

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

PRESENT:-

Thiru.S.Nagalsamy Member

and

Thiru.G.Rajagopal Member

M.P.No.14 of 2012, D.R.P.No.28 of 2012, M.P.No.21 to 23 of 2014
and D.R.P.No.45 of 2014

1. M/s.Indian Wind Power Association
Door No.E, 6th Floor, Tower I
Shakthi Tower, No.766, Anna Salai
Chennai – 600 002.
2. The Tata Power Company Limited
A 34, Corporate Centre
Sant Tukaram Road
Carnac Bunder
Mumbai – 400 009.
3. M/s.Ushdev Power Holidays Private Ltd.
Apeejay Premises Co-op Society Ltd.
Apeejay House, 6th Floor
130, Mumbai Samachar Marg
Fort, Mumbai – 400 001.

... Petitioners in M.P.No.14 of 2012
Thiru Rahul Balaji
(Advocate for the Petitioner)

1. M/s. Green Infra Wind Power Projects Limited
2nd Floor, Tower II
NBCC Plaza, Pushp Vihar
Sector 5, Saket
New Delhi – 110 017.
2. M/s. Green Infra Wind Generation Limited
2nd Floor, Tower II
NBCC Plaza, Pushp Vihar
Sector 5, Saket
New Delhi – 110 017.

3. M/s. Green Infra Wind Farms Limited
2nd Floor, Tower II
NBCC Plaza, Pushp Vihar
Sector 5, Saket
New Delhi – 110 017.

... Petitioner in D.R.P.No.28 of 2012
Thiru Rahul Balaji
(Advocate for the Petitioner)

Tamil Nadu Spinning Mills Association
No.2, Karur Road, Near Beschi College
Modern Nagar, Dindigul – 624 001.

... Petitioner in M.P.No.21 of 2014
Thiru R.S.Pandiyaraj
(Advocate for the Petitioner)

Indian Wind Power Association
Rep. by its Secretary General
Door No.E, 6th Floor
Shakti Towers – II
766, Anna Salai
Chennai – 600 002.

... Petitioner in M.P.No.22 and 23 of 2014
Thiru Rahul Balaji
(Advocate for the Petitioner)

Arasan Syntex Limited
Eppodumvendran
Tuticorin District 628 712.

... Petitioner in D.R.P.No.45 of 2014
Thiru R.S.Pandiyaraj
(Advocate for the Petitioner)

Vs

1. TANGEDCO Ltd.
Rep. by its Chairman and Managing Director
144, Anna Salai
Chennai – 600 002.

... Respondent in M.P.No.14 of 2012,
D.R.P.No.28 of 2012, M.P.No.21 of
2014 and M.P.No.22 and 23 of 2014
Thiru P.H.Vinod Pandian
(Advocate for the Respondent)

2. State Load Despatch Centre
TANTRANSCO Ltd.
144, Anna Salai
Chennai – 600 002.

... Respondent in M.P.No.14 of 2012,
D.R.P.No.28 of 2012, D.R.P. No.21
to 23 of 2014
Thiru P.H.Vinod Pandian
(Advocate for the Respondent)

3. TANTRANSCO Limited
Rep. by its Director
144, Anna Salai
Chennai – 600 002.

... Respondent in D.R.P.No.28 of 2012,
M.P.Nos.21 to 23 of 2014 and
D.R.P.No.45 of 2014
Thiru P.H.Vinod Pandian
(Advocate for the Respondent)

Dates of hearing :

**M.P.No.14 of 2012 : 02-05-2012 ; 21-06-2012
28-11-2012 ; 30-01-2013
04-10-2013 ; 26-02-2014
18-03-2014 &17-04-2014**

**D.R.P.No.28 of 2012 : 08-01-2013 ; 04-10-2013
27-02-2014 ; 18-03-2014
17-04-2014**

M.P.No.21 of 2014 : 18-03-2014 and 17-04-2014

M.P.No.22 of 2014 : 18-03-2014 and 17-04-2014

M.P.No.23 of 2014 : 18-03-2014 and 17-04-2014

D.R.P.No.45 of 2014: 18-03-2014 and 17-04-2014

Date of order : 01-07-2015

The M.P.No.14 of 2012 and D.R.P. No.28 of 2012 were filed by the respective Petitioners before the Commission. The Hon'ble High Court, Madras has transferred the cases in W.P. No.22418 of 2013, W.P. No.22419 of 2013, W.P.No.22420 of 2013 and M.P. No.22421 of 2013 to the Commission. The Writ Petitions are taken up by the Commission as M.P.No.21 to 23 of 2014 and D.R.P. No.45 of 2014. The above M.P. No.14 of 2012, D.R.P.No.28 of 2012, M.P. No.21 to 23 of 2014 and D.R.P.No.45 of 2014 came up for final hearing before the Commission on 18-03-2014. Since the contentions and prayers in the said petitions relate to grant of "MUST RUN" status to Wind Energy Generators (WEGs) and related issues, all the above petitions were grouped together and heard by the Commission. The Commission upon perusing the above petitions and the connected records and after hearing arguments of Counsel for both sides passes the following order:-

COMMON ORDER

1 Prayer of the Petitioners:-

1.1 The Prayer of the Petitioners in M.P. No.14 of 2012 is to -

- (a) issue a direction bestowing "MUST RUN" status on all WEGs in the State of Tamil Nadu and consequently direct the Respondent not to issue orders to the WEGs to switch off generation or to back down generation;
- (b) issue appropriate directions to provide deemed generation benefits to WEGs for the loss of generation;
- (c) direct the Respondents to compensate the Petitioners corresponding to loss of generation on account of backing down instructions with retrospective effect as per the terms of the PPAs;
- (d) declare that all contracts, letters of undertaking entered into by the Respondents with WEGs in the State of Tamil Nadu in so far as they seek to impose backing down of generation as invalid and illegal; and

(e) declare that all directions issued by the Respondents to the WEGs in the State of Tamil Nadu, directing them to switch of generation or back down generation, till date as invalid.

1.2. Prayer of the Petitioner in D.R.P. No.28 of 2012:-

The prayer of the Petitioner in D.R.P. No.28 of 2012 is to -

- (a) issue a direction in view of the “MUST RUN” status on all WEGs in the State of Tamil Nadu to the Respondent not to issue orders to the WEGs to switch off generation or to back down generation and issue necessary directions in that regard;
- (b) declare that the Petitioner is liable to pay the transmission charges at the rates fixed only where there is 100% Grid availability and on the basis of actual grid availability, the transmission charges would be proportionately adjusted and consequently hold and declare that the Petitioner are entitled to seek adjustment and / or variation of excess transmission charges levied on it with effect from the date of commissioning of the WEGs after adjusting for the grid availability.

1.3. Prayer of the Petitioner in M.P.No.21 of 2014:-

The prayer of the Petitioner in M.P.No.21 of 2014 is -

- (a) not to issue back out instructions forcing the generation of wind energy at any point and allow the WEGs the “MUST RUN” status as guaranteed by various laws, Regulations and orders and
- (b) to calculate and pay the compensation claimed to the Members of the Petitioner Associations by setting up a Committee of Stakeholders to assess the losses and accordingly, render justice.

1.4. Prayer of the Petitioner in M.P.Nos.22 and 23 of 2014:-

The prayer of the Petitioner in M.P.Nos.22 and 23 of 2014 is to-

- (a) direct the Respondents to comply with the “MUST RUN” status already conferred upon the Wind Energy Generators by enforcement of the applicable Regulations and orders, by allowing the Wind Energy Generators to operate to full capacity without curtailing Wind Energy Generation and issuing despatch instructions to Wind Energy Generators by procuring the maximum amount of wind energy generated without allowing the same to remain unutilized or forcing the Wind Energy Generators to back out / down.
- (b) direct the Respondents to adequately compensate the members of the Petitioner for the losses accrued to them due to the illegal enforcement of continued back outs of their wind mills from 24-06-2013 onwards

1.5. Prayer of the Petitioner in D.R.P.No.45 of 2014:-

The prayer of the Petitioner in D.R.P.No.45 of 2014 is to forbear the Respondents and their men, agents from resorting to switching off / forced back outs in the Wind Energy Generator WEGHTSC Nos.665, 808, 1238 and R2462 and directing the Respondents to compensate the wind energy loss incurred by the Petitioner due to illegal switching off/back outs enforced by the Respondent.

2. Facts of the Case:-

The individual Petitioners and members of Petitioner Associations in the above petition are owning Wind Energy Generators for their captive use. The Petitioners content that wind energy being green and renewable source of energy needs to be patronized by permitting the WEGs to run continuously without back-out instructions from the Respondents. The present Petitions are filed by the Petitioners

contending that in view of various statutory provisions, National Electricity Policy, Policy Directives of Central and State Governments, decisions of the Commission and decisions of APTEL, the WEGs are “MUST RUN” plants and thereby praying to grant such status on them and confer consequential benefits flowing from grant of such status.

3. Contentions of the Petitioners:-

3.1. The wind energy is a highly variable form of renewable energy and is entirely dependent upon seasonal variations and wind speeds and other natural factors beyond the control of the developer. Given this variable nature, it is more so important to utilize this form of energy as and when available. The 5 month period from May to September constitutes the peak season for wind energy generation and it is therefore necessary that WEGs operate at their optimum in order to maximize production and returns.

3.2. Windmills which generate power primarily for own use is known as “Captive Generation Plant” according to section 2 (8) of the Electricity Act, 2003. Section 9 (2) of the Electricity Act, 2003 provides non-discriminatory right to open access for the purpose of carrying electricity from the plant to the destination of use for such captive generating plants. Further, “Open Access” means, the non-discriminatory provision for the use of transmission lines or distribution system or associated facilities with such lines or system by any consumer or a person engaged in the generation of electricity.

3.3. Section 40 (c) while explaining the duties of transmission licensees inter-alia mandates transmission licensees to provide non-discriminatory open access to its

transmission system. Similarly, section 42 (2) while explaining the duties of distribution licensees inter-alia mandates open access to its distribution system. There is thus, a clear statutory mandate available to provide open access as per the terms of the Electricity Act, 2003 to such captive generating plants as those of the members of the Petitioner. This statutory mandate is being highly violated by the Respondents by means of refusals to allow generation of power and to evacuate the same to the destination.

3.4. Under section 86 (1) (e) of the Electricity Act, 2003 promotion of Renewable Sources of Energy within State is one of the functions of State Electricity Regulatory Commission by providing promotional measures for Grid connectivity. The extracts of the said section is as below:-

“86(1) Functions of State Commission – (1) The State Commission shall discharge the following functions, namely :-

*.....
(e) Promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measure for connectivity with the grid
.....”*

Also, the National Electricity Policy as extracted below provides that the renewable energy potential should be exploited fully to create additional power capacity and private participation should be encouraged by providing necessary promotional measures.

“5.2.20 Feasible potential of non-conventional energy resources, mainly small hydro, wind and bio-mass would also need to be exploited fully to create additional power generation capacity. With a view to increase the overall share of non-conventional energy sources in the electricity mix, efforts will be made to encourage private sector participation through suitable promotional measures”.

The statutory framework and the policy directives have recognized the importance and significance of renewable sources of energy, more particularly wind energy. In

M.P.42 of 2008 in order dated 28-11-2008, the Commission has remarked upon the very important role played by wind energy in energy generation and supply management in the State of Tamil Nadu.

3.5. A direct consequence of high prevalence of wind energy in the State of Tamil Nadu is that wind energy constitutes nearly 35% of the entire installed generation capacity of power within the State of Tamil Nadu as per the Policy Note of the Energy Department of the State of Tamil Nadu for the year 2011-2012.

3.6. Recognizing the important role played by wind energy, and recognizing the seasonal nature of wind energy production and noting other factors peculiar to wind energy generation, wind energy generators have been accorded a “MUST RUN STATUS”. The Commission has in the Wind Tariff Order, dated 20-03-2009 specified that Wind Energy Generators are to be treated as “Must Run” plants and should not come under the purview of backing down instructions. The relevant provision is as below:-

“ELIGIBLE PRODUCERS

Those generating electricity and feeding in full or part to the State Grid from Non-Conventional Energy Sources such as wind electric generators, small hydro plants, biomass combustion and co-generation, etc. there will be no restriction on generation capacity or supply of electricity to the grid. Consortia or co-operatives will also be eligible”.

3.7. The guidelines provided by the State Government for promotion of Non-conventional energy sources including wind mention that wind energy generators are to be treated as “Must Run” plants and should not come under the purview of backing down instructions. The Appellate Tribunal for Electricity has also

upheld the “MUST RUN” status accorded to wind energy generators in its decision dated 18-03-2011 in Appeal No.98 of 2010.

3.8. The Scheduling and Despatch Code of the Tamil Nadu State Grid Code notified by the Commission, has considered Wind Generators as “Must Run” plants and thus directed SLDC not to curtail any generation from wind projects to prevent under-utilization. The relevant clause as mentioned in Tamil Nadu Electricity Grid Code is as below:

“8. Scheduling and Despatch:

.....

(3) (b) SLDC shall regulate the overall State generation in such a manner that generation from following types of power stations where energy potential, if unutilized, goes, as a waste shall not be curtailed.

.....

Wind Power Stations and Renewable Energy Sources”.

The Central Electricity Regulatory Commission has also stipulated in clause 5.2 (u) of the CERC (Indian Electricity Grid Code), (Regulations), 2010, which states that Wind Generators should be treated as “MUST RUN” plants. It directs System Operator (SLDC) to make all efforts to evacuate all available wind power and treat them as “MUST RUN” plants. The scheduled generation can only be curtailed under circumstances of Grid security and in consideration to safety of any equipment or personnel.

3.9. Despite the above mentioned provisions of the Commission and orders of the Hon’ble Appellate Tribunal for Electricity and the various policy directives of the Central and State Government, WEGs in the State such as those of the Petitioners are unable to evacuate the entire power generated due to lack of grid availability. The Petitioners submit that they are placed in a position where despite maximum

production, particularly during the peak wind season between April and October of each year, they are unable to evacuate the power generated leading to wastage of generated power. This creates difficulties for the Petitioners both in terms of meeting the demands of its captive consumers and also in terms of ensuring financial returns for its production activity. TANTRANSCO has been issuing orders asking WEGs to cease generation for a sizeable period every day for as much as 7 to 10 hours resulting in significant loss of WEGs.

3.10. The Petitioners are required to pay transmission and wheeling charges to the first Respondent for using the resources of the first Respondent, namely, the high tension lines and grid for wheeling of power from the generation point to the point of consumption. These charges are determined by the Commission as part of the exercise of tariff fixation. The order determining the tariff rates under various heads for wind based energy has been issued in Comprehensive Tariff Order on Wind Energy in Order No.6 of 2012 dated 31-07-2012. The tariff rates for wheeling and transmission are fixed in para 8.3 of the said order.

3.11. The Commission in its common order in M.P.Nos.3,9,11 and 12 of 2011 dated 28-12-2011 has declared that a wind energy generator to be eligible for the benefit of the Renewable Energy Certificate scheme should pay normal transmission charges as determined by the Commission and cannot seek to avail of the concessional tariffs for transmission prescribed for WEGs and simultaneously be registered for the REC scheme. Therefore, the Petitioners who are registered under the REC scheme, would have to pay the transmission wheeling charges as prescribed for conventional energy generators and open access consumers, while the others would have to pay the transmission charges as prescribed for by the Commission in Tariff Order No.6

of 2012. While the wheeling charges have been determined on per unit basis and the total wheeling charge payable by a WEG would depend on the quantum of generation during any given year, the transmission charges have been fixed on a per MW basis and would remain constant and independent of the actual quantum generated. The methodology adopted in arriving at the transmission charge has a major impact on WEGs inasmuch as the WEG is expected to pay the fixed transmission charges despite variations in actual quantity of power evacuated and transmitted through the grid.

3.12. The availability of the first Respondent grid is neither constant nor optimum. Due to various technical factors affecting the first Respondent grid, the grid availability varies between 30% to 80% (on daily basis). Actual grid availability (monthly average) of GIWGL and GIWPPL, Petitioners in D.R.P. No.28 of 2012 for May 2012 to October 2012 has been as in the table below:-

Month	May 2012	June 2012	July 2012	August 2012	September 2012	October 2012
GIWFL	86%	82%	92%	99%	99%	98%
GIWGL	85%	55%	40%	68%	82%	96%
GIWPPL		56%	37%	67%	79%	96%

This non-availability of grid has a direct impact on WEGs inasmuch as the quantity of power that can be evacuated during a period when grid availability is at 30% is significantly lower thereby proportionately reducing revenues which are dependent on quantum of evacuation. However, the transmission charge payable by the Petitioners would remain constant even when the power evacuated is significantly lower than the optimum level. This in turn increases the price of per unit of power evacuated. The table below would better illustrate the impact the transmission charges as determined would have on the Petitioners.

Project	GIWFL	GIWGL	GIWPPL
Capacity (MW)	24	25.50	24
Expected PLF	26%	26%	26%
Transmission Charges (Rs./MW/Day)	2593	2593	6483
Transmission Charges payable (Rs./year)	22716432	24136209	56791080
Estimated Generation with GA@ 100% (units/year)	54662400	58078800	54662400
Per unit impact of Transmission Charges (Rs. / Unit)	0.42	0.42	1.04
Estimated Generation with GA @ 70% (units / year)	38263680	40655160	38263680
Per unit impact of transmission charges (Rs. / Unit)	0.59	0.59	1.48
Estimated Generation with GA@40% (units / year)	21864960	23231520	21864960
Per unit impact of transmission charges (Rs. / Unit)	1.04	1.04	2.60

3.13. Due to poor grid availability, the effective transmission charges per unit increases by more than 250% in case of reduction in grid availability from 100% to 40%. Further, the actual impact felt by the Petitioners is much higher as the grid availability is least during peak generation months between April and October. The Petitioners submit that the combination of poor grid availability makes effective evacuation untenable combined with the high transmission charges and also makes the project entirely economically unviable.

3.14. In Tariff Order No.2 of 2012 dated 30-03-2012, the Commission has determined the transmission charges of Rs.6483 per MW per day by dividing the total transmission charges calculated in rupees by available transmission capacity in MW. In the case of those Petitioners who are given only temporary connectivity, no cost has been incurred for providing evacuation facility for them. In such a case the charges collected from these projects are incidental and over and above the approved charges. In such a case, the Petitioners should not be charged over and

above the actual grid availability provided to them as it will result in undue enrichment for the TANTRANSCO.

3.15. The Petitioners have to suffer two-fold due to the inefficiencies in the grid of the Respondent which affects the Petitioners' power evacuation and consequently their revenue flows; and the high rate of fixed transmission charges payable by the Petitioners which is independent of the actual quantum of power transmitted. The situation could be alleviated by making the transmission charges payable by WEGs such as the Petitioners dependent on the actual grid availability during the month such that the transmission charges paid would reflect the actual grid availability and also by according "MUST RUN STATUS" to WEGs and declaring all undertakings obtained by the Respondents as being null and void and contrary to the status and regulations thereof.

3.16. Prior to the installation of the WEGs, an approval that is colloquially referred to as "No Objection Certificate" (NOC) is issued by TANGEDCO after analyzing all the possibilities and infrastructure available to evacuate the full energy to the point of consumption. For the creation of such infrastructural facilities, Infrastructure Development Charges (IDC) are being paid to TANGEDCO / TANTRANSCO at the appropriate rates by virtue of section 10 of the Electricity Act, 2003 which specifies that it is the duty of a generating station to establish, operate and maintain generating stations, tie-lines, sub-stations and dedicated transmission lines. Hence, it is evident on a combined reading of sections 9 and 10 of the Electricity Act, 2003 together that prior to a captive generating plant being operational, it is required to resolve all issues pertaining to distribution and transmission and thereafter, it becomes functional.

3.17. The Respondent who is entrusted with the responsibility to provide its consent before commissioning of any unit, while sanctioning the commissioning of the turbines, force the Petitioners to sign an undertaking as pre-requisite for the commissioning. The Respondents used their dominant position to force the Petitioners to provide an undertaking. The undertaking is contradictory not only to the prevailing Regulations and Grid Code but also to the inherent nature of wind generation. The undertaking as such cannot alter the nature of a plant and hence Respondent's various orders to back down a MUST RUN station even with the support of such undertaking, cannot be considered for not awarding deemed generation status to the plant. The Respondent, taking advantage of this undertaking has been issuing periodic instructions to the Petitioners that too orally to back down generation. The Petitioners, in the larger interest of the grid stability complied with the instructions.

3.18. The Regulations and orders of the CERC and the Commission are in the nature of delegated legislation by virtue of sections 178 and 181 of the Electricity Act, 2003. Any executive directions of the Respondent that violate these delegated legislations would stand automatically invalidated and therefore need not be complied with. Further, the Respondent cannot seek to circumvent these regulations that bestow "MUST RUN" status on wind energy generators through contractual means by forcing such WEGs to give an undertaking to the Respondent. Such agreements and letters of undertaking that seek to impose backing down of generation as a contractual stipulation would be invalid as the accepted principle of contract law is that an agreement cannot be in violation of the law of the land or against public policy.

3.19. The permission for installation of wind machines was granted by TANGEDCO upon ensuring adequate transmission infrastructure from TANTRANSCO. Hence, non-availability of the appropriate Evacuation Agreement or transmission constraint should not be considered as situation for initiating backing down of wind generators.

3.20. The APTEL while disposing off the Appeal No.53 of 2010 wherein the concept of banking was challenged by the Tamil Nadu Electricity Board, has stated that the Electricity Board cannot be allowed to deny the benefit of banking which has been contractually and judicially recognized.

3.21. It is an established policy to grant MUST RUN status to wind power plants which has been contractually and judicially recognized. Upholding the same principles of justice, the fact that a MUST RUN condition is the avowed policy of the State Government which has also been upheld by the Appellate Tribunal for Electricity, the Respondent should be appropriately directed to treat the wind capacities in the State as MUST RUN and allowed the benefits of deemed generation. It is clear from the statutory provisions, and various regulations and orders of the Central Electricity Regulatory Commission and the Commission that all Wind Energy Generators, by virtue of being renewable energy source based generators have to be necessarily granted the MUST RUN status and their operation cannot in any manner be curtailed in light of system operations requirements such as scheduling and merit order despatches. Non-Generation of wind power at times of high wind period either by asking wind power generators to back down/non-availability of evacuation infrastructure is National wastage of nature resource. Therefore for optimum utilization of natural resource the wind power

generators should be allowed to generate during such period and the banking facility should be extended.

3.22. The “MUST RUN” status is not recognized by the Respondent and WEGs are forced to comply with merit order despatch and scheduling, to switch off generation for extended period during the day and the WEGs would be continuously under serious hardship and the economic sustainability of wind energy generation in the State of Tamil Nadu would be seriously jeopardized.

3.23. The Commission while it released the Tariff Order in T.P.No.1 of 2013 on 20-06-2013, has declared the Wind Energy Generators as “MUST RUN” power plants in para 4.213 as follows:-

“4.213 for the purpose of determination of power purchase cost, the Commission has followed the methodology given below:-

i. Energy available from MUST RUN power plants will be despatched first”.

3.24. Windmill power is a low cost power when compared to all other power procured by the Respondent Corporation. The wind power is calculating an expense of Rs.3 plus to the Respondent Corporation and all other power bought from outside is Rs.6 plus and therefore, not only the Petitioner but also the Respondent Corporation itself is loosing heavily in having rejected the low cost power and preferred to buy high cost power from other agencies both intra-state and inter-state.

3.25. For the above loss of generation in every unit of energy, the consumer will be loosing Rs.6.50 per unit of energy towards energy charges both normal hour and peak hour including deemed demand charges. In turn, the Respondent Corporation

is also loosing Rs.3 per unit of energy due to the fact of buying high cost of power by omitting the low cost of wind energy available.

3.26. The natural resources are not being harvested properly and the green power is wasted unnecessarily, due to these frequent load shedding and stoppages in windmills. The action of the Respondents is violative of the statutory mandate of “MUST RUN” status that has been accorded to wind energy generators which mandates that they cannot be asked to stop generation. The actions of the Respondents are all the more inexplicable as wind power is one of the cheapest sources of power. On one hand, the Respondents are issuing backing down instructions to WEGs and on the other hand, the Respondents are purchasing costly power from private generators and the energy exchange (mostly from thermal plants) which will detrimentally affect the finances of the Respondents also and would lead to a higher tariff to all consumers in a general way.

3.27. The Commission’s Intra-State Open Access Regulations, 2005 which have been enacted under section 181 of the Electricity Act, 2003 specify the terms and conditions for Intra State Open Access within the State of Tamil Nadu. Regulation 4 specifically provides that captive generating plants shall be eligible for open access to the Intra State Transmission System on payment of transmission and other charges, as may be determined. The same regulation also provides that captive generating plants shall be eligible for open access to the distribution system of a distribution licensee on payment of wheeling charges. Regulation 14 which lays down the priority of curtailment, specifies that when it becomes necessary to curtail the open access service of the customers, the short-term Intra State Customers shall be curtailed first, followed by the long term Intra State Customers and the Open

Access to a Distribution Licensee shall be the last to be curtailed. While this being the clear legislative mandate, short term and medium term Intra State Customers are being preferred and encouraged whereas, the wind energy generators are fully discouraged by way of continued back out instructions. Hence, the short term Open Access Customers are mostly preferred over long term Open Access Customers like the wind energy generators.

3.28. The Respondent TANGEDCO is barred by estoppel from raising any issue of grid stability. It shall be noted that all WEGs have been found installed and made operative only after getting NOC from the Respondents and only after paying the applicable charges. Now the Respondents cannot come with a plea of grid stability and can stop the WEGs from functioning to their full capacities by such unlawful forced back outs. Because of the “Must Run Status” provided to windmills by IEGC and TN EGC and also by the Tariff Order of this Commission, there was enormous investment happened in the wind energy segment and hence, not following the statutory assurances and promises would leave to a situation that all windmills would be closed and shifted to other States where, the policies encouraging wind energy segment are conducive for such investments.

3.29. This status provided to wind power plants exempts them from the merit order despatch principle. It has most recently been addressed in General Tariff Order of the Commission, in T.P.No.1 of 2013 dated 20-06-2013, in which the Commission has specifically recognized the “MUST RUN” status granted to wind power plants.

3.30. The Tamil Nadu Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2005. Clause 75 of this Regulation provides specifically that the Distribution Licensee shall procure power on least cost basis.

3.31. It is evident from the Tariff Order T.P.No.1 of 2013 dated 20-06-2013 that it has provided for a budgeted expenditure of Rs.2229 crores, at an average cost of Rs.3.12 per unit for a total of 7145 M.U. from wind power. As per this order, power generated from all the “MUST RUN” status plants are to be evacuated by the TANGEDCO and 13557 M.U. are to be consumed. However, the purchase from IPP / CPP and other sources are increasing rapidly which fact clearly indicates that the TANGEDCO is preferring to purchase power from a more expensive source, even though greener and cheaper power is made available by members of the Petitioner association who are in the sale to Board category.

3.32. There have also been past instances where the TANGEDCO has unfairly discriminated against WEGs and it was the Commission which had come to the rescue vide its order dated 28th October, 2009 in Suo Motu Proceedings No.1 of 2009 relating to the TANGEDCO restricting WEGs from availing of the banked energy. This act of the TANGEDCO came to be sharply rebuked by the Commission, and WEGs were then permitted to utilize the unutilized banking energy by permitting an extension of time for adjustment and compensation was directed to be paid in case of any surplus banked energy which remained unadjusted. Having failed in their attempt to restrict consumption, the Respondents are resorting to interfere with the generation thus seeking to achieve the same objective. The Respondents are indirectly discouraging wind energy sector by way of enforcing strong back outs continuously when they were not able to succeed in their direct attempts due to the

orders of the Commission on various occasions. Hence, they are attempting to enforce everything indirectly which they cannot enforce directly.

To explain further the unreasonable attitude of the Respondents, the Petitioner submits that the frequency band has never been reduced or altered when compared to the wind season 2012-13. Whatever frequency band was there in 2012-13, was continuing in 2013-14 also and the band was slightly modified only during 2014 February. The frequency band was ordered to be maintained as follows and was changed / modified on the following dates:-

Earlier Periods	:	49.2 to 50.3 Hertz
From 03-05-2010	:	49.5 to 50.2 Hertz
From 17-09-2013	:	49.7 to 50.2 Hertz
From 17-02-2014	:	49.9 to 50.05 Hertz

Hence, frequency cannot be quoted as a fair and acceptable reason for backing out windmills. Therefore, for their intention to go for costly private power by discouraging the cheap wind power by enforcing back outs, the Respondents cannot take a valid argument of maintaining frequency and consequential enforcement of UI mechanism which is neither true nor existed in any manner. The back outs have happened even when the frequency bands are intact on so many days and occasions and could be vouchsafed by the documents filed by the Respondents themselves.

3.33. The wind power has supported Tamil Nadu grid and has really rescued the Respondents from intensive power cuts and load shedding during all these years. Considering the ever increasing demand, the wind power could have been fully and effectively utilized to its full capacity for consumption but for the decision to go with costlier private power. Thus grid stability was only an excuse to source private power at a high cost by neglecting the low cost green power from wind sources. As

such grid remained to be always stable during all these years in the State of Tamil Nadu.

3.34. The Respondents stand that it is solely in the interest of grid stability that WEGs are being asked to back down and stop generation of electricity is untenable and falsified by their own records. In July, 2012, against the State's demand of 7232 M.U., 2106 M.U. amounting to 29% of the total demand or an average of 68 M.U. was evacuated daily and there was no fear or occurrence of any grid collapse. However, in July 2013, as against the total demand of 7773 M.U. only 1449 M.U. were evacuated without stoppage. This amounts to 18.6% of the total demand or 47 M.U. of wind energy average daily. Hence, the grid stability is only an excuse to go for high cost power by neglecting the green and cheap wind power. Even on 23-06-2013, the Respondents were able to evacuate 77 million units into the Tamil Nadu grid when the season was not very much active. It is thus evident that grid stability is not the reason for stoppage of evacuation.

3.35. In the guise of grid stability, the Respondents are unfairly rejecting the WEGs to generate power to their installed capacities and also, for the reasons best known to them, are sourcing power from high cost generators leaving the green power behind. The loss estimated due to back out of windmills during 2013-14 is to the tune of 4453 million units and therefore, the Respondents are liable to compensate the same for the losses incurred by the members of the Petitioner in a proportionate manner to the capacities of WEGs each own. The judgment of Haryana Electricity Regulatory Commission dated 24-12-2010 ordering to compensate the losses incurred by investors of solar energy projects squarely applies *mutatis mutandis* in the present cases also.

4. Contention of the Respondents:-

4.1. The Petitioners have entered into a Energy Wheeling Agreement on different dates. Clause 3 (10) (v) of the said agreement provides as follows:-

“Grid availability shall be subject to the restriction and control as per the orders of the SLDC and as per Tamil Nadu Electricity Grid Code.”

Therefore, the wheeling of power by the Respondents is subject to grid availability and subject to the Restriction and Control as per the orders of the SLDC and as per the Tamil Nadu Electricity Grid Code. When such a condition is inbuilt in the EWA, the question of the Petitioner seeking the relief of “MUST RUN” status does not arise.

4.2. The EWA entered into by the Wind Energy Generators including the Respondents are in the format approved by the Commission. Therefore, the prayers / reliefs prayed for by the Petitioners are un-sustainable in law. Therefore, the claim of the Petitioner is liable to be rejected.

4.3. Section 32 of the Electricity Act, 2003 dealing with the functions of SLDC provides for the following:-

“32. Functions of State Load Despatch Centres-

(1)

(2) The State Load Despatch Centre shall-

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

(b)

(c)

(d)

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

4.4. On a reading of section 33 (1) and (2) of the said Act, it is clear that the State Load Despatch Centre (SLDC) may give such direction and exercise such supervision and control as may be required for ensuring the integrated grid operation and for achieving the maximum economy and efficiency in the operation of the power system in the State. Every licensee, generation company, generating station, sub-station and any other person connected with the operation of the power system shall comply with the directions issued by the SLDC.

4.5. The prayer of the Petitioner that the wind mills must be given a “Must Run Status” is not maintainable. The first Respondent has been encouraging the windmills to the maximum, and that, the State of Tamil Nadu has been the pioneer in developing wind energy, and had the highest installed capacity in wind mills with 7136 MW as on January 2013, which is more than 40% of the total generating capacity of TANGEDCO. The year wise energy details are furnished below:-

Year	Total Energy in MU	Wind Energy in MU	%
2010-11	38334	7098	18.5%
2011-12	41542	8217	19.8%
2012-13 (upto Dec'12)	38198	11804	30.9%

Thus, the maximum amount of wind energy has been accommodated in the Grid against the conventional 10% to 15% of infirm power to be accommodated in any State Grid.

4.6. The first four States in terms of wind energy potential viz. Gujarat, Karnataka, Maharashtra and Andhra Pradesh which have high wind potential have not harvested upto their potential knowing the well-known problems in accommodating more wind power and in maintaining the proper generation mix,

whereas, Tamil Nadu, being at the 5th place in wind potential, has harvested more than its potential viz. 11804 MU which is very high and about more than 5 times than the top wind potential States of Gujarat, Karnataka, Maharashtra and Andhra Pradesh having harvested only below 2000 MU. Hence Tamil Nadu is the only State that encourages the wind energy developers and has harvested maximum generation.

4.7. According to the operational point of view, heavy generation of wind power during wind season shoots up the frequency beyond the IEGC limit of 50.20 Hz. As per Regulation 5.2(m) of the IEGC 2010, all users SEB, SLDCs, RLDCs and NLDC shall take all possible measures to ensure that the grid frequency always remains within the 49.70 – 50.20 Hz band. Section 32 of the Electricity Act, 2003, inter-alia, provided that the SLDC shall be responsible for optimum scheduling and despatch of electricity within a State, in accordance with the contracts entered into with the licensees or the generating company operating in the State and the SLDC be responsible for carrying out real time operations for Grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the grid standard and State Grid Code. Section 33 (1) and (2) of the Electricity Act, provides that the SLDC may give such direction and exercise such supervision and control as may be required for ensuring the integrated grid operation and for achieving the maximum economy and efficiency in the operation of the power system and that every licensee, generating company, generating station, sub-station and any other person connected with the operation of the power system shall comply with the directions issued by the SLDC.

4.8. As per section 32 of the Electricity Act, 2003 and as per Regulation 2.7.1 of Indian Electricity Grid Code, 2010, the SLDC is very much responsible for the secured and economic operation of grid. Hence, it is the responsibility of SLDC to restrict the injection of heavy wind power into the grid at high frequency both in terms of grid security, economical and reliable operation. The power number i.e. the quantum of power that is required to increase the frequency of the grid by one cycle (HZ) of SR grid is 1000 MW. During the existing operating frequency of 49.70 HZ, if 1000 MW wind generation is suddenly added to the grid, the southern grid frequency will shoot up to 50.70 HZ which will be dangerous to the operation of grid safety, security and discipline of the grid as per the Indian Electricity Grid Code, 2010. (IEGC,2010). Considering the safety and security of the grid, high frequency is dangerous to the conventional high capacity generating units resulting in tripping of the units and may result in grid collapse for which the above contingency could not be permitted in larger public interest.

4.9. As per regulation 5.2 (u) of the IEGC-2010, the system operator has to take all efforts to evacuate the available wind power and treat as a must-run station. However, system operator may instruct the wind generator to back down generation on consideration of grid security or safety of any equipment.

4.10. Under the provisions of regulations 2.7.1, 5.2 (m), and 5.2 (u) of the IEGC 2010, whenever the system frequency is nearing the higher IEGC limit of 50.20 Hz and whenever the feeders / auto transformers at the wind power evacuation points are getting overloaded, SLDC is mandated to restrict the heavy wind power injection after taking all possible efforts viz. normalizing the load shedding, backing down of the high cost IPP power on merit order basis. etc. for

accommodating the wind power. Therefore, the Petitioners cannot request to grant the status of “MUST RUN” to Wind Energy Generators irrespective of the system conditions and the existing Electricity Act and Grid Code provisions. Further, this would otherwise force SLDC to violate the grid standards in failing to contain the frequency within the IEGC limit and in easing of the over loaded feeders in view of grid security. This would also increase the financial commitment to the State Utilities.

4.11. Section 86 (1) (e) of Electricity Act, 2003 provides that it is the function of State Commission to promote the renewable sources by providing suitable measures for connectivity within the grid. The Commission may consider the practical problem in enhancing the evacuation facility of addition of approx. 1000 MW every year, that too far away from the load centre, for the infirm power which is available only for 4 months in a year. Moreover, the referred clauses of Electricity Act and the National Electricity Policy are the policy directions for encouraging the capacity addition of the Non-conventional energy sources and not for the operation of the same sources.

4.12. The Commission’s Wind Tariff Order dated 20-03-2009 provides as follows:-

“Those generating electricity and feeding in full or part to the State Grid from Non-Conventional Energy Sources such as wind electric generators, small hydro plants, biomass combustion and co-generation, etc. there will be no restriction on generation capacity or supply of electricity to the grid. Consortia or co-operatives will also be eligible”.

The above provision is the guideline of GOI for the eligibility criteria for promotional and fiscal incentives by State Governments for power generation from non-conventional energy sources annexed in the Tariff Order 2009 and no orders was passed in this regard by the Commission. Further, the above annexure has also

been removed in the 2012 wind tariff order. The above commercial provision is subjected to the operational conditions in line with the existing regulations of Central and State Regulatory Commissions.

4.13. The APTEL in order dated 18-03-2011 in Appeal No.98 of 2010 has considered the Must Run status provision in the context of exemption from “merit order despatch principle’. In fact, it was also put forth by the Respondent TANGEDCO in the said appeal that in case of conventional energy, frequency is maintained through its generation and supply and no continuous monitoring is required. However, in case of infirm power like wind energy frequency is always dependent upon the generation which requires continuous monitoring.

4.14. In the real time grid operation, in which frequency is the measuring tool for secured grid operation, it is the responsibility of SLDC to contain the frequency within the IEGC limit by taking all actions needed in managing the highly variable form of wind power. Further, Regulation 8 (4) (v) of the TEGC stipulates, inter-alia that *“All entities shall abide by the concept of frequency linked load despatch and that all generating units of the entities and the Licensees shall normally be operated according to the standing frequency linked load despatch guidelines issued by the SLDC to the extent possible, unless otherwise advised by the SLDC.”*

Section 4 (2) (e) of the TEGC inter-alia, provides that “..... the SLDC shall be responsible for carrying out real time operations for Grid control and despatch the electricity within the State through secure and economic operation of the State Grid in accordance with the Grid standards and the Grid Code.....”

4.15. Regulation 5.2 (u) of IEGC under the heading “operating code” and the first sentence is in the nature of guideline and the powers are adequately available to the SLDC in the second sentence to back down. While placing reliance on the IEGC 2010, the Petitioners have added an expression “Scheduled Generation”. In Regulation 5.2 (u) of the IEGC 2010 nowhere “scheduled generation” is empowered. Regulation 5.2 (u) of the IEGC 2010 reads as follows:-

“(u) Special requirement for Solar and Wind generators:

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

As stipulated in the clause 5-2 (u) of IEGC 2010, the system operator makes all efforts in accommodating maximum wind power and initiate curtailment action only under circumstances of grid security and in consideration of safety of equipment. High frequency is a threat to the other generating units and overloading of evacuation feeders will results in cascade tripping leading to grid collapse as such averments made by the Petitioner in para 13 of the petition is not sustainable particularly in view of the fact that nowhere in any regulations such a sweeping entitlement is provided. In this connection, the averments in para 15 above are reiterated.

4.16. The averment of Petitioners that orders were issued to cease generation every day for 7 to 10 hours is wholly incorrect and denied for the following reason:-

In general, during high wind season, the necessity if any to back down the wind generation primarily may occur for two major reasons as follows:-

- i) To contain the grid frequency within the IEGC limit of 49.70 to 50.20 Hz.

Non-curtailment of generation at high frequency is treated as violation of grid discipline and viewed seriously by the Southern Regional Load Despatch Centre, Bangalore. In such occasions, the SLDC has been instructed by the SRLDC to back down generation in view of high frequency. In the SR operating procedure itself the SRLDC has directed to stop the wind power generating units to contain the frequency and as per section 4 (4) of the TEGC, the STU has to comply with the directions of RLDC and the same has to be ensured by the SLDC.

- ii) Instances when the wind evacuation feeders / auto transformers get overloaded.

SLDC is forced to curtail the wind generation only on the above two occasions which could not be compromised in view of the grid security.

Section 3 (4) of TEGC stipulates as follows:

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

4.17. The Petitioners have entered into Energy Purchase Agreement (EPA) with the Respondents. Clause 4 of Energy Purchase Agreements (EPA) provides as follows:-

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

In view of the said clause in the agreement entered into between the parties, as and when necessity arose, the WEGs were asked to switch off for grid safety as per, regulations 5.2 (u) of IEGC-2010 and sections 8 (3) (b), 8(4) (iii), 8(4)(v) and 4(2)(e) of the Tamil Nadu Electricity Grid Code. When such a condition is inbuilt in the EPA, the question of seeking the relief of “MUST RUN” status does not arise. It cannot also be the case of the Petitioners that they are not aware of this position and the basis on which connectivity was extended to them.

4.18. While section 8(3) (b) of the Tamil Nadu Electricity Grid Code directs not to curtail the generation from wind sources section 8 (4) (iii) of TEGC and regulation 5.2 (u) of IEGC permit the SLDC to increase or decrease their generation in case of overloading of lines / transformers and threat to system security which may arise due to shoot up in frequency due to heavy injection of wind power. Section 4(2) (e) of the TEGC and section 32 of Electricity Act, 2003 state that the SLDC shall be responsible for carrying out real time operations for Grid control and despatch the electricity within the State through secure and economic operation of the State grid in accordance with the grid standards and grid code.

4.19. Since running an economical operation of the Grid is one of the fundamental responsibilities of the SLDC as per section 32 of the Electricity Act, 2003, the relief of Must Run Status to the Wind Generators throughout the year is not tenable. The Petitioner’s prayer to declare that the Petitioner is liable to pay transmission charges at the rates fixed only when there is 100% grid availability and to adjust the transmission charges proportionately on the basis of actual grid availability are all unsustainable for the following reasons:-

In Tamil Nadu the maximum realization of wind generation is 4000 MW, whereas the conventional hydro source available for compensating the loss in wind generation is only 20%. Because of this, the vagaries of the wind generation have serious bearing on the availability and supply of power in Tamil Nadu.

Wide variability and intermittency of wind generation poses a great challenge for grid stability and security and economic operation.

Sudden pumping / withdrawal of power into the grid is threatening the system security.

Further, the surplus availability of wind power for 4 months in a year deprives the option of planning long term power purchase for the deficit period. Heavy wind penetration and sudden cropping up of wind mills in large scale considering the favourable wind policy in the State of Tamil Nadu without adequate transmission system strengthening as per load flow studies have resulted in overloading of the transmission equipments and thereby reduces the efficiency of the equipments.

The 110 KV Periyar – Theni feeder which has been specifically established for evacuation of Periyar, Suruliyar hydro generation has been completely captured by WEGs which create constraints for evacuation of hydro power while maximum discharge is given by PWD in Peiryar Dam. The same thing happens in 110 Kv Aliyar-Udumalpet feeders 1 & 2 and resulting constrains in Sholayar & Aliyar generation.

Most of the WEGs especially the older machines are drawing reactive power from the grid due to their inherent characteristics. It is practically observed during wind season, the 110 KV voltage drops down to 95 KV in and around wind generation area and Aliyar PH Generation could not pick up the full load due to low voltage maintained in that area.

4.20. The first Respondent has given news items in the newspaper stating that the evacuation infrastructure of Tamil Nadu is not adequate and that establishment of various 400 KV sub-stations is essential. Having given such a news item to contend that permission to install machines were granted by TANGEDCO only after ensuring adequate transmission infrastructure from TANTRANSCO and to contend that appropriate evacuation arrangement or transmission constraint should not be considered as a situation for initiating of backing down of wind generation is not in order. In order to evacuate the installed capacity of wind energy, the following major evacuation schemes have been proposed:

1. Kayathar 400/230-110 KV SS
2. Kanarpatti 400/230 KV SS
3. Thappugundu 400/230-110 KV SS
4. Anikadavu 400/230-110 KV SS
5. Rasipalayam 400/230-110 KVSS

The above proposal has been split as;

Phase I

- Establishment of Kanarpatti 400/230 KV SS and its allied transmission lines
- Establishment of Kayathar 400/230 KV SS and its allied transmission lines
- 400 KV DC line link from Kayathar to Karaikudi
- 400 KV DC line link from Karaikudi to Pugalur
- 400 KV DC line link from Pugalur to Ottiambakkam.

Phase II

- Establishment of 400/230 KV SS at Thappakundu area
- Establishment of 400/230 KV SS at Anikadavu area
- Establishment of 400/230 KV SS at Rasipalayam area
- 2 Nos. Bay provision at Salem 765/400 KV SS for Rasipalayam-Salem 400 KV DC line.

The cost of the above power evacuation schemes works out to Rs.4160 crores including service tax, WCT, LWF and Estt. & Supervision charges. The grant of Rs.4160 crores has been requested from Clean Energy Fund, Government of India through Government of Tamil Nadu.

4.21 Wind power capacity results in substantial increase in transmission capacity which could be utilized only during wind season. Hence, underutilization of transmission capacity with huge investment put up by the Licensee during non-wind causes season severe financial crisis to the Licensee. Heavy injection of wind power shoots up the operating frequency closer to higher limit and makes it difficult the grid operation and managing the grid discipline in line with the grid standards.

4.22. Heavy wind power generation which is normally during South West Monsoon period which sometimes brings widespread rains in the plains, results in load crash and leads to higher frequency. Normally the Mettur Dam is opened for irrigation during such wind season and enhances the firm generation availability of 200 to 400 MW. Hence, the neighbouring States draw this surplus power at frequency above 50 Hz at cheaper cost and even at zero paisa at 50.20 Hz, which results in heavy financial commitment to the TANGEDCO. The same has been agreed and addressed by M/s.Indian Wind Power Association while offering remarks to the Commission on the consultative paper on “Power Procurement by Distribution Licensees from Wind Energy Generators and allied Open Access issues”. Further, the Unscheduled Interchange (UI) rate fixed by the CERC at the rated frequency of 50 Hz is Rs.1.65/Kwhr and “zero” at 50.20 hz. The tariff of wind energy is Rs.3.39/kwhr. Therefore, at the rated frequency of 50 Hz, when TANGEDCO feeds the wind power into the SR grid, there is a loss of Rs.1.74 / kwhr. (i.e.) for every 100 MW supply by TANGEDCO into the Southern Grid for 1 hour at 50 Hz, there is a financial loss of Rs.1.74 lakhs per hour. Further when the grid frequency is 50.2 Hz and above, TANGEDCO would get nothing and there would be a loss of Rs.3.39 lakhs per hour for injection of 100 MW of excess wind power into the grid. Heavy penetration of wind power into the grid forced TANGEDCO to underutilize the

cheaper Central Generating Power and it further increases the financial commitment of TANGEDCO.

4.23. With all the constraints and financial commitments during wind season, TANGEDCO / SLDCs are taking all possible efforts to maximize utilization of the wind power. However, curtailment of wind power in view of grid security as per the grid standards cannot be compromised in the integrated operation of the power system. The transmission charges of Rs.6483 (for WEGs under REC scheme) / Rs.2593 (for WEGs with banking scheme) per MW per day is declared by the Commission which already taken into account the variable nature of wind i.e. only 27% of cumulative utilization factor has been considered while working out the transmission charges. Hence, the Petitioners' prayer for considering the actual generation is not justified. As the wind power is highly intermittent in nature, the curtailment of power may not be worked out for commercial purpose.

4.24. The main problem in managing the grid with higher generation mix of wind power is not the issue of evacuation but only the issue of accommodation. The free nature's potential is exploited by the private wind developers and the benefits are reaped by them whereas the disadvantages due to its infirm, variable and intermittent nature are thrust only upon by the utilities. To rectify the imbalance and injustice thrust upon the utilities and operation wing due to infirm, variable and intermittent nature of wind power, the Commission may consider to instruct the wind developers who actually develop, build and operate the wind mills to forecast and schedule the wind power with UI mechanism as per CERC regulations, so that, both the benefits / losses of natural resources could be shared by both the wind developers and the public utility.

4.25. M/s.Maruthi Wind Park Developers, a wind farm project developer on 30-11-2010 and 09-05-2011 requested evacuation approval from the TANGEDCO, to erect 2 x 25 MVA power transformers in Rasingapuram 110/22 KV SS. As per the load flow study result, Rasingapuram 110/22 KV SS to be delinked from existing 110 KV Theni – Periyar line and to be connected to the newly proposed Tappakundu 400 KV SS by erecting a 110 KV DC line from Rasingapuram 110/22 KV SS to proposed Tappakundu 400 KV SS. Since the proposed Tappakundu 400 KV SS is in process of sanction, M/s.Maruthi Wind Park Developers on 14-10-2011 has requested temporary connectivity to commission their 2 x 25 MVA power transformers. Based on the request, on 10-01-2012, pending improvement work for permanent connectivity, a temporary connectivity approval was issued to M/s.Maruthi Wind Park Developers at their request to commission their 2 x 25 MVA power transformers and directed to execute an undertaking that, since connectivity was given under temporary connectivity, they have to agree to switch off the power transformers / WEGs whenever the feeder / power transformers get overloaded. Accepting the above condition to switch off the power transformers / WEGs, M/s. Maruthi Wind Park Developers on 03-05-2012 had executed an undertaking that it agreed to switch off the power transformers / WEGs whenever the feeder / power transformers get overloaded. With the above condition, M/s.Maruthi Wind Park Developers commissioned the 2 x 25 MVA power transformers on 07-05-2012 and 21-05-2012.

4.26. Fully knowing the above fact of, the 2 x 25 MVA power transformers at Rasingapuram 110/22 KV SS was commissioned under temporary connectivity, with a condition to switch off the power transformers / WEGs whenever the feeder / power transformers get overloaded, the Petitioner 1& 2 had connected their 50 MW load of wind mills in the above the 2 x 25 MVA power transformers at Rasingapuram

110/22 KV SS. Like M/s.Maruthi Wind Park Developers, the Petitioner 1 and 2 in D.R.P. No.28 of 2012 who are got temporary connectivity had also on 26-03-2012 and 11-04-2012 executed an undertaking that they agreed to switch off the power transformers / WEGs whenever the feeder / power transformers get overloaded. This being the situation, the contention of the Petitioners that the TANGEDCO is switching of the WEGs unnecessarily and seeking MUST RUN status is not logical and maintainable one. Therefore, the Petitioner is estopped to dispute the same and as such the petition is not maintainable.

4.27. The reliance placed by the Petitioner on the provisions of section 11 (2) of the Act, that *“the Appropriate Commission may offset the adverse financial impact of the directions referred to in sub-section 11 (1) on any generating company”* which implies that, section 11 (1) is subject to the section 11(2) in offsetting the financial impact. In this regard, section 10 (3) (b) specifies the duties of generating company as below:-

“(3) Every generating company shall: (b) co-ordinate with the Central Transmission Utility or the State Transmission Utility, as the case may be, for transmission of the electricity generated by it”.

Therefore, it is the duty of the generating companies to comply with the directions of SLDC while transmitting electricity generated by generators safely, and at the same time they will be benefited because a power is granted to the appropriate Commission to offset any financial impact because of the direction given by the Government.

4.28. The Respondents are taking all out efforts to put up various sub-stations subject to availability of funds for harnessing the wind generation. A wind mill can be

erected / established within a period of three to six months, and on the contrary putting up / erecting a sub-station and associated lines takes a minimum period of two to three years. Therefore, the contention of the Petitioners that the non-availability of appropriate evacuation arrangements or transmission constraints should not be considered as situation for initiating backing down of wind generation is not correct.

4.29. Tamil Nadu has harnessed around 7055 MW wind potential and accordingly the bankable capacity has grown up to a significant extent and even poses a problem to grid management during the period of deficit situation. The banking facility for the wind energy which could not be actually banked and whose value depends upon the season and time has been provided to the WEGs. In this facility, the surplus power available during wind season is being banked. During this period as the frequency of operation is more the surplus wind power is being utilized by the neighboring constituents at less cost than the wind cost. The energy thus banked is being utilized during the non-wind season period by the WEG's HT consumers, during the power deficit, and the demand-supply gap is met out by high cost power purchase. It results in both operational difficulty and increase in hidden financial commitment to the Respondent.

4.30. No doubt in the initial stages when wind energy was sought to be trapped certain policies were introduced. However, as of today the situation has changed and the Petitioners cannot insist that the wind mills must be granted the "MUST RUN" status. While acknowledging the fact that the Commission and the APTEL have observed in the orders that the wind generators are to be treated as "MUST RUN" status, the Respondents considering the investment made by the wind

generators introduced the concept of banking. However, these Respondents are finding it difficult to continue the concept of banking.

4.31. One of the reliefs sought for by the Petitioners is to direct the Respondents to compensate the Petitioners corresponding to the loss of generation on account of backing down instructions with retrospective effect as per terms of PPA. Having prayed for such a relief, the Petitioners cannot raise any dispute as provided in clause 9 of the Wind Energy Purchase Agreement which reads as follows:-

9. *“Settlement of Disputes – Arbitration:*

(1) If any dispute or difference of any kind whatsoever arises between the parties relating to this agreement, it shall, in the first instance, be settled amicably, by the parties, failing which either party may approach the Commission for the adjudication of such disputes under section 86 (1) (f) of the Electricity Act, 2003”.

5. Contentions in the rejoinder dated 19-11-2012 of the Petitioners in M.P.No.14 of 2012:-

5.1. The Respondents have impressed upon clause 10 (e) of the Energy Purchase Agreement, stating that inclusion of such clause deprives the Wind Energy Generators of being considered as “MUST RUN”. Clause 10 (e) reads as follows:-

“10. In case of unsymmetrical fault on HV Bus, the Wind Generator shall share the fault current according to impedance of the circuit. To meet such contingency and safe operation of Generators, Wind Energy Generator shall provide the following scheme of protection, namely;

a)

b)

c)

d)

e) Grid availability shall be subject to the restriction and control as per orders of the SLDC and Tamil Nadu Electricity Grid Code”.

It would be apparent from a comprehensive reading of the above clause that the clause on grid availability being subject to the instructions issued by the SLDC is only in the context of the protection of the machinery and equipment of the

generators from the contingency of an unsymmetrical fault on the HV Bus. Under no circumstance, this can be said to be surrendering the “MUST RUN” status of the WEGs.

5.2. To justify their instruction to back down generation, the Respondents have taken recourse to section 33 of the Electricity Act and have stated that SLDC may exercise supervision and control for ensuring integrated grid operation for achieving maximum economy and efficiency in the operation of power system. The WEGs in the State including the 2nd and 3rd Petitioner had out of the bonafide belief that the instructions to back down generation were being issued in the interest of grid stability, had complied with oral instructions. Section 33 (4) of the Act reads as follows:-

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

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

Clause (4) of section 33 of the Electricity Act thus states that the provisions of the Electricity Act have given Appropriate Commission, the authority to review the actions of SLDC in case of any dispute. In the instant case, the Petitioners submit that such a dispute has arisen inasmuch as the Respondents have been issuing instructions to back down generation which is in direct contrast with the orders and findings of the Commission and of the Appellate Tribunal for Electricity which have accorded WEGs with the “MUST RUN” status.

5.3. The Commission has in the Wind Tariff Order dated 20-03-2009 specified that Wind Energy Generators are to be treated as “MUST RUN” plants and should not come under the purview of backing down instructions. Further, the APTEL had also in its order dated 18-03-2011 in Appeal No.98 of 2010 granted “MUST RUN” status to the power from renewable energy sources, including wind energy. APTEL has further ordered that these plants are not subject to merit order principle. From the above mentioned orders, it is evident that power generated and injected by Wind Energy Generators in to the Respondent grid cannot be subject to merit order despatch and any order from the Respondents directing the WEGs to back down generation due to grid congestion or non-availability of transmission infrastructure would be automatically invalid.

5.4. While the Respondents have relied heavily on the issue of grid security to justify the instructions to back down generation which were issued, the Respondents have failed to provide any comprehensive or concrete data to establish that the grid was under such severe threat of collapse which required backing down of WEGs despite their “MUST RUN” Status. To the best of knowledge of the Petitioners, such instructions to back down generation have not been issued to any other generator in the State such as IPPs, merchant power plant, cogeneration plant citing reasons of grid security. The WEGs in the State are being singled out as a category to whom instructions to back down generation are issued, more particularly during the peak generation season for WEGs between April and October and generation is stopped by as much as 12-18 hours every day. WEGs should be accorded the benefit of deemed generation for the periods when they have backed down generation at the instance of the Respondents to make good the losses suffered.

5.5. The Respondents have cited various clauses of Tamil Nadu Electricity Grid Code (TEGC) to establish that the SLDC has the authority to issue instructions to back down generation to ensure grid security and such instructions are required to be implemented by the WEGs. The WEGs including the 2nd and 3rd had complied with such instructions in good faith in the interest of grid stability, these instructions were complied with.

“8. Scheduling and Despatch:

(3)

(b) *SLDC shall regulate the overall State generation in such a manner that generation from following types of power stations where energy potential, if unutilized, goes, as a waste shall not be curtailed.*

- * *Run of river or canal based hydro stations*
- * *Hydro-station where water level is at peak reservoir level or expected to touch peak reservoir level (as per inflows)*
- * *Wind Power Stations and Renewable Energy Sources*
- * *Nuclear Power Stations”.*

As would be evident from the above provisions of the TEGC, the obligation is imposed on the SLDC to ensure that certain types of generation plants including WEGs should be allowed to function so as to ensure that waste is curtailed. The WEGs are the kind of generators contemplated by the provisions of the TEGC wherein there would be wastage if continuous operation is curtailed. By issuing instructions to back down generation, the SLDC is functioning in a manner antithetical to the objectives of the Grid Code and also in direct contravention of the same. By curtailing the generation by wind power stations, Respondents are in violation of Tamil Nadu Electricity Grid Code.

5.6. The Respondents have also sought to justify the instructions to back down generation on the basis of an economic and financial rationale. Thus, the Respondents in an attempt to minimize their financial obligations are curtailing the generation of wind power stations. The arguments put forth by the Respondents in

justifying backing down instruction owing to economic operation is in gross violation of the Indian Electricity Grid Code, Tamil Nadu Electricity Grid Code, orders of the APTEL and orders of the Commission. The Respondents are using their current financial position to justify their actions, which however have an overall adverse impact inasmuch as it causes the renewable energy potential to go untapped and also reduces the overall share of renewable energy in annual consumption thereby causing long term environmental and developmental ramifications. The Respondents have failed to realize that the renewable potential can only be harnessed when available and that the Respondents by not letting the Petitioners to utilize the same are wasting an important resource.

5.7. The averment of the Respondents that the concept of “MUST RUN” was introduced in pursuance of certain policies and that the current scenario has changed so as to make the policies obsolete is entirely baseless. On the contrary, the policy framework continues to insist on harnessing of renewable sources, and in fact insist on increasing the overall share of renewable energy in the annual generation and consumption pattern. While so, the Respondents cannot seek to undermine such policies or orders issued pursuant thereto, such as “MUST RUN”, more particularly when the WEGs in the State have invested huge amounts of money in putting up the basic infrastructure for windmills such as land and machinery on the basis of such policies and promises.

6. Submissions of Respondents in the Written Submission dated 13-05-2014:-

6.1. As per the section 32 of the Electricity Act, 2003 read with clause 4 (2) of the Tamil Nadu Electricity Grid Code (TEGC), the State Load Despatch Centre is

responsible for safe, secured and economical operation of the grid. Such secured and economical operation of the grid becomes more challenging when the integration of wind power (which is infirm in nature) is pumped more to the grid. Injection of excess power more than the schedule of the constituents into the grid is not technically feasible as it results in shooting up in the system frequency under drawal / line loading and vice-versa, which are serious threat to the system security and affects prudent and economical operation. Hence, knowing the necessity to maintain the operating parameters viz frequently, UI, Line loading etc. for safer operation of the grid, certain legal provisions have been made in the existing grid standards and regulations notified by the State and Central Commissions. All the utilities including the generators have to obey the same and non-compliance of the same would attract penal action as per section 29 & 142 of the Electricity Act, 2003.

6.2. As per clause 5.2 m of IEGC 2014, the grid operating frequency is 49.90 – 50.05 Hz from 17-02-2014 which was 49.7 – 50.2 Hz earlier. As per clause 5.2 (j) of IEGC 2014, maximum variation of quantum of power drawal / injection by any constituent at any instant from the Central pool shall not exceed 100 MW whereas the wind power is swinging in the order of 1000 MW. The permitted deviation in drawal schedule (both over drawal and under drawal) is only 150 MW at frequency below 50.05 Hz., and each unit of under drawal above 150 MW will not be paid for. At frequency above 50.05 Hz no under drawal is permitted and each unit of under drawal at and above the frequency 50.10 Hz will attract penalty at the rate of Rs.1.78/kwhr. Failure of action to contain the frequency and restriction in under drawal is viewed as grid indiscipline and attract penal action apart from levying of penalty for under drawal by the Southern Regional Load Despatch Centre and Central and State Regulatory Commissions.

6.3. Above legal provisions do not permit injection of surplus power into the system. Each unit of under drawal by way of injection of surplus power beyond the limitations, is not only to be treated as a grid indiscipline but also attracts violation of messages, and it also leads to heavy financial loss to the Respondents, as the surplus power injected into the grid will be at free of cost, coupled with penalty @ Rs.1.78 / Kwhr at frequency above 50.10 Hz.

6.4. Tamil Nadu is handling 7260 MW of wind installed capacity. The Respondents try to accommodate the maximum possible generation from Wind Energy Source, by taking all efforts, however at times and instances, the excess wind generation poses a threat to the system security and economical operation of the grid. Therefore, in order to protect the grid, in line with section 32, 33 (1) and (2) of the Electricity Act, 2003, clause 2.7.1, 5.2.(u), 5.2.(m) of Indian Electricity Grid Code 2010 and clause 8.3 (b), 8.4 (iii), 8.4 (v) and 4.2 (e) of Tamil Nadu Electricity Grid Code, the excess wind generation has to be necessary blocked.

6.5. The restriction of surplus power availability to contain system frequency is inevitable since high frequency is dangerous, not only dangerous to the consumer equipment's like hospital equipment's, IT industries, Micro based industrial equipment's etc. but also to the generating units, especially for nuclear units due to its technical complexity in functioning, as also the thermal units. During wind season, it is well known that normally the operating frequency is on higher side and hence when the wind generation is on the increasing trend, it is the responsibility of the Respondents especially the second Respondent to predict the shooting up in frequency and to act accordingly and at the same time immediately. During 2013, when the new grid and SR grid were operated on asynchronous mode, sudden

injection of 1000 MW into the grid shot up the system frequency by 1 Hz, i.e. if the operating frequency is 49.90 Hz, the same will shoot up to 50.90 Hz. Hence, the Respondents cannot wait till the frequency crosses the upper limit to take action having regard to security of the system.

6.6. Owing to the technical and legal non-feasibility in accommodation of more infirm power only, while granting permission itself, as stated in the counter affidavit, a No Objection Certificate, was obtained and thereafter only the Energy Purchase Agreement, Energy Wheeling Agreement were entered into. In the Undertaking, all the WEGs are well informed that accommodation of wind generation is subject to grid availability and both parties shall comply with the direction of Indian Electricity Grid Code, Tamil Nadu Electricity Grid Code, 2005 and Electricity Act, 2003.

6.7. With all the constraints, the following efforts were taken for absorbing the wind power during 2013:-

- a. Load Shedding for Urban and Rural feeders for 3 hours in rotation from 06.00 a.m. to 6.00 p.m. and 1 hour load shedding for Chennai from 08.00 a.m. to 06.00 p.m. in rotation were not carried out.
- b. The Government of Tamil Nadu vide Lr.No.(MS.)No.81, Energy, dated 13-08-2013 had relaxed the following Restriction and Control measures in force.
 - (i) the existing 40% power cut to HT industrial and commercial services be totally relaxed other than peak hours i.e. 18-22 hours.
 - (ii) during peak hours the 90% cut be relaxed to 40%.
- c. 330 MW M/s.Pillai Perumal Nallur Plant was kept standby from 21-05-2013 to 27-08-2013 (97 days) and then from 08-09-2013 to 25-09-2013 (18 days).

- d. Purchase of power from M/s.Samalpatti Power Corporation Ltd. (105 MW) and Madurai Power Corporation Ltd. (105 MW) was reduced. The plants were under complete shutdown from 17-07-2013 to 26-08-2013 (40 days) and then from 06-09-2013 to 25-09-2013 (20 days).
- e. The purchase from M/s.GMR was reduced to “Zero / Nil” whenever the local network loading permits.
- f. Annual Over Hauling programmes of the two numbers 210 MW TANGEDCO thermal units were taken at a time during this wind season and completed.

6.8. As to the claim of the Petitioners for backing down of thermal power for accommodation of wind power, the cost alone is not the factor between the thermal and wind power, and there are other distinct differences between thermal power plant and wind power in respect of source of primary driving force, availability, reliability, firm / infirm nature, quantum control, reactive power generation / reactive power consumption, impact on voltage profile etc. which have to be considered during the operation of the grid. There are many technical constraints in backing down of thermal units frequently which causes frequent failure of thermal units. The thermal units in North Chennai are only contributing more active power support to Chennai city in maintaining the voltage profile.

6.9. The Petitioner’s allegation that the Respondents by backing down of the wind power on one side, and purchasing high cost power on the other hand is not correct. The main objective of the Respondents is the supply of electricity at affordable price which could be achieved only when the power is purchased at competitive comparative rate. On this aspect all efforts are generally taken in availing the wind power which is sold to TANGEDCO at the rate of Rs.2.70 to 3.51 / Kwhr.

6.10. The reasons for comparatively less accommodation of wind power during 2013 are as below:-

(i) Due to very good performance of South West monsoon, all hydro reservoirs including Mettur reached their full reservoir level and necessitated maximum running, yielding an average generation of 25 M.U. per day, and even after this the surplus water was discharged. Further, due to wide spread rain in plains also, the average demand for electricity got reduced appreciably from 12500 MW to 11000 MW. In fact, the TNERC Grid Code, clause 8.3 (b) clearly provides that the merit order of utilization generating, and the sequence of sources, mentioned therein, wind power has been shown as third priority, after run of river or canal based hydro stations in the first priority, and hydro stations with reservoir as second priority.

(ii) Though Regulation 8 (3) and (4) of the Tamil Nadu Grid Code exclude wind mills from issuance of despatch instructions, there is a Non-Obstante clause contained in the very same code, which clearly provides in Regulation 8 (4) (iii) as follows:-

“Notwithstanding the above, the SLDC may direct the generating stations/beneficiaries to increase / decrease their generations / drawl in case of contingencies eg. overloading of lines / transformers, abnormal voltages, threats to system security. Such directions shall immediately be acted upon”.

The effect of such a non-obstante clause and the word “notwithstanding” clearly amounts to having an over riding clause which gives a power to control the power generator through the wind mills as well, for the safety of the grid.

(iii) Further it needs to be brought to the notice of the Commission that recently the Commission based on the amendment to the regulations

issued by the Central Electricity Regulatory Commission, has introduced an amendment on 2nd October 2013, specifically amending the Regulation 8 (4) of the Code thereby the words “(excluding wind mills)” were deleted.

In view of the above amendment, and the non-obstante clause contained in the Tamil Nadu Grid Code 2005, the Commission may be pleased to reconsider the status of the wind mill.

- (iv) The injection of infirm power from the upcoming new projects viz MTPS State 3, Vallur Unit 2 and NCTPS Stage 2 had also increased the power availability which were very much required to mitigate the higher demand and supply gap during the non-wind season of 8 months in a year.
- (v) Reduction in generation of thermal stations beyond certain limit and frequent removal of unit from the grid is not technically feasible as frequent change in generation causes heavy thermal stress on the boiler resulting frequent boiler tube puncture, depriving the minimum base generation, causing load shedding to the general public.
- (vi) The power purchase made by TANGEDCO through Medium Term Open Access (MTOA) which is the mandatory arrangements to be made by TANGEDCO to ensure power to the consumers during non-wind season also. Further firm power is the backbone of the distribution system. It is absolutely essential to have sufficient firm power generation sources with TANGEDCO to meet the base load requirement and adequate spinning reserve by way of base load to meet sudden outages.
- (vii) Stringent measures imposed by the SRLDC in restricting the high frequency / under drawal consequences to the New grid collapse happened on 30th and

31st July 2012 in which 40 crores people were suffered without supply for more than 12 hours also stressed the SLDC to curtail the surplus power injection into the grid.

6.11. With regard to the External Power Purchase during wind season, the following factors are relevant:-

- (i) The power purchase made through Medium Term Open Access is the mandatory arrangements to be made by TANGEDCO to ensure power to the consumers during non-wind season also. The power purchase could not be made as and when required on intermittent basis, like wind power, since the transmission lines has to be booked well in advance due to less availability of transmission capacity.
- (ii) In fact there was drastic fall in wind generation to 28 MW on 29-08-2013, from 3278 MW on 26-08-2013 (51 M.U. on 26-08-2013 reduced to 10 M.U. on 29-08-2013) which clearly describes the necessity to purchase power through alternate source.

6.12. The reduction in wind generation of around 3000 MW, had brought down the operating frequency below 49.70 Hz and posed a threat to the system security. This position / condition was managed partly because of power purchase that have been arranged and the situation would have been worse and would have resulted in the grid collapse and supply interruption, if the power purchases were not made. Hence, solely depending on the power which is available only for 4 months in a year, which is also inconsistent, is not practically possible. Hence, the power required for the balance 8 months in a year has to be compulsorily tied up with Medium Term and

Long Term Open Access, and therefore no exception could be taken to this by the Petitioners.

6.13. The Electricity Act, 2003 and the Tamil Nadu Grid Code, 2005 give an onerous responsibility on the State Load Despatch Centre, in order to see to that there is no outage in the distributional system and that the grid frequency is maintained at all times.

6.14. Scheduling and despatch of power is to be done in accordance with the contracts entered into with the generating stations. Except for the renewable power, other sources of firm generating stations are having contracted agreement, which clearly specifies the quantum of power that will be injected into the grid with penalty clause of pay or take. In case of WEGs there is no such provision for quantum of power scheduled, time period and penalty clause i.e. only grid connectivity agreement and not the usual power purchase agreement on par with the firm power generation like fossil fuel / co-generation. The compensation clause for either party has not been stipulated in the EPA (Energy Purchase Agreement) because of intermittent variations in infirm wind generation and the same is not scheduled. Therefore, the Wind Electricity Generators like the Petitioners cannot claim compensation for the loss since it may be only in profit but not actual loss since no fuel cost for prime mover incurred by the Wind Electric Generators, since it is only natural resource of wind.

6.15. Clause 8.3 (b) of the Tamil Nadu Electricity Grid Code referred to by the Petitioners directs not to curtail the generation from wind source in normal conditions whereas the clause 8.4 (iii) of TEGC and 5.2 (u) of IEGC permits the SLDC to

increase or decrease their generation in case of overloading of lines / transformers and threat to system security which may arise due to shooting up in frequency due to heavy injection of wind power. In addition, clause 4.2 (e) of TEGC and section 32 of the Electricity Act, 2003 state that, SLDC shall be responsible for carrying out real time operations for Grid Control and despatch the electricity within the State through secured operation of the State grid in accordance with the grid standards and grid code.

6.16. If the argument of the Petitioner is accepted, it would make the section 32 of Act, 2003, clause 8.4 (iii) of TEGC and 5.2 (u) of IEGC relating to the responsibility of SLDC to ensure secured and economic operation of the grid completely otiose. This contention is raised without prejudice to the earlier contention raised, relating to the “Non-Obstante Clause” contained in the Tamil Nadu Grid Code 2005 issued by the Commission. Further it is submitted that when there are two provisions which cannot be acceptable with each other, the same is to be interpreted in such a way that the effect is given to both and it has been held so by the APTEL order in Appeal No.145 of 2011 order dated 23rd May 2012.

6.17. In the TEGC, in Chapter 3, sub-clause (4) under the heading “General Requirement” provides as follows:-

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

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

6.18. With all the technical and legal constraints and financial commitments during wind season, the Respondents are taking all possible efforts in maximum utilization of the wind power. However, curtailment of wind power on account of technical and legal constraints could not be averted. Hence, if the WEGs are given “MUST RUN” status irrespective of system conditions as prayed for, the Respondents would be forced to violate the IEGC clause and thereby leaving room for the grid collapse. Realising this position only, the Commission has issued amendments to the Tamil Nadu Electricity Grid Code 2005.

6.19. Unless the wind generators are coming under the purview of regulations by which the beneficiaries are governed, the Petitioners cannot claim “MUST RUN” status at the cost of grid discipline. In real time grid operation, the beneficiaries are governed by the Deviation Settlement Mechanism (DSM) Regulations, which prevents the Respondents to permit the surplus wind power into the grid, and in the same line, the WEGs also should be governed by the same regulations. By way of an example, at frequency above 50.05 Hz. the beneficiaries are not permitted for under drawal (injection of surplus power) and at frequency above 50.10 for every unit of under drawal, the State will not be paid for, and has to pay penalty of Rs.1.78/Kwhr. Even at frequency below 50.05 Hz., the under drawal beyond 150 MW will not be paid for. As frequency below 50.05 Hz, if the State under draws more than 150 MW because of surplus wind power, the same would not be paid for. Further at frequency above 50.05 Hz for each unit of wind power injected into the

system, the WEGs will not be paid for and at frequency above 50.10 Hz. each unit of injection has to attract penalty of Rs.1.78/Kwhr.

6.20. As per the provisions contained in clause 5.2 (u) of IEGC and clause 8.4 of Tamil Nadu Electricity Grid Code (TNEGC), "MUST RUN" status is not absolute. It is subject to reasonable restrictions for grid safety and reasonable restrictions can be imposed by the Respondents. When such a condition is inbuilt in the EPA, the question of the Petitioner seeking the relief of "MUST RUN" status does not arise and it is prayed that the Commission may be pleased to reconsider the "MUST RUN" status prayed for by the Petitioners.

7. Findings of the Commission:-

Findings of Thiru S.Nagalsamy, Member:-

1. To arrive at a common order on all the above petitions, the prayers of all the petitions are summarized below.
 - (a) issue a direction bestowing "MUST RUN" status on all Wind Energy Generators (WEGs) in the State of Tamil Nadu and consequently direct the Respondent not to issue orders to the WEGs to switch off / back down generation.
 - (b) direct the Respondents to compensate the Petitioners corresponding to **deemed generation/loss of generation** on account of backing down from 24-06-2013 onwards with retrospective effect;
 - (c) declare that all directions issued by the Respondents to the WEGs in the State of Tamil Nadu, directing them to switch of generation or back down generation, till date as invalid.

- (d) declare that all contracts, letters of undertaking entered into by the Respondents with WEGs in the State of Tamil Nadu in so far as they seek to impose backing down of generation as invalid and illegal;
- (e) declare that the Petitioner is liable to pay the transmission charges at the rates fixed only where there is 100% Grid availability and on the basis of actual grid availability, the transmission charges would be proportionately adjusted and consequently hold and declare that the Petitioner are entitled to seek adjustment and / or variation of excess transmission charges levied on it with effect from the date of commissioning of the WEGs after adjusting for the grid availability and
- (f) to calculate the losses and pay the compensation claimed by the Members of the Petitioner's Associations by setting up a "Committee of Stakeholders".

2. Let us first analyze the legal provisions pertaining to the subject matter of these cases.

- (i) The importance of renewable energy has been embedded in the Preamble of the Electricity Act 2003 which emphasize that one of the purpose of the Act is "promotion of efficient and environmentally benign policies". Other relevant provisions of the Electricity Act 2013 are:

"Section 3. (National Electricity Policy and Plan) --- (1) The Central Government shall, from time to time, prepare the National Electricity Policy and tariff policy, in consultation with the State Governments and the Authority for development of the power system based on optimal utilisation of resources such as coal, natural gas, nuclear substances or materials, hydro and renewable sources of energy.

Section 61. (Tariff regulations):

The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely:-

-
- (h) the promotion of co-generation and generation of electricity from renewable sources of energy;*

(i) the National Electricity Policy and tariff policy:

Section 86. (Functions of State Commission): --- (1) The State Commission shall discharge the following functions, namely: -

.....
(e) promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;

.....
(4) In discharge of its functions, the State Commission shall be guided by the National Electricity Policy, National Electricity Plan and tariff policy published under section 3.”

(ii) Related provisions of the National Electricity Policy are:

“5.12 Co-Generation and Non-Conventional Energy Sources

5.12.1 Non-conventional sources of energy being the most environment friendly there is an urgent need to promote generation of electricity based on such sources of energy. For this purpose, efforts need to be made to reduce the capital cost of projects based on non-conventional and renewable sources of energy. Cost of energy can also be reduced by promoting competition within such projects. At the same time, adequate promotional measures would also have to be taken for development of technologies and a sustained growth of these sources.

Non-conventional Energy Sources

5.2.20 Feasible potential of non-conventional energy resources, mainly small hydro, wind and bio-mass would also need to be exploited fully to create additional power generation capacity. With a view to increase the overall share of non-conventional energy sources in the electricity mix, efforts will be made to encourage private sector participation through suitable promotional measures.”

(iii) The Tamil Nadu State Grid Code specifies the following in respect of wind energy despatch.

“8. Scheduling and Despatch:

.....
(3) (b) SLDC shall regulate the overall State generation in such a manner that generation from following types of power stations where energy potential, if unutilized, goes, as a waste shall not be curtailed.

- *Run of river or canal based hydro stations.*
- *Hydro-station where water level is at peak reservoir level or expected to touch peak reservoir level (as per inflows).*

- *Wind Power Stations and Renewable Energy Sources*
 - *Nuclear Power Stations.*”
- (iv) The “Must Run” status has been provided to the wind energy by the Central Electricity Regulatory Commission in clause 5.2 (u) of the CERC (Indian Electricity Grid Code), (Regulations), 2010, which is reproduced below.

“(u) Special requirements for Solar/ wind generators

“System operator (SLDC/ RLDC) shall make all efforts to evacuate the available solar and wind power and treat as a must-run station. However, System operator may instruct the solar /wind generator to back down generation on consideration of grid security or safety of any equipment or personnel is endangered and Solar/ wind generator shall comply with the same. For this, Data Acquisition System facility shall be provided for transfer of information to concerned SLDC and RLDC.”

- (v) SLDC has failed to supply data on the backing down of WEGs in spite of directions from the Commission to verify whether it has backed down only on consideration of grid security / safety of equipment or personnel or otherwise. The Commission in its Tariff Order T.P.No.1 of 2013 issued on 20-06-2013, had declared that the energy available from “MUST RUN” power plants will be dispatched first as specified in the State Grid Code. This includes generation from WEGs. The relevant provision of the order is reproduced below.

“4.213 for the purpose of determination of power purchase cost, the Commission has followed the methodology given below:-

- ii. Energy available from MUST RUN power plants will be despatched first.”*

Similar provision has been specified in Para 4.131 of the suo-motu Tariff Order No. 9 of 2014 issued by the Commission on 11-12-2014. From the said provisions of the Act and Policies / Regulations / Orders made there on, it is clear that wind power, being a renewable source of energy, has to be promoted and it

has the top most priority in merit order dispatch along with “run of river” based Hydro Stations and Nuclear Stations.

The generation data submitted by SLDC gives an indication that it has not followed Merit Order Dispatch strictly. While backing down the cheaper wind power, the licensee has allowed purchase of high cost private power. As per the report of the Petitioners, the wind power was backed down even when the frequency was below 50 Hz. The SLDC also did not refute it.

The Licensee also had entered into short Term Power Purchase Agreement without taking into account the availability of wind power during June to September. The last PPA signed in September 2014 allowed purchase of 1172 MW power from Intra State Private Power generators at the rate of Rs.5.50/- unit and 7 MW from Tamil Nadu Newsprint Ltd. (TNPL) at Rs.5.20/- per unit from 1.10.2014 to 30.9.2015 covering the entire wind season. It also signed PPA to buy power from Inter-State Power generators at the rate of Rs.4.39 to 4.81/unit to the extent of 773 MW.

All the PPAs were signed without taking into account the availability of cheaper wind power at an average rate of Rs.3.12/unit during June to September 2015.

3. However the “Must Run” status given to the wind power by the Indian Electricity Grid Code (IEGC) has a following exceptional clauses.

*“(u) **Special requirements for Solar/ wind generators**
System operator (SLDC/ RLDC) shall make all efforts to evacuate the available solar and wind power and treat as a must-run station. However, System operator may instruct the solar /wind generator to back down generation on consideration of grid security or safety of any equipment or personnel is endangered and Solar/ wind generator shall comply with the same. For this, Data Acquisition System facility shall be provided for transfer of information to concerned SLDC and RLDC.”*

The State Load Dispatch Centre (SLDC) has been empowered to give appropriate direction to the entities including the WEGs under the following provisions of Act/Codes.

(i) **Electricity Act, 2003:**

Section 33. (Compliance of directions): ---

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

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

(ii) **8(4)(v) of the Tamil Nadu Electricity Grid Code:**

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

(iii) **Clause 3 (10) (v) of the Energy Wheeling Agreement signed by the petitioners on different dates as reported by the respondents.**

“Grid availability shall be subject to the restriction and control as per the orders of the SLDC and as per Tamil Nadu Electricity Grid Code.”

4. As discussed supra, there are some statutes which promote wind power by providing “Must Run” status but there are some other statutes which allows its curtailment during the following specific circumstances.

- (i) For ensuring the integrated grid operations and for achieving the maximum economy and efficiency in the operation of power system in the state as per Section 33 of the Act and
- (ii) **On the consideration of grid security or safety of any equipment or personnel is endangered as specified in the IEGC.**

There is no dispute on whether backing down was done or not as both parties concurred that the wind power was backed down. The important issue to be resolved in this case is whether the backing down of WEGs was done during the

circumstances as applicable in law. The respondents have argued that they have powers to do so under the said provisions of the Act, code agreements etc. and they have done it only for the following reasons:

- (i) To contain the frequency within the limit specified by the Indian Electricity Grid Code (IEGC) from time to time.
- (ii) During the instances when the wind evacuation feeders/Auto transformers get overloaded.

Strangely, the second reason adduced by the Respondents, namely over loading of wind evacuation feeders / auto transformers, runs against the mandate imposed by the Act on the Respondents. Even if it was a reason for the backing down of WEGs, the occurrences should have been far and few and done in specific locations/timings. But as per the report of the petitioners, the backing down of WEGs was done throughout the wind season.

The State Transmission Utility (STU) and the Distribution licensee shall ensure development of an efficient, co-ordinate and economical system of intra-State transmission and distribution lines as the case may be, for smooth flow of electricity from a generating station to the load centers as mandated in Sections 39 and 42 of the Electricity Act, 2003 respectively. Therefore once the approval for connectivity or open access was given, it is the responsibility of licensees to evacuate the power generated from the WEGs as per the norms specified in the Act and Regulations. Therefore, the Commission cannot approve the large scale backing down of WEGs for inadequate evacuation infrastructure. In case backing down of WEGs was done for inadequate evacuation infrastructure, the concerned licensee is liable for action under appropriate provisions of law.

5. The only reason left out for backing down of WEGs as per the arguments of the Respondents is to contain the frequency within the limit specified by the Indian

Electricity Grid Code (IEGC) from time to time. In support of their action the SLDC has submitted the following.

“As per clause 5.2 m of IEGC 2014, the grid operating frequency is 49.90 – 50.05 Hz from 17-02-2014 which was 49.7 – 50.2 Hz earlier. As per clause 5.2 (j) of IEGC 2014, maximum variation of quantum of power drawal / injection by any constituent at any instant from the Central pool shall not exceed 100 MW whereas the wind power is swinging in the order of 1000 MW. The permitted deviation in drawal schedule (both over drawal and under drawal) is only 150 MW at frequency below 50.05 Hz., and each unit of under drawal above 150 MW will not be paid for.”

The SLDC in their common written submission submitted on 25.3.2013, has further reported that the power number i.e. the quantum of power required to increase the frequency of Southern Regional Grid by one cycle (Hz) is around 1000 MW. Therefore, if 1000 MW of wind generation is “suddenly added” to the grid, the wind frequency will shoot up from 49.70 Hz to 50.70 Hz which will be dangerous to the grid safety and therefore, the system operator may instruct wind generator to back down.

6. In this connection, the hourly wind generation / purchase data submitted by the SLDC for the months of August 2012 and August 2013 and the hourly generation / purchase data provided by the SLDC daily to the Commission for the years, 2011-12 and 2012-13 were scanned for any step change of 1000 MW of wind generation. Changes in hundred/few hundred MWs per hour were observed. There were very few occurrences of 500 MW change per hour. It is not known whether these large variations occurred due to backing down of wind mills as directed by the SLDC. SLDC has failed to give any details about backing down of wind mills. The SLDC is controlling the grid in real time with 15 minutes block inputs. In that case the changes shall be much lesser than the hourly change. Now that the new power plants with 600 MW capacity of TANGEDCO are feeding to the TNEB grid, the tripping of such generator may lead to steeper step

changes than the Wind Energy vagaries. The respondent himself reported that there is a change from 3278 MW on 26.8.2013 to 28 MW on 29.8.2013. The 3250 MW change took place in three days. Even such changes have not been frequently reported / observed. WEGs have been largely installed in few Districts of Tamil Nadu. The average wind speed as reported by Tamil Nadu Energy Development Agency is 18-25 km/hour. Therefore, as discussed earlier though there are vagaries in wind power generation, the sudden or step change of 1000 MW is not noticed as reported by the respondents. Change in wind **speed** and hence in the generation of WEGs is the inherent characteristics of such natural resources. The “Must Run” status has been provided to the wind generators by the State and Central Commissions after taking into consideration of such infirm / seasonal characteristics of wind.

7. The respondents have expressed difficulties in absorbing the large infirm wind power in their submissions. The absorption of infirm wind power by the Tamil Nadu Grid is not a new phenomena. The Wind Mill installed capacity which was around 800 MW during the year 2000 increased to around 7500 MW as on date. The respondents including SLDC have adequate knowledge on the impact of such infirm power on the grid and adequate experience in handling the infirm power in the last 15 years. It is the responsibility of the licensee and SLDC to study the impact and limit the penetration of infirm wind power within the limit. No such petition to restrict the wind power penetration was filed by the licensee including SLDC. Having signed the agreements to purchase / wheel the wind power, the licensee now cannot go back from their commitments. Further the petitioners in their common submission reported that a wind power generation of 9,192 MU was evacuated in 2013-14 compared to the evacuation of 11,308 MU in 2012-13. The respondents have not disputed this quantum. Data submitted

by the respondents reports a wind generation of 12,948 MUs for 2012-13 and 9702 MUs for 2013-14. Generation details for the “non-seasonal” months of February 2014 and March 2014 have not been submitted by the TANGEDCO website and it depicts a wind power evacuation of 10,930 MUs in 2013-14 against 12,948 MUs in 2012-13. In all the cases, the differences are around 2000 MU. The important question raised by the petitioners was that when the frequency band specified by the IEGC remains the same (between 49.7 Hz to 50.2 Hz) from 02-04-2012 to 17-02-2014 i.e. during both the wind seasons of 2012-13 and 2013-14, why was 2000 MUs backed down in 2013-14 when compared to the absorption / evacuation of wind energy during the wind season in 2012-13. The total consumption in the State had increased by 7,000 MUs in 2013-14 as per the latest Tariff Order but the absorption from wind energy had decreased by 2,000 MUs in 2013-14. This question and the above facts run counter to the argument of the respondents that the wind power backing down was done only to maintain the frequency restriction imposed by IEGC. This is further supported by the sample data submitted by the Indian Wind Power Association (IWPA) which depicted per day back down of 0.89 hours for the month of August 2012 but increase to 8.26 hours per day in the month of August 2013. This abnormal raise in backing down also goes against the claim made by the respondents. Though there are other factors like inappropriate management of restriction and control on power due to prevailed shortage of power in the State, we cannot entirely reject the question raised by the Petitioners.

8. Regarding the curtailment of wind power during frequency raise, the SLDC should keep in mind that the wind energy has the highest priority in scheduling and it is the first item in merit order dispatch along with **“run of river” based hydro stations and Nuclear Stations**. Therefore, before curtailing the wind

generation the SLDC should have exhausted all other possible curtailments of power injected into the grid from other sources as per law. In this connection, the direction issued by the APTEL in Para 9 & 10 of its Order dated 30-06-2014 on Appeal No.327 of 2013 is reproduced below:

“9. However, the interest of the wind energy generators can be safeguarded by scheduling planned maintenance of conventional generating units during high wind season, procuring short term power after considering the likely availability from wind energy, backing down of generation at coal based thermal stations up to the minimum threshold limit when secondary oil support is not required, optimum scheduling of gas/liquid fuel based plants and hydro power plants keeping in view the availability of wind energy, operation of Pumped Storage Plants, etc.

10. In our opinion the wind energy should be utilized fully by optimum scheduling at conventional power plants subject to maintenance of grid security. Hence, we direct the State Commission to ensure, while approving the PPAs for procurement of long term power under Section 63 of the Electricity Act, 2003, that there is no take or pay or ‘must run’ provision so that the power plants can be asked to back down generation up to the minimum threshold limit during the high wind season to accommodate generation from wind energy generators.”

9. In the said order the APTEL has clearly specified the precautions / actions to be taken by the SLDC before curtailing the wind power. Since the subject matter of this case has already been dealt with by the Hon’ble APTEL, the Commission would like to only adopt and additionally support the order of the Tribunal and direct all the Respondents including SLDC to strictly implement the directions of the APTEL. While implementing the order, the Respondents shall strictly adhere the following:

- (i) The SLDC shall fix threshold capacity limit immediately to all the coal based thermal units under its purview whose capacity is more than 200 MW.
- (ii) Regulation 5.2 (System Security Aspects) of IEGC shall be strictly followed. All the power stations under the purview of SLDC shall have

their governors in operation at all times as specified in the said Regulation and in accordance with the other provisions of IEGC.

- (iii) All the hydro stations except the run of river stations shall be run in an optimum manner so as to absorb the wind power during the wind season.
- (iv) The merit order despatch as specified in Regulation 8 (3) (b) and in the Tariff Orders issued from time to time shall be strictly followed to economise the power purchase.
- (v) All the existing suppliers under long / short term PPA shall be asked to reduce their supply to the level specified in the agreement so as to avoid backing the likely availability of wind energy. Further all the existing suppliers of long term power shall be asked to reduce their supply to the limit specified in the agreement to avoid backing down of wind generation during the wind season.
- (vi) Similarly in all future short / long term PPAs to be signed by the distribution licensee, there should not be “take or pay clause” beyond the threshold limit of the unit so as to avoid backing down of WEGs during the wind season. Any specific approval for such deviation may be obtained from the Commission in advance.
- (vii) Optimum scheduling shall be done in IPP and all gas / liquid fuel based power stations as per merit order despatch.
- (viii) SLDC shall approve the annual / planned maintenance of power plants under its control in such a manner to safeguard the interest of wind generators.
- (ix) The period and duration of short term power procurement of distribution licensee shall be planned taking into account the energy availability from WEGs.

The SLDC may only back down the WEGs as a last resort after observing all the above said precautions and other provisions / directions issued by the appropriate authorities from time to time. Such backing downs shall be done only for the grid security and safety reasons. This backing down should also be distributed uniformly among all WEGs if necessary by rotation, but no discrimination among them. In case of any dispute over such backing down instructions, the SLDC has to justify their action with the frequency linked 15 minutes data of all generation / purchase, details of merit order followed, quantum of backing down, over drawal / under drawal, SRLDC direction if any, etc. Any action of licensees including the SLDC in contravention of this order will be construed as a violation under Section 142 of the Act and attracts appropriate action.

10. The Commission would also like to deal with the following other issues related to the prayers of the petitioners in this case.

- (i) Both the Electricity Act and the Regulations made thereon specifies that the SLDC shall be responsible for carrying out the real time operation for grid control and dispatch the electricity within the state through secure and economic operation of the state grid. In their submission, the SLDC also confirmed that the real time operation necessitates backing down of WEGs for grid stability. The words “real time grid operation” are very significant. The backing down of wind mill shall be done only for the reasons of grid security and safety encountered during real time operation of the grid. As per the record available with the Commission, there are 205 feeders having mixed feeders of WEGs and distribution load. Hence, the SLDC has to ensure the accuracy of actual generation of Wind Energy for real

time operation. In the same report, the SLDC has reported that only the quantum that has to be backed down/**load shedding**, is being intimated and the backing down of the WEGs or load shedding **as per the priority** list has to be taken care by NCES and Nodal distribution side of 110kV SS. This observation gives an impression that backing down of WEGs is done in a routine manner like other load shedding. Both the above observations are not supporting the “real time operation” and consequent backing down of WEGs by SLDC. SLDC shall equip themselves to obtain real time data of its generation and demand and shall do real time control of the grid. In case of any backing down dispute in future, the SLDC shall prove that there is a security / safety danger to the grid with the details of real time frequency linked 15 minutes data of all generation / purchase, quantum of backing down, over drawal / under drawal, SRLDC direction, if any etc.

- (ii) There was strange issue brought out to the Commission’s knowledge during the proceedings of this case. In a few cases “Temporary Connectivity” was given by the Distribution / Transmission licensees after taking an undertaking from the petitioners to the effect that the WEGs/ Power Transformers will be switched off whenever the feeder / Transformer gets overloaded. The Commission has not given any such approval for providing temporary connectivity. As per the existing law, once the connectivity / open access is given by the licensee, it is the responsibility of the licensee to maintain his network and purchase / evacuate the contracted power. By taking an undertaking from the seller / open access customer so as to back down the generation at any time is

nothing but trying to nullify the effect of the existing Regulations and orders issued by the appropriate authority. Hence taking such undertaking by the licensee to circumvent the existing law is illegal. It is the responsibility of the licensee to implement the regulation / orders of the appropriate authority. An undertaking obtained without the legal standings cannot be enforced under law. Such violation of the licensee deserves appropriate action under Section 142 of the Act. The Commission reserves its right to take appropriate action.

- (iii) There was an argument put forth by the SLDC jointly with TANGEDCO that heavy generation of wind power increases the financial commitment to TANGEDCO. The SLDC compared the cost of wind power with the cost of power from Central Generating Stations for this purpose. Further since the SLDC is responsible for economic operation of the grid as per Section 32 of the Act, the SLDC had requested the Commission not to grant 'must run' status to the WEGs. It is not correct to read one particular section of the Act in isolation and act upon. The SLDC should have done conjoint reading of all the provisions of the Act, Regulations, Orders related to this issue as discussed supra and acted accordingly. The IEGC, TNEGC and the Tariff Orders of the Commission have given a definite "Must Run" provision to the wind power after taking into account all the related provisions / issues. Therefore, it is the responsibility of the licensee and SLDC to follow the law in right spirit. Incidentally, wind power is one of the cheaper powers in Tamil Nadu. As per the rate specified in the Tariff Orders of the Commission, it is cheaper than the coal based thermal plants and long term / short term power purchases of the TANGEDCO.

- (iv) Almost all the submissions made by the Respondents have been done jointly by Licensee and SLDC. The petitioners have complained that the functioning of SLDC is antithetical. The SLDC is the apex body to ensure integrated operation of the power system in the State. SLDC has a level playing role among the generators, licensees and open access consumers in the State. That might be the reason why Section 31 of the Act specifies that the SLDC shall be operated by a Government Company / Authority / Corporation as may be notified by the State Government. Incidentally, all the licensees and the SLDC are functioning under a single Chairman in Tamil Nadu. To avoid giving room for such alleged biased functioning of SLDC, the Secretary of the Commission is instructed to send an advice note to the State Government under Section 86 of the Act to segregate and notify the SLDC as a Government Company etc. early as required by Section 31 (2) of the Act.

11. Taking into account the issues discussed and decision arrived at supra, Commission summarizes the order on the prayer of the Petitioners as below:-

- (i) The “MUST RUN” status provided to the WEGs by the IEGC, TNEGC and the Commission’s Tariff Orders issued from time to time is the plain and unequivocal language of the laws and it shall be followed in letter and spirit by all entities including the SLDC. However, on consideration of grid security or safety to men / machine, the SLDC may issue appropriate directions to the entities concerned. Before issuing any backing down instructions to the WEGs by the SLDC, the SLDC shall ensure the compliance of directions issued in this order. In case of any dispute over

such backing down instructions, the SLDC has to prove their appropriate action with relevant data / information as specified in this order.

- (ii) The SLDC is handling one of the highest penetrations of infirm wind power in the country. The backing down details submitted by the petitioner in MP 14 of 2012 show that many of the backing downs were done by the Respondents when the frequency was above 50 Hz. Hon'ble APTEL has issued certain instructions to safeguard the interest of the WEGs in its Order dated 30.6.2014. The Commission has issued certain specific / additional directions in this order. New generators with capacities of 600 MW have been recently connected to the Tamil Nadu Grid. Southern Grid has been connected to the rest of the grid of the country and the capacity of inter regional power transfer is likely to be increased. These developments may enhance the capability of accommodating the infirm wind power in Tamil Nadu Grid and give better leverage to SLDC to handle the frequency within the prescribed limit. In light of the above, Commission feels that it is prudent not to provide deemed generation facility to the petitioners. **This order will apply only prospectively.** Since the order will take prospective effect, the question of declaring the backing down orders as invalid does not arise.\
- (iii) The SLDC has been directed in this order to comply with certain procedures before backing down of WEGs in line with the order issued by the APTEL. Any backing down done beyond the scope of such directions is not legally valid. The entities responsible for such backing down are liable for appropriate action under the Act and Regulations / Orders made thereon.

- (iv) Commission has declared in clear terms in this order that the actions of the licensees concerned to provide “Temporary Connectivity” after getting an undertaking to the effect that the feeders / Power Transformers will be switched off whenever it gets overloaded is not legally valid. Taking such undertaking by the licensee to circumvent the existing law is illegal. It is the responsibility of the licensee to implement the regulation / orders of the appropriate authority. An undertaking obtained without the legal standings cannot be enforced under law. Once the connectivity is given to an entity, the licensee shall honour their commitments as per law. The Commission reserves the right to take appropriate action under section 142 of the Act on such violations.
- (v) The State Transmission Utility (STU) and the Distribution Licensee shall ensure development of an efficient, co-ordinated and economical system of intra-state transmission and distribution lines as the case may be, for smooth flow of electricity from a generating station to the load centers as mandated in Sections 39 and 42 respectively. Tariff Regulation specifies that the normative availability of transmission system shall be 98%. It also specifies that full annual transmission charges shall be recoverable at the target availability of 98% and the payment of transmission charges below the target availability shall be on pro-rata basis. The availability shall be considered subject to other related provisions of the Act, Regulations and Orders. The licensees are liable for action under Section 57 of the Act in addition to other provisions. Commission’s Standard of Performance shall apply to the failures of the network maintained by the Distribution Licensee in addition to the other relevant provisions of the Act and Regulations. The affected party can claim action / compensation to case basis.

- (vi) SLDC shall equip themselves to obtain real time data of its generation and demand and shall do real time control of the grid. In case of any backing down dispute in future, the SLDC shall prove that there is a security / safety danger to the grid with the details of frequency linked 15 minutes data of all generation / purchase, quantum of backing down, over drawal / under drawal, SRLDC direction, if any, etc.
- (vii) SLDC shall send a Quarterly Report on MOD and backing down details to the Commission.
- (viii) To avoid giving room for any biased functioning of SLDC, the Secretary of the Commission is instructed to send an advice note to the State Government under Section 86 of the Act to segregate and notify the SLDC as a Government Company, etc. as required by Section 31 (2) of the Act.

Sd/-
(S.Nagalsamy)
Member

Findings of Thiru G.Rajagopal, Member:-

Issues for consideration

We have heard the parties at length. After considering their submissions and records adduced as evidences before us, we find that the following issues arise for consideration.

1. Whether the act of the SLDC directing the wind energy generators to back down generation as and when required can be said to be against the spirit of section 86(1) (e) of the Electricity Act,2003, clause 5.2.20 of NEP , MP No.42 of 2008 as contended by the petitioners?
2. Whether such act of SLDC directing the WEGs to cease generation and the alleged consequential loss to WEGs would amount to violation of rights of open access available to the petitioner?
3. Whether the wind energy can be placed on a higher pedestal and exemption can be given from the purview of back down instructions and whether the prayer of the petitioner seeking "Must Run Status" and directing the respondents not to issue orders to the WEGs to switch off/back down generation can be acceded to?
4. Whether the contention of the petitioner that transmission charges, being fixed independent of the actual quantum of power transmitted and the petitioner dependent on the actual grid availability, the situation could be alleviated by making the transmission charges payable by WEGs dependent on actual grid availability can be said to be sustainable?

5. Whether the undertaking obtained by TANTRANSCO in the light of the above circumstances can be said to be valid in law?

6. Whether the wheeling of power is subject to Grid stability as contended by the respondents?

7. Whether the Grid Stability is a relevant factor in the matter of back down instructions and whether the contention of the petitioners that the respondents are unfairly rejecting the WEGs to generate power to their installed capacities can be said to valid?

8. Whether the Commission in its Wind order dated 20-03-2009 and APTEL in its order dated 18-03-2011 in Appeal No.98 of 2010 accorded WEGs "Must Run Status" as contended by the Petitioners?

9. Whether the contention of the petitioners that the respondents have failed to provide any comprehensive or concrete data to establish that the Grid was under severe threat of collapse which required backing down and instructions have not been issued to any other generators for backing down is correct.

10. Whether the petitioner is entitled to any relief, if so, to what extent?

Findings of the Commission on the first issue:

On the first issue, there can be no second opinion on the point that section 86(1) (e), clause 5.2.20 of NEP mandate the Commission to promote

non-conventional sources and the same view has been affirmed in M.P. No.42 of 2008. It has been the consistent policy of the Commission to promote the non-conventional sources of power, more particularly the wind considering the potential in the State. Therefore, we are perfectly in agreement with the contentions advanced by the petitioner. However, it is to be seen whether at all any restrictions can be imposed on the wind generation it being a renewable source.

In our view, the question of promotion of the renewable sources and maintenance of Grid Safety are two different issues operating in different sphere. While fully agreeing with the petitioner that wind power, being a renewable source has to be promoted, we should also ensure the security of the Grid. It must be understood that the directives of the SLDC and the undertaking obtained in relation thereto operate in a different spheres from that of the promotion of non-conventional sources. It must also be noted that the Commission has a mandate to promote non-conventional sources as well as to ensure the safety of the Grid and therefore, a harmonious reconciliation of these two concepts are necessary for a regulator. The order issued by the SLDC directing the WEGs to desist from injecting energy into the Grid flows from section 33 of the Electricity Act which enjoins upon it to maintain Grid Safety. To quash the said order solely on the strength of provisions relating to the promotion of non-conventional sources would be against all canons of statutory principles and would work against the very basic and most necessary principle of securing the grid from collapse. When a statute prescribes something to be done in a particular manner, it has to be done in that manner only and the action of SLDC in seeking back down of wind generation to secure the grid cannot be said to be against the spirit of sec 86(1)(e) of the Act. To set aside the order of the SLDC which has been issued in the context of safety of the Grid on grounds which are not

germane to the safety of the grid would amount to imposing shackles on the SLDC and usurping the authority of the SLDC and may result in SLDC abdicating its responsibility to maintain the grid security. However, we are fully conscious of the fact that the wind energy has to be harnessed and exploited up to its maximum potential and the issues concerning the same will be discussed in the coming paragraphs of this order.

Findings of the Commission on the second issue:

With regard to the second issue, it may be seen that it is similar to the first issue. Here also, the question that arises for consideration is whether a statutory function of an entity can be shackled on the grounds of another provision in a statute. The Commission has a two-fold mandate insofar as the present issue is concerned, namely, promotion of non-conventional sources of energy and promotion of open access. It is to be noted that as seen in the earlier issue, promotion of the non-conventional sources and implementation of open access are two different issues operating in different sphere. There is no dispute on the point that open access is an inalienable right on the part of a person who seeks it, subject to certain restrictions laid down by the Electricity Act, 2003 and the regulations made thereunder. However, security of the Grid is of such paramount importance that it cannot be relegated to the back ground. The contentions of the respondents on the question of safety of the Grid also needs to be seriously considered while there is no gainsaying the fact that promotion of non-conventional sources is also one of the prime functions of the Commission. Therefore, we are unable to conclude that the act of SLDC affects the rights of the petitioner under Open Access as contended by the petitioners. The indisputable fact is the wind power is infirm and the sudden influx of large quantity of energy could threaten the security of the Grid. The grid

operator needs minimum visibility in respect of the supply and demand for safe and secure operation of the grid. Incidence and withdrawal of wind energy of sizable quantum in the grid would admittedly endanger the grid operation. With the state grid being interconnected to the national grid any threat to the grid will not only be restricted to the State but could plunge the major parts of the country into darkness. Wind generators are unable to schedule their power given the infirm and variable nature of wind generation. Under the given circumstances it cannot be said that the act of the SLDC amounts to violation of rights under open access. However, as discussed supra, we are also equally convinced with the contentions of the petitioner that wind energy has to be exploited to its maximum potential and for this purpose, we will be issuing directions to both the licensee and the wind energy generators.

Findings of the Commission on the third issue:

On the third issue, it is the case of the petitioners that exemption has to be given to the wind energy generators from the purview of back down instructions and “Must Run Status” be accorded on the strength of various provisions concerning promotion of renewable energy sources. It is to be noted that the section 86(1) (e) postulates promotion of non-conventional sources. It is also provided in the National Tariff Policy that the non-conventional sources need to be treated on a preferential footing until they are fit to compete with the conventional sources. Hence concessions in some form or other, to the renewable sources of energy are justified. Therefore, we do not have a different view in this matter and are of the view that preferential treatment is necessary for the non-conventional sources for some time to come and all necessary efforts are to be taken to absorb the generation from this renewable resource to the fullest extent. The list of sources provided with ‘Must Run Status’ by the Indian Electricity Grid Code 2010 issued by the Central Electricity

Regulatory Commission includes wind power. However, when the question of grid security surfaces, it attains the superior position as compared to all other aspects including the issue of absorption of renewable power. More importantly, there is also stipulation that requires that the Data Acquisition System facility shall be provided for information to the concerned SLDC which means it is also necessary on the part of Wind Energy Generators to furnish the necessary data or information in regard to the energy to be pumped into the Grid and associated scheduling. There is no doubt of whatsoever nature on the point that these issues of Grid Security and “Must Run Status” though operate in different spheres are so much intertwined and inextricably woven that both require a harmonious balancing. Hence, we are convinced that the issue of “Must Run Status” cannot be viewed in isolation and has to be viewed from the point of view of the stability of the grid and securing the safety of the same as well. This view is also in consonance with the judgment of the Hon’ble APTEL in Appeal No.327 of 2013. As a regulator, Commission has been carrying out its mandate in respect of both the spheres, namely, the promotion of wind energy as well as security of the Grid. While on the one hand, Commission is actively promoting wind sources by means of banking, renewable purchase obligations and concessional transmission and wheeling charges, on the other hand, it has a different role to play in the matter of ensuring the safety of the Grid and has to facilitate the SLDC to discharge its functions. Therefore in view of the grid security, SLDC must have the freedom to operate it without undue interference. There are larger issues arising out of back down which cannot be ignored. It is the contention of the respondents that back down was done to contain the frequency within the limit specified in the Indian Electricity Grid Code. In our view, there is force in the said contention of the respondents. However, this is not to say that nothing can be done to make the licensee absorb the wind energy up to the maximum. The issue has to

be examined in the larger perspective. The issue pertains not only to the Security of the Grid but also pertains to various other factors arising out of the same. Absorbing all the energy generated by the wind generators would call for coordinated action by all the other generators. At the time of higher generation from the wind in order to accommodate the same other generators have to correspondingly back down their generation. Likewise when wind generation falls others shall be capable of increasing their generation to maintain balance. The ramping rate of the generators connected to the grid must be sufficient enough to balance the variation that may be caused by the wind generators which is quite high in this State. There are technical and commercial concerns standing in the way of coordinated performance by the other conventional fuel based generators. The technical limit is inherent quality of the machines which are designed to operate continuously at the maximum capacity. Because of this the operating bandwidth of the conventional fuel based machines is so small which will be grossly insufficient to match the variations in wind generation. Commercial limitation arises out of the operating norms that are part of the power purchase agreements. For example the variable cost is paid to the generator based on the normative heat rate fixed by the regulations. When the generator is operating at a capacity far below the rated capacity or at varying capacities in sync with the variations in the wind generation the heat rate of the machine gets a beating causing an avoidable loss of revenue to the generator. Thus the over swung operation of the machines has a telling effect in the life of the plant, fixed cost, variable cost etc. The conventional fuel based generators are also wary of reducing the generation since their performance rating is based on the actual generation that is, PLF which is not adjusted for the reduction in generation to accommodate the wind generation. These are all regulatory issues not in the hands of SLDC. Even if all the conventional fuel based generators promptly adjust their

generation, it might not be enough to accommodate the entire wind generation if the quantum of wind generation happens to be huge which is normal in this state. The situation may get accentuated if the demand also falls significantly caused by the wide spread rainfall due to the active monsoon and spillage of hydro reservoirs occurs. The state utility may have to look to other states for help in absorbing the excess quantum of wind power. The current regulations have no place for such arrangements. Knowing all such pitfalls if the Commission is to give such orders to the SLDC to somehow absorb all the wind generation without demur, it can only be at the great risk of grid security. Under the given conditions the Commission is not inclined to order the SLDC not to force wind generators to back down irrespective of the grid condition.

Findings of the Commission on the fourth issue:

On the fourth issue, we have to hold that the question of mixing up the transmission charges with the back down instructions is difficult to agree to. The Regulations of the Commission provide for collection of transmission charges on the installed capacity. This is based on the premise that the licensee keeps the infrastructure ready at all times and has invested heavily for the same to cater to the needs of the generators/consumers. The collection of transmission of charges is to enable the licensee to sustain itself viably in terms of finances. However, back down instructions are issued to secure the safety of the Grid and to prevent the black out which could plunge the region into darkness. It is meant for Grid Discipline and therefore, it is our considered view that no parallel can be drawn between these two nor these issues could be said to be intertwined. To draw a correlation between the transmission charges and the alleged loss arising out of back down instructions, in our view, will not be appropriate. Further Regulation 38 of Tamil Nadu Electricity

Distribution Code enables the licensee to direct a consumer curtail the use of power and it clearly specifies that no compensation is payable. Though it concerns the consumers and not the generators, the principles are akin to the present case. There cannot be a differential treatment to a consumer and a generator in the matter of compensation arising out of directions issued for curtailing of energy consumption or generation, as the case may be, as it would strike at the very fabric of equality enshrined in the Constitution of India and lead to discriminatory treatment. Hence, we cannot accept the contentions of the petitioner in this regard. In the result, we cannot agree to the proposition that the transmission charge to be payable by the petitioner should be made dependent on the actual grid availability and the situation could be alleviated by making the transmission charges payable on actual grid availability.

Findings of the Commission on the fifth, sixth and seventh issues:

On the fifth, sixth and seventh issues, we deem it fit and appropriate to refer to clause 3(10) (v) of the Energy Wheeling Agreement signed between the parties which reads as below:

“Grid availability shall be subject to Restriction & Control and as per the orders of the SLDC and as per the Tamil Nadu Electricity Grid Code”

Regulation 8(4) (v) of the Tamil Nadu Electricity Grid Code reads as follows

All entities shall abide by the concept of frequency linked load despatch and pricing of deviations from schedule i.e. unscheduled interchanges. All generating units of the entities and licensees shall normally be operated according to the standing

frequency linked load despatch guidelines issued by the SLDC to the extent possible unless otherwise advised by SLDC.

Section 33 of the Electricity Act, 2003

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

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

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

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

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

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

It may be seen from the above that the SLDC plays a crucial role in the maintenance of Grid Security and its actions cannot be called in question unless it acts against the security of the Grid. The SLDC in the State of Tamil Nadu is handling the highest penetrations of infirm wind power in the country and there is no dispute on this score. Therefore, the regulations of CERC cannot be applied strictly to the State of Tamil Nadu without appreciating the ground realities and there is a need for circumspection. The large scale blackout which happened in 2012 in the northern part of India cannot be erased from memory and it is an eye-opener to the electricity regulators and the licensees all over India. In such circumstances, it is necessary to ensure that large scale black out, does not take place on account of non-adherence of grid discipline by Tamil Nadu. In this context, we are of the view that we cannot compel the SLDC to absorb the wind energy without any restriction risking the Grid Security. The SLDC is the best judge to decide on the timing, scope and extent of dispatch / back down instructions. The clause 3(10)(v) of the EWA and 8(4)(v) of the TN Electricity Grid Code seek to subserve the clause of Section 33 of the Electricity Act, 2003. Hence, it may be seen that the back down instructions can be given to maintain the frequency restriction imposed by IEGC and the undertaking obtained by the respondents to that effect in this regard, in our considered view, is perfectly valid in law. The contention of the petitioner that it had no option but to sign the undertaking cannot be accepted for the reason that even otherwise without an undertaking, the instructions of the SLDC have to be abided by the WEGs. It also follows as a natural corollary that wheeling of power is subject to Grid stability as

rightly contended by the respondents. The Grid Stability is a relevant factor in the matter of back down instructions and therefore, the contention that the respondents have unfairly rejected the WEGs request to generate power to their installed capacities is misplaced and therefore, fails. In the result, the issues No.5,6 & 7 are decided accordingly.

Findings of the Commission on the eighth issue:

To settle the eighth issue, it is necessary to refer to the relevant portions of the Order dated 20-3-2009 of the Commission which reads as follows:

Those generating electricity and feeding in full or part to the State Grid from Non-Conventional Energy such as wind electric generators, small hydro plants, biomass combustion and co-generation etc, there will be no restriction on generation capacity or supply of electricity to the Grid. Consortia or co-operatives will also be eligible.

It may be seen from the above that statutory order dated 20-3-2009 of the Commission lays down the position that there cannot be any restriction on the generation or supply of electricity to the Grid. Therefore, we are in agreement with the contention of the petitioner that there cannot be any restriction on the generation or supply of wind energy to the Grid. However, as stated supra, the issue cannot be viewed in isolation and has to be seen in the context of the security of the Grid as well and in line with the observations of the Hon'ble APTEL. In this connection, the following portions of the judgment of the Hon'ble Appellate Tribunal for Electricity in Appeal No. 327 of 2013 would also be relevant for deciding the issue:

8. we find that the main matter which was being considered by the State Commission was procurement of round the clock firm power for meeting the future

power demand in the State. As already pointed out by the learned counsel for the TANGEDCO, the State was facing huge power shortage due to which it was resorting to restriction and control measures as also unscheduled load shedding. Wind energy is a seasonal energy and is not available round the clock around the year. Therefore, it is necessary for the distribution licensee to maintain balance of the various sources of energy both conventional and renewable, in its portfolio. It is not correct for the wind energy generators to stall the process of procurement of firm power from conventional sources of energy which is also essentially required to be tied up in view of huge power shortage prevailing in the State and future growth of power demand and to meet the demand on round the clock basis. The State Commission is the appropriate authority to approve procurement of power from various sources and to ensure that the balance is maintained between the various conventional and non-conventional sources of energy with a view to meet the power demand of the consumers on 24x7 basis.

9. However, the interest of the wind energy generators can be safeguarded by scheduling planned maintenance of conventional generating units during high wind season, procuring short term power after considering the likely availability from wind energy, backing down of generation at coal based thermal stations upto the minimum threshold limit when secondary oil support is not required, optimum scheduling of gas/liquid fuel based plants and hydro power plants keeping in view the availability of wind energy, operation of Pumped Storage Plants etc.

10 .In our opinion, the wind energy should be utilized fully by optimum scheduling at conventional power plants subject to maintenance of grid security. Hence, we direct the State Commission to ensure while approving the

PPAs for procurement of long term power under Section 63 of the Electricity Act, 2003 that there is no take or pay or 'must run' provision so that the power plants can be asked to back down generation upto the minimum threshold limit during the high wind season to accommodate generation from wind energy generators.

It may be seen from the above that the Tribunal while observing categorically that the wind energy should be utilized fully by optimum scheduling at conventional power plants, also made it clear that such utilisation is subject to maintenance of grid security. Needless to say here that both the promotion of wind energy as well the security of the Grid are important. Therefore, the back down instructions which, in the opinion of the SLDC have been issued for the safety of the Grid, cannot be called in question nor can any compensation be claimed arising out of such directions. If such a plea is accepted, it would act as a bar on the issuance of such directions for security of the Grid and Commission is unable to agree to such proposition put forth by the petitioner which may imperil the security of the Grid and go against the judgment of the Hon'ble APTEL. In the result, we have to necessarily hold that unfettered "Must Run Status" restraining the SLDC from asking wind generators to back down cannot be said to have been accorded by the APTEL to the wind energy and what has been stated in the said judgment is that wind energy has to be accommodated in the State Grid subject to security of the Grid. Therefore, contentions of the petitioner in this regard fail.

Findings of the Commission on the ninth issue:

With regard to the ninth issue, it must be said that as discussed supra, the State Commission cannot unduly interfere with the functioning of the SLDC to see whether there was any comprehensive or concrete data to establish that Grid was

under severe threat of collapse which warranted issue of back down instructions. The question as to whether such data is sufficient for arriving at a conclusion that the security of the Grid was at stake or whether there was any possibility of imminent collapse of the Grid cannot be extensively dealt with by the Commission when SLDC is entrusted with the said function under the Electricity Act, 2003. The sections 32 and 33 of the Electricity Act, 2003 makes the SLDC responsible for carrying out real time operations of Grid in the State in accordance with the State Electricity Grid Code. The SLDC therefore, has the duty cast upon it to issue instructions in terms of Regulation 8 of the TN electricity Grid Code. It cannot abdicate its responsibility of maintaining grid discipline and the present directions issued in line with those provisions cannot be said to be outside their ambit. However, Commission can see whether there is any statutory violation on the part of the SLDC in issuing such directions and whether it exceeded its authority. We do not find any statutory violation or exceeding of authority on the part of SLDC and hence, Commission cannot take up the difficult task of micro-management of SLDC. On the question of wind power being treated differently from that of other sources of power in the matter of backing down, we have to state that issue of back down transcends the source of power as it strikes at the root of Grid security. No preferential treatment can be given insofar as the security of the Grid is concerned. Wind, being an infirm power, is unable to assure the SLDC of the exact quantum of the energy to be pumped into the Grid. The petitioner has interpreted Regulation 8(3) (b) of the TN Electricity Grid Code to the effect that it confers Must Run Status on the wind energy, the reason being that the said regulation postulates that the SLDC shall regulate overall State Generation in such a manner that generation from certain sources such as hydro and wind where energy potential, if unutilised goes, as a waste shall not be curtailed. Here it is important to note that there is difficulty in agreeing to the prayer of the

petitioner in entirety given the infirm nature of the wind and the difficulty of the licensee to absorb the wind energy at all times. The factor underlying the grant of “Must Run Status” to WEGs at all times is the practical difficulties experienced in real time operation of the Grid rather the statutory provisions. Wind, being an infirm power cannot be compared with that of other sources in terms of advance scheduling and quantification of energy to be fed into the Grid. As rightly contended by the respondents, there is every chance of collapse of the Grid leading to black out if wind energy is absorbed without appropriate scheduling and advance information. The issue cannot be decided solely with reference to the preferential treatment accorded to the Wind Energy in the Electricity Act and the regulation made thereunder and there lies a practical difficulty in absorbing the wind energy in the Grid at all times. The issue of safety of the Grid is not an issue which is merely confined to the wind energy but it is a generic issue concerning the developers of other forms of energy and the electricity consumers at large. Insofar as the wind is concerned, it may be said that the injection cannot be quantified and it is subject to vagaries. At times, even the thermal and hydro power may not be asked to back down for reasons other than financial. Thus, we are of the opinion that a holistic approach rather than a pedantic approach is necessary. However, the fact that wind contributes 14% of the energy fed into the Grid of TANGEDCO is also relevant fact for consideration. Therefore, we would like to examine the prayer of the petitioner on the “Must Run Status” with all earnest and see what could be done for harnessing the wind energy to its maximum potential. We feel that a balanced approach to the concerns of wind energy generators and the licensee would settle the issue. In order to maximise the wind energy capacity and absorb the same into the Grid to the maximum as well as to ensure the security of the Grid, the Commission may issue further directions based on the judgment of the APTEL in Appeal No. 327 of 2013.

Findings of the Commission on the tenth issue:

On the tenth issue, we are of the view that interests of both the wind energy generators and the licensee would be better served by adopting a harmonious approach. While we agree in principle that the “Must Run Status” for the wind is the ultimate objective, we also would like to make it clear that the same should always be subjected to the security of the Grid and effort is required on the part of both the WEGs and the SLDC to achieve the said objective. we would like to ensure that there is a win-win situation for both sides in the interest of the State by implementing the “Must Run Status” to the extent possible subject to security of the Grid and till such time the statutory support is forthcoming in the Electricity Act, 2003, the said approach may suit the interests of both sides.

Order

In view of the above findings, we hold that the impugned order passed by the respondents issuing back down instructions to the wind generators is in consonance with the Electricity Act, 2003 and the regulations made thereunder. Inasmuch as the instructions have the sanctity of law, we are unable to grant any relief to the petitioners in the form of compensation for loss of energy. However, the interests of the wind generators cannot be overlooked and hence, the Commission keeping in view of the directions of Hon’ble APTEL in Appeal No.327 of 2013, issue the following directions to the licensee as well as wind energy generators:-

1. The distribution licensee shall ensure scheduling and planned maintenance of conventional generating units during high wind season and procure short term power after considering the likely availability from wind energy

2 The distribution licensee shall resort to back down of generation at coal based thermal stations upto the minimum threshold limit when secondary oil support is not required, optimum scheduling of gas/liquid fuel based plants and hydro power plants keeping in view the availability of wind energy, operation of Pumped Storage Plants, etc.

3. The distribution licensee shall make every endeavour to see that the wind energy is utilized fully by optimum scheduling at conventional power plants subject to maintenance of grid security.

4. While approving the PPAs for procurement of long term power under Section 63 of the Electricity Act, 2003 there will be no take or pay or 'must run' provision so that the power plants can be asked to back down generation upto the minimum threshold limit during the high wind season to accommodate generation from wind energy generators. This will be even more applicable in the case of short term power procurements too.

5. The Wind Energy Generators shall strive to schedule their energy in advance, as far as possible, in order to ensure that the functions of the SLDC is carried on smoothly with better visibility without any threat to the Grid security.

6. Wind forecasting assumes greater importance in this respect. There are several software packages said to be available to forecast the wind generation well in advance. However accuracy of prediction within an acceptable range remains questionable. Both the parties shall work together by transacting the data that may be required and available with them so that over a period of time a more meaningful

predictability is achieved. This will help solve in a big way the problem of scheduling and thus enable the SLDC to plan the load generation balance efficiently without causing spillage of wind generation.

With these observations and directions, the petitions are disposed. No costs.

Sd/-
(G.Rajagopal)
Member

8. Appeal:-

An appeal against this order shall lie before the Appellate Tribunal for Electricity under section 111 of the Electricity Act, 2003 within a period of 45 days from the date of receipt of a copy of this order by the aggrieved person.

(Sd.....)
(G.Rajagopal)
Member

(Sd.....)
(S.Nagalsamy)
Member

/ True Copy /

Secretary
Tamil Nadu Electricity
Regulatory Commission