renewable energy generator is to be compensated at the rate of 75% of the PPA tariff per unit within 60 days from the date of order. The Respondents shall also pay interest at 9% for the entire period. Curtailment quantum shall be considered as per POSOCO report..
- (b) For the period after 02.08.2021 (date of APTEL Judgment) the curtailment of renewable energy for the reasons other than grid security shall be compensated at PPA tariff.

31. Accordingly Petition No. 287/MP/2019 is disposed of in terms of the above.

Sd/-
पी. के. सिंह
सदस्य

Sd/-
अरुण गोयल
सदस्य

Sd/-
आई. एस. झा
सदस्य