

To

The Secretary

A.P. Electricity Regulatory Commission

4<sup>th</sup> floor, Singareni Bhavan, Red Hills

Hyderabad - 500 004

May 4, 2020

Respected Sir,

**Sub : Further submissions on the amendments proposed to Regulation 4 of 2017 by AP Transco to Forecasting, Scheduling and Deviation Settlement of Solar and Wind Generation Regulation, 2017, in O.P.No.2 of 2020.**

**Further to my written submissions dated March 2, 2020, I am submitting the following additional points for the consideration of the Hon'ble Commission in the subject petition:**

- 1. I thank the Hon'ble Commission for getting submissions of various stakeholders in the subject petition uploaded in the web site of the Commission and allowing us to make further submissions in response to the same.**
- 2. In the retail supply tariff order for 2020-21, the Hon'ble Commission has pointed out that "all the reports received so far by the Commission on the implementation of the Regulation (Regulation 4 of 2017) indicate a fair degree of compliance and either the licensees or the State Load Despatch Centre (SLDC) have not reported any difficulty or problem with respect to the despatch from the Wind and Solar sources or grid stability and security during the last two years." Relying on this observation of the Commission, one of the objectors, Sri Sayana Surya Prakasa Rao garu, a former secretary of APERC, has contended that the Commission would not have initiated the consultation process, considering the views expressed by it in the tariff order. During the public hearing held on 10.3.2020, several developers of wind and solar power units and their representatives have gone to the extent that there are no problems to the grid on account of purchasing wind and solar power and deviations from forecasting and scheduling of generation. The fact of the matter is that, for purchasing solar and wind power from must-run units, the Discoms and SLDC have had to back down relatively cheaper thermal power paying fixed charges therefor, to ensure grid stability and security. In their replies given on 30.12.2019, in O.P.No.33 of 2019 (RTPP stage IV), SPDCL has informed that, during the year 2017-18, 6912.34 MU of energy was backed down and a huge sum of Rs.871.70 crore was paid towards fixed charges therefor. Similarly, they have informed that, during 2018-19, 8301.99 MU of energy was backed down and a hefty sum of Rs.1072.90 crore was paid towards fixed charges therefor. Most of the backing down pertains to the stations of AP Genco and central generating stations. The data furnished by SPDCL shows that not even a single unit of NCE was backed down during the said two years. During the current**

financial year and 2020-21 also, the generating capacities of thermal power plants being and to be backed down would increase in order to purchase must-run and high-cost solar and wind power. It is not just a problem or difficulty; it is a disaster with recurring intensity involving enormous loss. Had the Discoms/SLDC not backed down relatively cheaper thermal power based on merit order dispatch to purchase high-cost and must-run wind and solar power, apart from the additional burdens being imposed on the consumers of Discoms, serious problems would have arisen to grid maintenance and grid safety, and even collapse of the grid plunging the southern region into darkness except the States which have the arrangement of islanding. Moreover, the kind of serious problems being encountered by the Discoms and SLDC due to deviations in forecast and scheduling by solar and wind power units and deficiencies in Regulation No. 4 relating to forecasting and scheduling and deviation settlement of solar and wind power generation are already elucidated in the detailed report submitted to the Hon'ble Commission by AP Transco in its letter dated 10.12.2019, seeking amendments to the subject Regulation, i.e., much before the retail supply tariff order for 2020-21 was finalised and released by the Hon'ble Commission. The developers and the champions of their cause are refusing to see the ground reality.

3. The contention that the changes being brought about in the policies of GoAP and proposed to be brought about in the regulations of the Commission relating to non-conventional energy, particularly wind and solar power, are arbitrary is intended to obscure the imbalances and arbitrariness in the policies of the Government and regulations of the Commission. I request the Hon'ble Commission to consider the following points, among others:
  - a) The policies of the Governments, regulations of the ERCs and orders of the regulatory and adjudicating bodies are heavily loaded in favour of developers of power projects, especially wind and solar power projects, and against larger consumer interest. Over the years, we have made elaborate submissions on the issues repeatedly before the Commission. Moreover, experience confirms beyond the shadow of a doubt, if doubting Thomases have any doubts, about the biased and arbitrary nature of the policies, regulations and orders concerned relating to power projects, especially wind and solar projects.
  - b) Whenever concessions, subsidies, facilities and exemptions are extended to wind and solar power units in the policies of GoAP and GoI and incorporated in the regulations of the Commission, they are at their evasive best without specifying who should bear the burden of the same. If the Government extends any such concessions to developers of wind and solar power units, it should bear the burden of the same. It is the height of irresponsibility to impose burdens of concessions extended to wind and solar power units on the Discoms and their consumers of power arbitrarily. It is nothing but robbing Peter to pay Paul.
  - c) Such lop-sided approaches and arrangements are not arbitrary in the eyes of the Governments, inclined as they are to benefit unduly developers of wind and solar power plants at the cost of larger consumer interest for extraneous considerations.

- d) **Such lop-sided approaches and arrangements are not arbitrary in the eyes of the ERCs when they incorporate the same mechanically in their regulations even at the cost of shirking their regulatory responsibility to protect the interests of the consumers of power at large. Is it a case of being more loyal than the king, when the ERCs fail to stipulate in their regulations that the Governments concerned should bear the burdens of concessions the latter extended to wind and solar power units, or else the Discoms/Transco should collect the same from the developers?**
  - e) **Such lop-sided approaches and arrangements in the policies of the Governments and regulations of ERCs, and imposition of burdens of concessions extended to developers on the consumers of the Discoms are not arbitrary in the eyes of the developers of wind and solar power units and champions of their cause.**
  - f) **Insularity of private capital in managing the powers-that-be to subserve its boundless greed for profits is least bothered about orderly development of power sector, fairness and need for ensuring reasonable tariffs to the consumers.**
  - g) **Whatever be the considerations of the present GoAP in bringing about various changes in its policies relating to wind and solar power and whatever be the considerations of AP Transco/Discoms in seeking amendments to various regulations of the Commission relating to non-conventional energy, especially wind and solar power, in tune with the changes in the policies of GoAP, they remove the elements of arbitrariness in the policies and regulations concerned. It is this removal of arbitrariness in the policies of GoAP and in the regulations of APERC that the generators of wind and solar power units, posing themselves as poseurs, and the champions of their cause are dubbing arbitrary! Protection of larger consumer interest by removing the elements of arbitrariness in the policies of GoAP and regulations of APERC is appearing to their blurred view as arbitrariness! The very fact that developers of wind and solar power and champions of their cause never even ask the Governments to bear the burdens of concessions extended to them (even though it is indirectly burdening the public at large), instead of unjustly and arbitrarily imposing the same on consumers of power of the Discoms, is a reflection of the kind of collusion between them.**
4. **The submission of the developers that forecasting of VRE is not the only culprit contributing to imbalance in the grid implies the admittance that it is one of the culprits. Its impact has to be assessed and revised periodically in tune with the increasing installed capacity of wind and solar units in the State.**
  5. **It is suggested by the developers that, in addition to accurate forecasting of VRE, functional primary and secondary control reserves shall be utilized to ensure provision of ancillary and balancing services such as additional pumped storage hydro plants, spinning reserves, etc. It is well known that, due to fluctuations in demand curve, daily or seasonal, some quantum of power remains surplus. There may be surplus during off peak hours and deficit during peak hours, daily or**

seasonally. In such a situation, the Discoms/SLDC are constrained to back down during surplus period and ramp up during deficit period or purchase from the market or impose power cuts, depending on the fluctuating situation. If VRE units generate and feed into the grid more power than what is forecasted and scheduled, in a situation of surplus, it will lead to backing down relatively cheaper thermal power based on merit order dispatch and payment of fixed charges therefor. If the VRE units generate power lesser than what is forecasted and scheduled, in a situation of deficit, the Discoms are constrained to purchase power in the market at the prevailing rates or to impose power cuts, if the reserve margin available cannot be put to generation immediately or cannot meet demand during peak hours, or if it is simply not available. In both the situations of surplus and deficit, additional burdens are being imposed on the Discoms and their consumers due to deviations in forecasting and scheduling of generation by wind and solar power units. To the extent reserve margin is available or capacities of hydel power generation capacities are available, the same can be availed for meeting exigencies of changing demand to the extent practicable. But such an arrangement entails additional expenditure in order to recover which penalties are, and need to be, imposed on power plants for deviations from forecasting and scheduling. It is a business risk the developers have to face.

6. CERC's suggestion that "the concerned SLDC should also undertake forecasting of wind and solar power that is expected to be injected into the State grid, by engaging forecasting agency(ies) if required" imposes unwarranted responsibility and burden on SLDC. Whether it is conventional or non-conventional energy units with whom the Discoms had PPAs approved by ERCs, the determination of availability of power annually is being proposed by the Discoms and determined by SERC in the annual tariff order. The basis for such a determination is the threshold level of PLF or CUF as incorporated in the PPA concerned. The responsibility of SLDC is to maintain grid frequency at required level and protect grid safety by giving appropriate orders to the generators as and when required. It is for the generators to declare schedule of generation from their plants, conventional or non-conventional. If there are any deviations in scheduling, generating and injecting power from their plants into the grid, it is for them to inform and face resultant consequences as per the applicable terms and conditions in the PPAs concerned and regulations applicable. The job of SLDC is confined to give orders for backing down and ramping up generation as per merit order dispatch as and when required to maintain grid frequency at required level and grid safety. Therefore, undertaking of forecasting of wind and solar power that is expected to be injected into the State grid by SLDC does not arise. Engaging forecasting agencies by SLDC would entail additional expenditure and work, and regulators like CERC are at their evasive best by avoiding the issue of who should bear that expenditure. The regulators like CERC are also silent about the applicability of forecasting of wind and solar power, if done by SLDC directly or through an agency engaged by it, and whether such deviations and responsibility for the same are binding on the generators. When a QCA submits schedules on behalf of generators of wind and solar power within its purview, they should take

responsibility for the deviations, just as generators of conventional energy are taking responsibility for scheduling and deviations therefrom. Asking the SLDC to poke its nose into forecasting is contrary to its responsibilities and nothing but imposing additional burden on it, already saddled as it is with a highly complicated and ceaseless task of maintaining grid frequency and grid safety round-the-clock.

7. The submissions of the developers of wind and solar energy are whimsical and confused. Their submission that they should be given flexibility of revising (forecasting and scheduling) “as many times as possible for better accuracy” is nothing but asking to allow them to shirk their responsibility completely and putting the entire burden on the Discoms. It is nothing but asking to consider whatever solar and wind power is generated as the forecasted and scheduled generation, thereby making the entire process and need for forecasting and scheduling a mockery! Their proposals “to continue the current provisions of intraday revision,” on the one hand, and “the limits on intraday revisions should be removed,” on the other, are mutually contradictory.
8. The developers have submitted that conventional sources have the provision for multiple schedule revisions and that the same provision should also be applicable for renewable sources of energy. If conventional energy units generate below the threshold level of PLF or below the scheduled level, they have to pay penalties as per the applicable terms and conditions in the respective PPAs. In the case of wind and solar power, there are no penalties, if the plants generate below the threshold level of CUF. While merit order despatch applies to conventional power units, it does not apply to solar and wind power units. If conventional power units generate above threshold level of PLF, with the approval of the Discoms, the latter have to make payment of variable charges plus incentive ranging from 25 paise to 50 paise per unit. If solar and wind power units generate above threshold level of CUF, even without approval of the Discoms, the latter have to take that power, even if it is not required, and pay amounts much higher than the incentive per unit being paid to conventional energy units. This is despite the fact that full fixed cost is factored in to the tariffs at the threshold level of CUF and that there is no variable cost for generation of wind and solar power. Being on a highly vantage position and getting benefits much higher than those of the conventional energy units, as a result of the irrational policies of the Governments and regulations and orders of SERCs, the comparison between conventional energy units and solar and wind power units, as is done by the generators of wind and solar power, lacks balance and does not hold water, for the simple reason that the latter are not ready to take responsibility for deviations in achieving CUF and in their forecasting and scheduling and the business risks related thereto, unlike the generators of conventional energy units with applicable terms and conditions.
9. The suggestion of the developers, quoting some reports, in favour of aggregate pooling for the entire State for the purpose of scheduling and deviation of generation of solar and wind power leaves several points that need to be clarified.

**If the kind of virtual pooling of solar and wind power under a QCA is to be implemented for the entire State, there should be a QCA common for all the solar and wind power units in the entire State to take care of forecasting and scheduling. All the developers of solar and wind power units in the State have to agree for such an arrangement and for sharing benefits and risks of deviations collectively. Otherwise, the proposal simply falls in to the realm of abstract theory and remains impracticable, even if the Commission permits such an arrangement as sought by the developers. It will be much more so, with continuing proliferation of wind and solar power units in the State.**

- 10. Those who wax eloquent on the virtues of non-conventional energy, especially wind and solar power, try to obscure the stark reality that such units are being set up for profits and more profits, with a propensity to get as many concessions as possible from obliging powers-that-be, may be, as a matter of reciprocity. All the platitudes of green power, environmental protection, policies and targets of Governments, laws and regulations, etc., cannot camouflage the inherent difficulties in purchasing and supplying NCE, especially wind and solar power, and the resultant adverse consequences and burdens on the Discoms and their consumers of power, and the crass commercial considerations of private capital. The contention of the developers that “the objective of APERC and scheduling regulation is to facilitate large scale grid integration of solar and wind energy generating stations while maintaining grid stability and security and not generation of revenue” (for Discoms) and that the prevailing regulation is fulfilling the stated objective is a resounding testimony to this stark reality. It is not a question of generating revenue for Transco/Discoms, but of compensating the latter for the additional burdens being imposed on them due to deviations that occur from the forecasting and scheduling being made by generators of wind and solar power.**
- 11. Risks and burdens to the Discoms and their consumers of power, and concessions, facilities and profits to generators of wind and solar power - this is the sum and substance of the submissions of the generators of wind and solar power and the champions of their cause, i.e., the powers-that-be in different wings of the State, experts and intellectuals with a pro-developer or pro-private capital proclivity. This is also the sum and substance of the policies of the Governments, and regulations and orders of regulatory and adjudicating bodies in general, as experience has been confirming repeatedly.**
- 12. Experience has been confirming repeatedly that deviations from forecasting and scheduling of generation of power by wind and solar plants, their adverse impact and burdens on the Discoms and their consumers is an irrefutable fact. The very fact that there is Regulation No.4 of 2017 of APERC relating to this issue in force and that some of the generators of wind and solar power are asking the Commission to continue the same regulation makes it clear that it is imperative to continue such a regulation in a more effective, both in form and content, to**

**balance the interests of the Discoms and their consumers of power, on the one hand, and of generators of wind and solar power, on the other.**

- 13. In view of divergent views taken by the Discoms and the generators - relating to the methodology to be adopted for determination of the impact of deviations and the penalties therefor, etc. - I request the Hon'ble Commission to re-examine the whole issue thoroughly and bring about necessary amendments to the regulation to make it stringent in consonance with the real impact of deviations and determine penalties higher than the present ones in the existing regulation to be in tune with such a real impact.**

**Thanking you,**

**Yours sincerely,**

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