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

PRESENT:

Thiru M.Chandrasekar .... Chairman

and

ThiruK.Venkatasamy …. Member (Legal)

M.P. No.3 of 2019

Tamil Nadu Generation and Distribution
Corporation Limited (TANGEDCO)
Represented by the Chief Engineer /
Non-Conventional Energy Sources
144, Anna Salai
Chennai – 600 002.
… Petitioner

(Thiru M.Gopinathan,
StandingCounsel for TANGEDCO)

Dates of hearing : 14-02-2019; 25-03-2019; 22-10-2019 and 04-12-2019

Date of Order : 02-02-2021

The M.P.No.3 of 2019 came up for final hearing on 04-12-2019. The Commission upon perusal of the petition and connected records and after hearing the submissions of the petitionerhereby makes the following:-

ORDER

1. Prayer of the Petitioner in M.P.No.3 of 2019:-

The prayer of the petitioner in M.P. No.3 of 2019 is to approve the draft procedure as enclosed in Annexure I to be adopted by TANGEDCO for repowering the existing Wind Electricity Generators and to approve for the purchase of

generation from the Repowered WEG's at the Feed-in-Tariff (FIT) or the rate decided through bidding whichever is less at the time of commissioning of Repowered Wind Energy Generators (RWEG).

2. Facts of the case:-

This petition has been filed for seeking approval for the procedure to be adopted by TANGEDCO for Repowering of existing Wind Energy Generator's within the State of Tamil Nadu and Tariff proposed for the repowered WEGs as per the Repowering Policy issued by MNRE, vide Notification No.66/175/2015-WE, dated 05-08-2016.

3. Contentions of the Petitioner:-

3.1. The wind generation started in Tamil Nadu from 1986 with the machine capacity of 200 KW, 225 KW, 250 KW, 410 KW, 500 KW, 500 KW and 600 KW. These machines have served their full life period and still running. Most of them are under EPA or EWA with a tariff of Rs.2.75 and Rs.2.90 per unit. Due to technological advancement, presently the machine capacities are 750 KW, 850 KW, 1500 KW, 2000 KW and 2100 KW etc.

3.2. The Ministry of New and Renewable Energy has issued policy for repowering vide Notification No. 66/175/2015-WE on 05-08-2016 and generally the guidelines are:

Eligibility:

Initially wind turbine generators of capacity 1 MW and below would be eligible for repowering under the policy. Based on the experience, Ministry of New & Renewable Energy (MNRE) can extend the repowering policy to other projects also.

Implementation Arrangements:

The repowering projects would be implemented through the respective State Nodal Agency/Organization involved in promotion of wind energy in the State.

Support to be provided by States.

(i) In case augmentation of transmission system from pooling station onwards is required the same will be carried out by the respective State Transmission Utility.

(ii) In case of power being procured by State Discoms through PPA, the power generated corresponding to average of last three years' generation prior to repowering would continue to be procured on the terms of PPA in-force and remaining additional generation would either be purchased by Discoms at Feed-in-Tariff applicable in the State at the time of commissioning of the repowering project and/or allowed for third party sale.

(iii) State will facilitate acquiring additional footprint required for higher capacity turbines.

(iv) For placing of wind turbines 7Dx5D criteria would be relaxed for micro siting.

A wind farm/turbine undergoing repowering would be exempted from not honouring the PPA for the non-availability of generation from wind farm/turbine during the period of execution of repowering. Similarly, in case of repowering by captive user they will be allowed to purchase power from grid during the period of execution of repowering, on payment of charges as determined by the regulator.

3.3. TANGEDCO has proposed to implement repowering of old WEGs in line with the guidelines and the following are the specific issues related to TANGEDCO for repowering:

(i) Most of the evacuation infrastructure for WEG's developed prior to year 2000 were by Board after collecting Infrastructure Development Charges (IDC) ranging from Rs.15 Lakhs to presently to Rs.30 lakhs/MW from the developers under IDC concept or developed by the generator out of IDC amount and the cost of asset amount refunded to the developer after taking over the assets. Maintenance is under the scope of TANGEDCO, since the assets belong to TANGEDCO and presently the O&M cost of Rs.2.363 lakhs / MW / year are being collected from the WEGs.

(ii) Almost 90% of the existing old machines are under captive scheme and most of the WEG's been allowed to be installed in distribution substation and feeders and vice versa and so there exists mixed feeders and substation.

(iii) Similarly distribution loads were allowed to be connected in wind farm substations developed by Board under TDC concept, which also results in mixed feeders and Substations.

(iv) The substations in which most of the WEGs erected prior to year 2000 were loaded by 110% to 120% of the rated power transformer capacity because of the adoption of loading factor of 1.1 to 1.2 and in some cases taking into account the sustained peak of the substation, based on the procedure adopted prior to year 2000.

(v) Regarding the issue of micrositing, it is submitted that the TANGEDCO has adopted 50 X 70 so far and now it has been relaxed vide TANGEDCO Proceedings (Per) (CMD) No. 469, dt. 09.11.2018 as mentioned in the policy.

(vi) The CUF for the older machines is difficult to arrive, since only after 2006, the Commission defines and fixes the CUF.

3.4. The repowering is of two types:

Type 1:- Repowering not exceeding the installed capacity which needs no infrastructure improvement.

Type II:- Repowering exceeding the installed capacity which needs infrastructure improvement.

3.5. Type I : Repowering not exceeding the installed capacity

(i) The PPA tariff upto 2009 is either Rs.2.75 or Rs.2.90 per unit and so adopting Feed in Tariff (FIT) of Rs.2.80 per unit for all the generation after repowering or the latest tender discovered rate at the time of commissioning

of repowered WEG whichever is less is proposed to be adopted by TANGEDCO, since arriving/adopting different tariff for single PPA after repowering as per the guidelines is practically difficult to adopt.

(ii) Similarly for the WEG's under wheeling agreement, it is proposed to adopt the latest Wind Energy Tariff Order No.6 of 2018, dt. 13.04.2018 for wheeling and banking since all the repowered WEG's are considered as new WEG's as per the MNRE guidelines. And so the banking of one month with encashment of unutilized energy at 75% of tariff at the end of the month is proposed.

3.6. Type-II: Repowering exceeding the installed capacity:-

Since most of the substations in which the repowering potential exists, are fully loaded, accommodation of additional capacity due to repowering needs load flow study.

(i) After load flow study if the feasibility exists for additional capacity the repowering may be considered, subject to land availability in the existing Substation and technical feasibility.

(ii) The RWEG's shall be planned for inter-connection with STU/TANGEDCO substation through dedicated transmission line/cable at voltage level of 11 KV and above.

(iii) The improvement needed in the existing board substation will be under IDC scheme by the developer @ Rs 30 Lakhs/MW subject to load flow study and feasibility of the space and technical constraints of the particular substations. If the feasibility of the particular generator is not available, the developer has the option to erect new substation under see 10(1) of the Electricity

act 2003 as per the prevailing procedure in vogue. The developer may also establish the connectivity by themselves through already established substation erected and maintained by the other developers under sec 10(1) of the Electricity Act, 2003. The entire cost of Transmission from the project up to the STU/TANGEDCO substation including cost of construction of line,breakers bay etc. shall be borne by the RWEG's and it will not be reimbursed by the TANGEDCO or met by the STU/TANGEDCO. The responsibility of getting Transmission Connectivity and access to the transmission system owned by the STU/TANGEDCO will lie with the RWEG's and shall be at the cost

of RWEG. The RWEG's shall not be entitled to any deemed generation in case of any delay in connectivity to the Project whatsoever the reason may be.

(iv) The STU/TANGEDCO shall endeavour to match the commissioning of the transmission system with the commissioning of the Repowering of WEG's projects.

3.7. The PPA tariff up to 2009 is either Rs.2.75 or Rs.2.90per unit and so adopting Feed in Tariff (FIT) of Rs.2.80 per unit for all the generation after repowering or the latest tender discovered rate at the time of commissioning of repowered WEG whichever is less

repowered WEG whichever is less is proposed to be adopted by TANGEDCO, since arriving / adopting different tariff for one PPA after repowering as per the guidelines is practically difficult to adopt.

3.8. Similarly for the WEG's under wheeling agreement, it is proposed to adopt the latest Wind Energy Tariff Order No.6 of 2018, dated 13-04-2018 for wheeling and banking since all the repowered WEG's are considered as new WEG's as per the MNRE guidelines. And so the banking of one month with encashment of unutilized energy at 75% of the tariff rate of Rs.2.80/unit at the end of the month is proposed.

4. Additional Affidavit filed by the Petitioner on 25-03-2019:-

In the additional affidavit filed on 25-03-2019, the petitioner has submitted as follows:-

4.1. The Commission in the daily orders dt. 14.02.2019 has directed as follows:

"The Standing Counsel for the TANGEDCO appeared. Arguments heard. TANGEDCO is directed to file additional affidavit detailing the reasons in respect of issues where deviation from the policy of the MNRE is sought tor"

4.2. In view of the above, TANGEDCO submits the following additional averments toenable the Commission to consider and pass appropriate orders.

4.3. As per the repowering policy issued by MNRE vide Notification No.66/175/2015-WE dt. 05.08.2016, the power generated corresponding to average of fast three years' generation prior to repowering would continue to be

procured on the terms of PPA in-force and remaining additional generation would either be purchased by Discom's at Feed-in-Tarff applicable inthe State at the time of commissioning of therepowering project and/or allowed for third party sale for the repowering WEGs which are under Power Purchase Agreement with TANGEDCO.

4.4. The following practical difficulties are expected in calculating the average of 3" years generation.

(i) The Wind Generator may ask for deemed generation for the non-availability of the grid due to various reasons like back down, breakdown of feeders, failure of breakers and maintenance of Substations etc.

(ii) The wind generator may ask for deemed generation due to non-running of the WEGs in view of maintenance / breakdowns.

In view of the above reasons, the arriving of continuous 3 years generation for fixing the limit for old tariff and for excess generation may lead to disputes. Hence, to avoid disputes if any, and further to encourage the Repowering, the new tariff rate as given to new Wind Energy projects is being suggested.

4.5. Further, the existing Tariff rate for the WEG's commissioned prior to15.05.2006 as per Tariff Order No.3 of 2006, dt. 15.05.2006 is Rs.2.75 per unit and for the WEGs commissioned after 15.05.2006 as per Tariff Order No.3 of 2006, dated 15-05-2006 is Rs.2.90 per unit. Hence, the average of 3 years effective tariff for TANGEDCO might be in the range of Rs.2.75 to Rs.2.90 per unit which is comparable to the present Feed-in-Tariff of Rs.2.80 / Rs.2.86 per unit.

4.6. Incorporating two tariff rates for a single agreement with repowered

generator, one for the average of previous three years generation and another for excess generation may become complicated for implementation at field level, since the monthly bills are prepared and paid from April to March.

4.7. It is ascertained that only less than 5% of the WEGs commissioned are prior to the year 2005 which may come for repowering is under PPA with TANGEDCO, whereas more than 95% of WEGs are under captive mode. For most of the WEG's to be repowered under captive category, the average of three years tariff will not have significant impact.

4.8. In view of the above, TANGEDCO proposed to adopt Feed-in-Tariff prevailing at the time of commissioning of repowering WEG to make it simple.

4.9. As per para (3) of the repowering policy issued by the MNRE,initially wind turbine generators of capacity 1 MW and below would be eligible for repowering under the policy, whereas TANGEDCO suggested to repower all the WEGs on request from the generator irrespective of the capacity to encourage repowering to better harvest the wind resources.

5. Written Submission dated 04-12-2019 filed by TASMA:-

5.1. Pursuant to the notification issued by this Commission, a public hearing has been held in the Court Hall of the Commission on 04-12-2019 and various stakeholders have participated in the public hearing and offered their views. The Commission has carefully considered the views of the stakeholders and directed to file their Written Submission also, if they so desire.

I <u>Maintainability of the Petition before the Commission in the absence of any Repowering Policy notified by the Government of Tamil Nadu:</u>

5.2. Before going in to the very maintainability of the petition filed by the Petitioner CE NCES in this regard, it becomes necessary to go in to the factual matrix of the matter, in every minute detail.

5.3. It should be noted that the State of Tamil Nadu, being a completely peninsular State, is the richest wind energy State in India, when compared with any other State in the Country. The capacities of wind energy generators installed, even as of now is the highest, when compared with any other State in India. It has still a good potential to harness the wind resources and can go for a further capacity addition of more than 15000 MW of wind energy generators.

5.4. While things are placed so, it is highly unfortunate that the Government of Tamil Nadu, has not made any attempt to issue any Policy on Wind Energy so far, when the State enjoys a major stake of more than 8502.78 MW of wind power as of now. It should be noted that while the capacity of the solar energy remains, even at 3618.14 MW at present, the State has issued two Policies, one during the year 2012, at the initial stage of Solar Energy Promotion and the other one during 2019,

which is currently in force. Therefore, non-availability of a State Policy exclusively for Wind Energy is still continuing as a deficiency and lacuna in the matter of wind energy administration in the State of Tamil Nadu.

5.5. It is found that the petition filed by the Petitioner CE NCES, is in furtherance of the Repowering Policy on Wind Power Projects as notified by the MNRE.

5.6. Even though, the MNRE has provided a Policy in No.66/175/2015-WE dated 05.08.2016, as “Policy for Repowering of Wind Power Projects”, it should be noted that it is only a Policy provided for the information of the stakeholders and general public and therefore, it has no statutory or mandatory force, by providing any mandatory obligations either for the stakeholders or for the general public in any manner. This should be considered as a point of our first objection and therefore, having proceeded to file a petition before the Commission, based on a mere generic policy, which makes the policy more optional and voluntary, just provided for the information of stakeholders and general public, is not a correct approach and therefore, the petition itself is lacking authority and jurisdiction for filing before the Commission. It ought to have been filed after the Government of Tamil Nadu having issued a Wind Energy Policy or at least a Repowering Policy on WEGs exclusively for the State of Tamil Nadu, as being done at the State of Gujarat. Without a Policy support, being a Distribution Licensee, the TANGEDCO has no authority to file this petition before the Commission and seek for orders on select areas covered by the MNRE Guidelines.

5.7. Therefore, the State should have either a General Wind Power Policy as like the one available for Solar Energy or at least, the State ought to have issued a Repowering Policy for the State of Tamil Nadu to Repower the Wind Energy Generators, as made available by the State of Gujarat in G.R.No.SLR-11-2015-1200-B1 dated 21.05.2018. Therefore, without either a General Wind Power Policy or a specific Repowering Policy, issued by the State Government of Tamil Nadu, based on a Policy initiative issued by the MNRE alone, which is of only voluntary and optional nature, the Chief Engineer-NCES cannot proceed further on the matter for *"seeking approval for the procedure to be adopted by TANGEDCO for Repowering of existing Wind Energy Generator's within the State of Tamil Nadu and Tariff proposed for the repowered WEGs as per the Repowering Policy issued by MNRE, vide Notification No.66/175/2015-WE dated 05.08.2016."*

5.8. Therefore, it is submitted that a Policy provided by the MNRE exclusively for the voluntary option of the wind energy generators for Repowering of their Wind Turbines on their own, provided under an optional and voluntary scheme, is now being attempted and converted in to a mandatory scheme, making the wind energy generators to fell down their WEGs compulsorily, after a particular period of life time. Such a scheme is nowhere available either in the MNRE Policy or in any other Policy.

II **<u>Life Time of the WEG is already in dispute:</u>**

5.9. Besides to the above, even on a plain reading of the Policy of MNRE, as released on 05.08.2016, it can be seen that it is only by way of an incentive to

Repower the WEGs and therefore, it cannot have any statutory force or mandatory binding to replace a WEG, when it has crossed a given life time. Nowhere in the Policy of the MNRE, the Life Time of the WEG was mentioned, to obligate it to go for Repowering. However, it is noted through the petition filed by the Petitioner CE NCES that the matter of Repowering is being attempted to go with a statutory force and mandatory obligation, so as to fell down, when the WEG has crossed a given life time. While the life time itself is a matter in dispute, the mandatory way of felling down a successfully and smoothly functioning WEG and making a new capacity WEG in the said site, is not enjoying any support of statutory background, either in the MNRE Policy or by any other provisions of Law under Electricity Act 2003.

5.10. It should be noted that the Life Time of the WEG need not necessarily be restricted to 25 years on any reason. It should be noted that Countries like Europe etc., old turbines are allowed even beyond 25 years with the certification for safe working. Relevant documents relating to Denmark and Germany are filed in the typed set of papers. In line with the same methodology, MNRE has already proposed IWTCS (Indian Wind Turbine Certification Scheme) and is pending with MNRE for issuing final decisions. Further, one official twitter message of Vestas confirms that the WTGs can work more than 30 years. All these facts confirm that the existing machines are having the potentiality to function for more than 25 years without causing any trouble to environment.

5.11. Further, the question of life time comes only at the expiry of EPA/EWA period. On coming in to force of the first Comprehensive Order on Wind Energy in Tariff Order No. 3 of 2006 dated 15.05.2006, all the PPAs thereto existed were

converted in to EPAs and EWAs and accordingly, all fresh agreements have been signed during the year 2007 or so and have allowed a further life time period of 20 years or 25 years as the case may be. Further, the life time of the WEGs were re-fixed from 20 years to 25 years in Order No. 3 of 2016 dated 31.03.2016 of the Commission, in line with the changes made by the Central Electricity Regulatory Commission in its Order in Petition No. SM/004/2015(Suo-Motu) dated 31.03.2015. Therefore, by all means of the privity of contract, the EPA/EWA should expire only after 25 years from the date of signing the agreement. Hence, in line with the Hon'ble CERC Order dated 31.03.2015 and also in line with the Commission's Order dated 31.03.2016, the life time of the WEGs in Tamil Nadu should be reckoned as 25 years only from the date of execution of the EPA/EWA and therefore, the petition of the Petitioner CE NCES is too premature for adjudication.

III **Quoting irrelevant Sections of Law for filing the Petition:**

5.12. Besides to the same, it should be noted that the Petitioner CE NCES has filed this petition before the Commission in MP No. 3 of 2019, for seeking an order under Section 62(1)(a), Section 63 and Section 86 (1)(b) of Electricity Act 2003, which Sections of Law, mainly deal with fixation of a Tariff, for procuring or purchasing of power from Generating Companies by the licensee, either directly or through any bidding process. Hence, it is evident that the petition has been filed before the Commission, only for the sheer purpose of fixation of tariff, while the Repowering of wind energy generator happens in the State. Beyond those scopes prescribed under Section 62(1)(a), Section 63 and Section 86(1)(b) of the Electricity Act 2003, for the fixation of tariff, the petition does not aim to shelter on any other scopes to travel beyond the tariff. It should be noted that while the petition was filed

under Section 62(1)(a), Section 63 and Section 86(1)(b) of the Electricity Act 2003, the petitioner namely the Chief Engineer-NCES has completely forgotten, the obligation of the Commission statutorily provided under Section 86(1)(e) of the Electricity Act 2003, to mandatorily make the promotional activities for the promotion of renewable power in the State. Filing the Petition under Section 63 is also not possible as there cannot be any bidding process that could happen in the matter of fixation of tariff because of the Policy constraint as made by the MNRE in its Policy dated 05.08.2016 as further explained below. Therefore, the petition suffers further maintainability under the provisions of law by which it is attempted to be filed and therefore, on this sole reason, the petition needs to be dismissed without any further course of adjudication.

IV Further Deviations found in the Petition in M.P. No. 3 of 2019 from the MNRE Policy:

5.13. While introducing the Policy, the MNRE has declared its intention in various places as below in the Policy itself.

> *"Major share of renewable power capacity in India is from wind energy. India started harnessing of the wind power prior to 1990. The present installed capacity is over 27 GW which is fourth largest in the world after China, USA and Germany.*
>
> *Most of the wind-turbines installed up to the year 2000 are of capacity below 500 kW and are at sites having high wind energy potential. It is estimated that over 3000 MW capacity installation are from wind*

turbines of around 500 kW or below. In order to optimally utilise the wind energy resources repowering is required."

5.14. With the above introduction, the objective moves as below.

"Objective of the Repowering Policy is to promote optimum utilisation of wind energy resources by creating facilitative framework for repowering."

5.15. Therefore, the objective of the Repowering Policy as declared by MNRE, is only to promote optimum utilization of wind energy sources by creating facilitative framework for Repowering. However, the whole underlying spirit in the Policy is wrongly understood and accordingly, in contra to the same, the Petitioner CE NCES is attempting to fell down all the WEGs of certain vintage to mandatorily to get dismantled and to erect new WEGs of new capacities to come in that place and to provide a lower feed-in tariff or to go with lower terms and conditions, as compared with the present tariff and present terms and conditions, which are far better than the proposed ones. In another sense, it can also be taken in to consideration that it is nothing but an attempt to promote the installation of new WEGs in the place of existing WEGs, which are functioning satisfactorily even after the prescribed life time. The Policy of the MNRE does not make it so. Hence, the attempt of the Petitioner CE NCES is looking like to make unjust enrichment of the situation to favour some individual Turbine Manufacturers at the cost of the existing WEG owners. When it is left to the option of the existing WEG owners, it speaks in a different manner and goes with the concurrence of all. Without doing so, attempting to mandatorily fell down the machines, which are running satisfactorily

and which have the potentiality to function still for more years, is a gross violation under Section 86(1)(e) of the Electricity Act 2003 and the Petitioner is attempting to make a great injustice to the whole wind energy industry.

5.16. Further to the same, the Policy also stipulates as below:

> *"6.ii In case of power being procured by State DISCOMS through PPA, the power generated corresponding to average of last three years' generation prior to repowering would continue to be procured on the terms of PPA in-force and remaining additional generation would either be purchased by DISCOMS at Feed-in-Tariff applicable in the State at the time of commissioning of the repowering project and/or allowed for third party sale."*

5.17 From the above, it could be seen that whatever the quantum of power the WEG has so far been injecting to the grid under PPA (EPA) scheme for the last three years, should be taken by the DISCOM / Licensee on the terms of the last PPA (EPA) signed and was in-force before Repowering and it should be continued for procurement as per the terms in the signed PPA (EPA). Any additional generation of power, should either be purchased by the DISCOMS at a Feed-in-Tariff as applicable in the State at the time of commissioning of the Repowering project and/or it should be allowed for third party sale. From the above, it could be seen that the matter of regulating the tariff to be paid on the power generated by the repowered WEG, MNRE has already settled the law and has provided it's versions and the Policy has already concluded it. Therefore, if the petition is filed under the Policy, there arises no occasion to modify or change the tariff, as the policy itself is self-containing to regulate the tariff in a particular manner and therefore, the whole petition becomes infructuous and superfluous. Furthermore, fixing a tariff based on competitive bidding as proposed in the petition, is no way

possible, in view of the MNRE Policy already concluded the matter on tariff fully and settled the matter finally.

5.18. As a further measure of initiative and incentive, the MNRE has provided the following benefits to the Repowered WEGs.

A. For Repowering projects Indian Renewable Energy Development Agency (IREDA) will provide an additional interest rate rebate of 0.25% over and above the interest rate rebates available to the new wind projects being financed by IREDA.

B. All fiscal and financial benefits available to the new wind projects will also be available to the Repowering project as per applicable conditions.

C. For placing of wind turbines 7D x 5D criteria would be relaxed for micro siting.

D. A wind farm/turbine undergoing Repowering would be exempted from not honouring the PPA for the non-availability of generation from wind farm/turbine during the period of execution of Repowering. Similarly, in case of Repowering by captive user, they will be allowed to purchase power from grid during the period of execution of Repowering, on payment of charges as determined by the regulator.

E. The Repowering projects may avail Accelerated Depreciation benefit or GBI as per the conditions applicable to new wind power projects.

5.19 From the above, it could be seen that if any WEG is voluntarily offering for Repowering on its own, all the terms and conditions including the Tariff at which

price it should be regulated have already been dealt with in the MNRE Policy itself and concluded fully and finally. Therefore, the present petition seeking to fix a tariff for such repowered machines, is nothing but a superfluous attempt to re-write the Policy itself. Hence, it should be ordered to be withdrawn and the Government should come forward to issue a Policy on Repowering as like the one issued by the Government of Gujarat and make it referred to the Hon'ble Commission under Section 108 (1) of the Electricity Act 2003, for passing an order under Section 86(1)(e) of the Electricity Act 2003, in compliance of its functions assigned.

5.20. Further to the same, already the matter of life time of the WEG is in dispute, on which the Petitioner CE NCES has not approached the TNERC to decide and declare the life of the WEGs. This Association (TASMA), has already filed strong objections with the Petitioner CE NCES by way of its letter dated 26.10.2018. Hence, unless the TNERC comes forward to clarify the matter of life time of WEGs, the Petitioner CE NCES cannot on his own decide the matter of life time of the WEG as 20 years for those machines commissioned prior to 31.03.2016 and 25 years for those machines commissioned on or after 01.04.2016. Such an Authority is not available to the Petitioner CE NCES. To extract the exact crux of the matter, we reproduce the relevant portion of our objection already filed before the Petitioner CE NCES.

> *4. Further, as far as Para 17 (Energy Wheeling Agreement and Fees) is concerned, in the Memo the following is provided.*
>
> *"For renewal of agreement after "Name Transfer" or "Change of Captive Consumer", the balance agreement period is to be calculated* ***from the date of commissioning up to 20 years for the machines commissioned before 31.03.2016 and up to 25 years for the machines commissioned after 01.04.2016.*** *The agreement fee has to be collected from the generator as per TNERC Fees and Fines Regulation."*

5.21. From the above highlighted portion of the Memo, it was found stated that as if the WEGs have two life time periods, which effectively means that WEGs commissioned before 01.04.2016 would have 20 years' life time period and those WEGs commissioned on or after 01.04.2016 would have 25 years' life time period. This assumption may not be correct. In the order dated 31.03.2016 in Order No. 3 of 2016, the Commission has already made it clear in Para 5.1 and Para 11.2 as follows.

> *"5. Applicability of this order*
> *5.1 This Order shall come into force from 01-04-2016. The tariff as approved in this order is applicable for purchase of wind energy by the Distribution Licensee from wind energy generators (WEGs) conforming to this order commissioned during the control period.* ***The open access charges and other terms and conditions specified in this order shall be applicable to all the wind energy generators, irrespective of their date of commissioning.***
>
> ***11.2 Other related charges and terms and conditions specified in the order shall be applicable to all the wind energy generators, irrespective of the date of commissioning.****"*

5.22. Therefore, the change of period of life time from 20 years to 25 years, have already been accepted and adopted for all WEGs irrespective of the commissioning dates by the Commission as per the paragraphs extracted above in Order No. 3 of 2016 dated 31.03.2016. Hence, from 01.04.2016 onwards, all WEGs, irrespective of the commissioning dates are allowed to maintain a life time period of 25 years. Therefore, differentiating the WEGs commissioned before 01.04.2016 with life time period of 20 years and making the WEGs for a life time period of 25 years which have commissioning dates on or after 01.04.2016, is not a valid approach and not anyway approved by the Commission. Hence, to this extent, the Memo dated 25.10.2018 of the Chief Engineer-NCES needs to be altered suitably to maintain

single life time period of 25 years for all the WEGs irrespective of the commissioning dates whether they are before 01.04.2016 or after 01.04.2016.

5.23. Hence, the life time of the WEGs have to be settled for all reasons to proceed with the matter of Repowering as we strongly feel that all WEGs are having a life time of 25 years invariably without pre-judice to the fact that it could work even beyond 25 years satisfactorily. Such a perception is confirmed by the order of the Hon'ble CERC dated 31.03.2015 as quoted supra.

IV Other Technical Parameters to be considered while issuing the order on Repowering of WEGs in the State:

5.24. The Commission has fixed the PLF of 25.29 % in its first order dated 15.05.2016, for the sake of Tariff computation and accordingly decided the plant life for the WEGs as 20 years. Thereafter, the life time was changed as 25 years for all WEGs by the order of the Commission dated 31.03.2016 in Comprehensive Order on Wind Energy No. 3 of 2016, in line with the order dated 31.03.2015 of the Hon'ble CERC. But however, inactual practice the real time PLF of the WEGs are to the extent of 18.25% only and therefore, due to the low PLF by which the WEGs are operating, it has a more life time of more than 25 years very easily.

5.25. Further, due to the Coconut Trees grown near to the WEGs, there is a great obstruction of surface wind and thereby also, the generation of these WEGs is getting reduced year by year substantially. Therefore, the technical condition of such WEGs is not deteriorated due to the underutilization or on the low PLF such WEGs are performed. Hence Repowering of the vintage crossed old WEGs due to safety aspects is not a valid reason.

5.26. All the WEGs are still performing well and maintained by the OEMs with high industry standards and are still capable for operation for another decade after 25 years and therefore, due to the satisfactory working of the WEGs, Repowering can be opted as an optional measure and therefore, felling down of WEGs after 25 years need not be taken as a mandatory measure. Such a course is nowhere available even under the MNRE Policy.

5.27. Major parts of the WEGs like Generator, Gear Box and their accessories were maintained as per the OEM’s standards / instructions and overhauled / replaced whenever and wherever necessary. Hence the WEGs are intact and no harm would be caused in continuing their operations even beyond 25 Years and they can still can perform satisfactorily without any threat to environment or surroundings.

5.28. Gear Oil Coolers were installed in most of these WEGs with electrically operated soft brake mechanism (Blade Hydraulic Units) for soft start and stopping, which extends the life time of the WEGs0 further and further even beyond 25 years.

5.29. The Hon'ble CERC has also specified useful life time of the Generating Stations fuelled by Coal / Lignite based Thermal plants, Gas based thermal plants, Hydroelectric stations, AC and DC substation and transmission lines. But none of the above power plants / Transmission lines were shut down and are functioning beyond the useful life time specified by the Hon'ble CERC.

5.30. If TANGEDCO follows the same principle of Repowering, based on Hon'ble CERC's orders, nearly 50% of the Thermal plants and 60% of the Hydroelectric plants owned by TANGEDCO would have to be shut down in Tamil Nadu. When such polluting Generating Stations are allowed to function far beyond the life time period notified by Hon'ble CERC, attempting to fell down the environment friendly WEGs is a great injustice to the Renewable Energy Industry.

5.31. It should be noted that even the atomic power plants commissioned in our Country, even before 50 Years, are still in best operation making no threat to environment or surroundings.

5.32. Non availability of sub megawatt wind turbines with proven track record in the market and utilization of the presently available lands is not feasible for repowering the WEGs.

5.33. Spacing the new large capacities turbines within the present norms of 5D X 7D distance from the neighbouring turbines is not feasible with the presently available land, even for those having large area and installed several WEGs like a wind park. This has also to be altered as 3D X 5D flexibly without which Repowering even on optional basis cannot happen.

5.34. If these WEGs become inoperative, then the connected / grid interfaced 110/230 KV SS also will become useless.

5.35. Most of the 110 KV SS, where the WEGs are found installed with the facility of feeding the local rural electrification, would suffer strongly due to the felling down of WEGs and in the present scenario transfer of energy from long distances with transmission loss would be a loss to the entire Utility.

5.36. Due to the felling down of large level of small capacity machines, the local employment would suffer in a great manner and most rural population depending up on the small capacity machines would be thrown out of employment.

5.37. When coming to the Petition filed by the Petitioner CE NCES in MP No. 3 of 2019, our further comments are as below.

A On the contents of Para 3.0 of the Petition, we wish to submit that TANGEDCO cannot propose to implement the Repowering Policy on its own, without a Repowering Policy issued by the Government of Tamilnadu. The TANGEDCO cannot coercively attempt to implement the Repowering Policy at the cost of the wind energy generators, who are willing to continue with the machines on the reason of satisfactory generation and when the machines are producing environment friendly power without any pollution.

B When the Policy of the MNRE clearly stipulated already as below, attempting to re-write the Policy is untenable to law.

> *"In case augmentation of transmission system from pooling station onwards is required, the same will be carried out by the respective State Transmission Utility."*

C While things are placed so in the Policy, as stated above, in the Petition, the Petitioner CE NCES in Para 4.2.3 is stating as below and therefore, it is going contrary to the guideline issued by the MNRE on Repowering.

> *"The entire cost of Transmission from the project up to the STU/TANGEDCO substation including cost of construction of line, breakers, bay etc. shall be borne by the RWEG's and it will not be reimbursed by the TANGEDCO or met by the STU/TANGEDCO. The responsibility of getting Transmission*

Connectivity and access to the transmission system owned by the STU/TANGEDCO will lie with the RWEG's and shall be at the cost of RWEG. The RWEG's shall not be entitled to any deemed generation in case of any delay in connectivity to the Project whatsoever the reason may be."

D Further, on the matter of Tariff also, the Petition deviates the conditions laid down in the Policy of MNRE to a major extent. While the Policy goes as below, the CE NCES is attempting to completely re-write the Policy.

POLICY :

"6.ii. In case of power being procured by State DISCOMS through PPA, the power generated corresponding to average of last three years' generation prior to repowering would continue to be procured on the terms of PPA in-force and remaining additional generation would either be purchased by DISCOMS at Feed-in-Tariff applicable in the State at the time of commissioning of the repowering project and/or allowed for third party sale. "

IN THE PETITION :

"4.3. A. The PPA tariff up to 2009 is either Rs.2.75 or Rs.2.90per unit and so adopting Feed in Tariff (FIT) of Rs.2.80 per unit for all the generation after repoweringor the latest tender discovered rate at the time ofcommissioning of repowered WEG whichever is lessis proposed to be adopted by TANGEDCO, sincearriving/adopting different tariff for one PPA afterrepowering as per the guidelines is practicallydifficult to adopt.

Therefore, when the matter of Tariff was already concluded by the Policy itself, attempting to re-write to go with a common Tariff of Rs.2.80 / Unit would go against the spirit of the Policy. If such a course is taken granted, those who have been getting a Feed-In Tariff of Rs.2.75 will get Rs.2.80 (ie) Re.0.05 in addition to what they are getting as of now and those who are receiving a tariff of Rs.2.90 will get a reduced tariff of Re.0.10 and this will hamper the system and would be opposed to the Doctrine of Equity.

F. Likewise, while the Policy has an objective to "promote optimum utilisation of wind energy resources by creating facilitative framework for

repowering", now the petition makes it advantageous to TANGEDCO by withdrawing the banking facility which makes the real intention of the TANGEDCO to hurriedly implement the Repowering Policy so as to withdraw the banking facility abruptly as narrated in Para 4.3. B. of the Petition. Hence, even on Repowering, the existing benefit of banking should be allowed as banking has always been ***contractually and judicially recognized*** by the Hon'ble APTEL in its Order in Appeal No. No.53, 94 and 95 of 2010 dated 21.09.2011. Under the background only, when the banking facility was withdrawn by Order No. 6 of 2018 dated 13.04.2018, TASMA for the new machines commissioned after 01.04.2018, has filed an Appeal before the APTEL and the Appeal is pending in Appeal No.191 of 2018. Hence, the attempt to withdraw the banking facility on the repowered machine is subject to the outcome of the Appeal No.191 of 2018 filed by TASMA.

F. Therefore, under the above circumstances, all the prayers made in the petition of the Petitioner CE NCES are not maintainable on the following grounds.

i. The procedure to be adopted by TANGEDCO, as found furnished in Annexure I to the petition in MP No. 3 of 2019 is deviating the Policy of MNRE in every minute detail. Therefore, the Annexure I has to be amended suitably to exactly fit with the MNRE Policy in its letter and spirit.

ii. While the Policy of the MNRE already declare as how the tariff should be regulated in case of Repowering happened to a WEG, attempting to change the Policy by re-writing it, is not permitted in Law. Therefore, the Tariff should be the same as was being received by the WEG, before it is repowered. The excess Generation should be paid with the Feed-in-Tariff which is available on the date of recommissioning of the machine after Repowering. Therefore, the Policy does not permit to go for bidding process and hence, the prayer itself is going against the letter and spirit of the Policy.

5.38. It should be noted that allowing of a life time of 25 years was already a matter settled by Hon'ble CERC by its order dated 31.03.2015 and also by the Commission in its order dated 31.03.2016 and as such, making the Repowering mandatory for all the machines completed a life time of 20 years is completely found without the support of law and therefore, such an attempt cannot be

encouraged. Hence, the petition is too premature at this stage and therefore, it has to be dismissed on this ground alone.

5.39. Further, it should be noted that on the matter of Repowering, the Government of Tamil Nadu should first issue a Policy direction under Section 108 (1) of the Electricity Act 2003, as issued by the Government of Gujarat considering the importance of the wind energy in the State of Tamil Nadu and how the State is poised with the potentialities to go for further capacity additions. Accordingly, the Policy direction should further culminate in to an order issued by the Commission under Section 86(1)(e) of the Electricity Act 2003, after following due consultation process with all stakeholders and accordingly, the order of the Commission based on the Policy directives of the Government of Tamil Nadu should govern all the procedures and modalities connected with the Repowering matter in the State. Without such an approach, just to please few Wind Turbine Manufacturers, the Petition filed by the Petitioner CE NCES should not be acted up on in the manner as filed before the Commission and it should be dismissed in toto.

6. Written Submission dated 04-12-2019 filed by IWPA:-

Pursuant to the notification issued by this Commission, a public hearing has been held in the Court Hall of the Commission on 04-12-2019 and various stakeholders have participated in the public hearing and offered their views. The Commission has carefully considered the views of the stakeholders and directed to file their Written Submission also, if they so desire. In the Written Submission filed by IWPA on 04-12-2019, it has submitted as follows:-

6.1. Repowering policy has to be issued by the Government of Tamil Nadu or TEDA based on which the procedures are to be evolved and approved. However tae GoTN has not come out with the Repowering Policy. Procedure should be followed to give effect to the policy. In the instance petition, TANGEDCO has proceeded with proposing a procedure which has been drafted to meet its own ends, ignoring the guidelines issued by MNRE for repowering which suggests to bring in measures to encourage the developers to consider repowering. It is therefore submitted that this process can be initiated only after a Repowering policy is issued by GoTN or through its nodal agency TEDA.

6.2. Secondly, prior to initiation of these proceedings a Mandatory directive under the National Tariff Policy which is required to be adhered to by the Commission is yet to be commenced. Therefore, the present petition is premature. The Tariff rates for Repowering have to be fixed prior to announcement of the RePowering Policy.

6.3. National Tariff Policy, 2016 clause 5.11 (g) specifies need for encouragement en Renovation and Modernization of power plant including repowering of wind generating plants. The relevant clause of the Tariff Policy, 2016 states that:

> *"Renovation and modernization of generation plants (including repowering of wind generating plants) need to be encouraged for higher efficiency levels eventhough they may have not completed their useful life. This shall not include periodic overhauls. A Multi-Year Tariff (MYT) framework may be prescribed which should also cover capital investments necessary for renovation and modernization and an incentive framework to share the benefits of efficiency improvement between the utilities and the beneficiaries with reference to revised and specific performance norms to be fixed by the Appropriate Commission. Appropriate capital costs required for predetermined efficiency gains and/or for sustenance of high level performance would need to be assessed by the Appropriate Commission."*

6.4. The petition has been filed under 62 (1) (a), 63 and 86 (1) (b) of the Electricity Act, 2003. Since the petition has been filed under 62 (1) (a), 63 and 86 (1) (b) of the Electricity Act, 2003, it is a clear tariff petition and it should be processed as per section 63 or 64 of the Act. As per section 64, the Commission shall obtain the comments from the stakeholders. The Commission cannot direct the TANGEDCO to get the comments from the stakeholders. The Commission cannot delegate its responsibility to someone. It is a settled proposition of law that when a statute prescribes anything to be done in a particular manner it has to be done in that manner or not in any other manner. Hence the petition filed by TANGEDCO is not in accordance in law and is not maintainable. The process required under see 62(1), 63 and 83(1) are to be followed by the Commission for determination of tariff and other charges and then determine the tariff and related charges and not based on a petition filed by TANGEDCO. This petition is therefore not maintainable in law.

6.5. IWPA submits that any order on repowering be passed after complying with the provisions of tile law and tariff policy as detailed above and not to pass any order based onthe petition filed by TANGEDCO.

6.6. Best practices in other RE leaders in the Globe need to be adopted and considered. None taken into account in proposal. In Denmark, repowering was undertaken in different stages. The first repowering scheme was initiated from 2001till the end of 2003 targeting turbines up to a capacity of 150 kW. For decommissioning of these small turbines, the owners received a 'Repowering Certificate' equivalent to an additional tariff of 2.3 Euro cents/kWh for two to three

times the scrapped capacity for 12,000 full-load hours. Since these certificates could be traded, the scheme made it possible to install much larger turbines. During the lifetime of the scheme, around 1,480 lower capacity old turbines with a combined capacity of 122 MW were replaced by 272 new turbines having a combined capacity of 324 MW. The scheme was most effective for turbines in the capacity range of 55-95 kW in which more than 80%: of the turbines were decommissioned, whereas only 25% of the 150 kW turbines were decommissioned. In the second stage, projects with turbine size greater than 100 kW could install twice the capacity removed and received the same treatment. The scheme was announced in 2004 for a period of 2005-2009. This scheme was targeting bigger turbines having a capacity up to 450 kW.

6.7. In this scheme, the turbine owners received repowering certificates equivalent to 1.6 cents/kWh for two times the decommissioned capacity for 12,000 full load hours. Besides the Repowering Certificate, the wind turbine was given a general subsidy of 1.3 cents/kWh and the balancing fee of 0.3 cents/kWh. The subsidy is restricted so as the sum of the repowering subsidy, the general subsidy of 1.3 cents/kWh and the spot price could not exceed 6.4 cents/kwh. The Repowering Certificate system enabled successful repowering in Denmark. The certificate holder is awarded a higher price for electricity produced from new turbines up to a maximum of two or three times the replaced capacity. The incentive scheme enabled repowering and should be considered for implementation appropriately.

6.8. The total capacity for repowering potential for the whole State has to be identified. Based on the criteria such as the life of project, WTG capacity size, etc,. the potential thatcan be repowered commencing from 2020. This is required to be projected over the potential for the next 5/10 years atleast for comprehending the impact of the policy and in order to work out appropriate strategies. The Discom has provided no such materials.

6.9. No data is provided on site conditions, ownership pattern and potential for Repowering. Tamil Nadu has the highest installed capacity of wind energy in India. The installed wind energy capacity of the State is 8,197.08 MW as on 31 March 2018. This account for 24.01% of the country's total installed wind energy capacity The State has some of the India's best wind resource rich sites that include Muppandal, Tirunelveli, Kethanur, Poolavadi, Gudimangalam, etc. The wind resource rich sites have a wind power density ranging more than 200-250 W per sq.mt. It is these sites which will be relevant. However, there is complete absence of data whether repowering is possible at such sites. Further, the capacity additions in the last few years are very minimal because of the policy disincentives of the Discom.

6.10. According to data gathered from various sources informally, the capacity additions in Tamil Nadu is given in the table below;

Financial Year	Capacity addition in MW*
2009-10	602
2010-11	997
2011-12	1083
2012-13	174
2013-14	107
2014-15	124

2015-16	258
2016-17	209
2017-18	96

*Note: excluding SECI projects.

6.11. It can be observed that the state that pioneered and led the installations until 2011-12, lost its leadership in capacity additions to other states which effected better tariff and benefits. Hence, repowering should be incentivized through the policy and procedure and attract investments in the State and harness the available wind energy even better and keep the State a frontrunner in the renewable energy sector.

6.12. No Data is made available on Evacuation facilities and plans that are site and area specific. TANTRANSCO and SLOC should first make data available. A repowering policy is completely dependent upon the upgradation of evacuation facilities. In Tamil Nadu, there is already substantial backdown. Thus, there cannot be any further addition of wind capacity when existing capacity itself is not being fully evacuated. One of the principal reasons cited by Licensees and the SLDC for not evacuating and violating Must Run requirements is the evacuation infrastructure and the Transmission system. In the absence of any future plans being provided by the licensees and stakeholders, it is wholly impossible to work out methodologies for repowering. If the stakeholders do not have any plans for evacuation upgradation, then no plans forcreating generation infrastructure can even be proceeded with.

6.13. MNRE has issued the Repowering policy more to incentivise the repowering whereas the contents of the petition filed seem to discourage repowering and runs

counter to the MNRE policy. They submit that the procedure shall incentivize the developers to opt for repowering.

6.14. Repowering shall be done at the option of the generators and cannot be made mandatory merely because the design life is over. The design life of the W/EGs was estimated .as 20 years upto 31.3.2016 and as 25 years from 1.4.2016. Merely because the design life has been completed it cannot be concluded that the asset cannot continue to be in operation. WEGS can continue to generate and remain in good working condition much beyond the design life if maintained well. Most of the machines have been maintained by following sound maintenance practices. In many cases modifications have been retrofitted to improve the performance and life of the WEGs.

6.15. In Europe, there are WEGs of more than 30 years old still in good working condition. Hence there shall not be any need for mandatory repowering based on design life. It shall be solely at the option of the investors to make a decision on repowering. TANGEDCO has been operating its own thermal power plants much beyond of its design life. Other thermal plants also operate much beyond its useful life when they are in good working condition. It is common practice world over across all sectors to put to use any machines beyond useful life as long as they are in economically good working condition. There is no restriction placed by the Commission in any of its orders for operating the WEGs. While this is the fact, TANGEDCO has been issuing circulars arbitrarily seeking to restrict the wheeling and adjustment and sale of the WEGif the WEGs have exceeded 20 years of life.

6.16. The CE, NCES, TANGEDCO has issued two circulars dated 25.10.2018 and 25.4.2019 (copies attached) seeking to restrict the life of the WEGs to 20/25 years and have issued instructions not to make issue No dues for Name change and utility change if the life of the WEGs has been completed. This has been issued without any authority as this is in contravention of the provisions of the Electricity Act, 2003 which allows Open Access and TANGEDCO have no authority to issue circulars on such matters.

6.17. CFC (Revenue) has issued a Memo dated 29.8.2019 to the EDCs not to adjust the energy generated in respect of wind mills that have completed life of 20/25 years.

6.18. The Electricity Act requires promotion of open Access and captive generation, TANGEDCO's actions seeking to restrict life of the WEGs when they are in good working condition, are in total violation of the Electricity Act as they are indirectly seeking to prevent Open Access. Both the above circulars have been issued without any basis and authority.

6.19. Already MNRE had come out with a draft Indian Wind Turbine Certification scheme (IWTCS) which is a comprehensive policy document with regard to installation and operation of WEGs which includes operation of the WEGs beyond the design life of WEGs. IWPA has submitted its comments to the same and we understand MNRE is in the process of finalising the same. The prerequisites considering the safety and technical parameters would be notified as part of this scheme which would become applicable to all WEGs installed in the country and all

developers have to comply with it for operating the WEGs beyond the design life. TANGEDCO does not have powers to issue circulars arbitrarily to restrict the life of WEGs as a separate scheme would address this.

6.20. In addition to the above submission, the IWPA has requested to read the above Written Submission in conjunction with this earlier comments submitted to the Chief Engineer, NCES vide its letter dated 30-04-2019 and June 15th 2019. The said comments referred to by IWPA is available in the Annexure.

7. Application by the Indian Wind Power Association to make on record further developments and close the petition:-

In the affidavit filed on 09-11-2020, the IWPA has submitted as follows:-

7.1. The fixation of tariff is essential for repowering since that would be a *sinequa non*. In this regard, the prayer of the TANGEDCO also makes specific reference to the same. The repowering being a voluntary action by a generator, unless there is a preferential tariff that is fixed, the repowering would not be possible.

7.2. Subsequently, the Commission has been pleased to pass the order on procurement of Wind Power and related issues dated 07-10-2020 in T.O. No.8 of 2020 and has held as follows:-

> *"4.8. In view of the reasons aforementioned, and keeping in view the principles and provisions of competitive bidding in the Tariff Policy, Electricity Act 2003, State and Central Commission's Regulations, Commission decides that procurement of wind power by the Distribution Licensee, for compliance of RPO requirement, shall be through the competitive bidding route under section 63 of the Electricity Act 2003 following the bidding guidelines issued by the Central Government by adopting ceiling tariffs that are obtained in the Tariff based competitive bidding process conducted by SECI and approved by the Commission for adoption. If the bidding is not*

successful, the licensee may go for 19 a bidding without prescribing a cap after obtaining prior approval from the Commission to conduct such a bidding. The Distribution licensee may also procure power from the projects contracted through competitive bidding process by SECI, the nodal agency that floats tenders and conducts e-reverse auction for procurement of power from solar and wind power projects. In the case of smaller capacity plants of sizes 5 MW and less, the licensee may conduct a separate competitive bidding seeking prior approval from the Commission."

7.3. In view of the above, in view of the decision not to fix any Feed in tariff, the repowering petition is rendered infructuous as the entire future procurement is to be made on thebasis of bidding and persons willing to do so would participate within the parametersprescribed and such of those generators desirous of repowering would do so within the parameters of the proposed bids.

8. Findings of the Commission:-

8.1 The prayer of the petitioner, TANGEDCO, is to approve:

(i) adoption of the draft procedure filed with the petition for repowering of existing Wind Electric Generators;

(ii) to approve purchase of energy generated from the Repowered WEGs at the Feed in Tariff (FIT) or the rate decided through bidding whichever is less at the time of commissioning of Repowered Wind Energy Generators (RWEG).

(iii) To pass such further or other orders as deems fit.

8.2 It is observed that the procedure filed by TANGEDCO for repowering is based on the Policy of Repowering for Wind Energy Projects released by the Ministry of New and Renewable Energy on 04.08.2016.

8.3 i) TANGEDCO's petition permits repowering for all wind turbine generators. The proposal submitted by TANGEDCO is for two categories, namely,

Type I – Repowering not exceeding the installed capacity and

Type II – Repowering exceeding the installed capacity.

ii) The implementation for TYPE I scheme is as follows:

The tariff of energy generated shall be Rs.2.80 per unit for all the generation after repowering or the latest tender discovered rate at the time of commissioning of repowered WEG whichever is less. For the WEG's under wheeling agreement, the proposal is to adopt the latest Wind Energy Tariff Order No. 6 of 2018, dt:13.04.2018 for wheeling and banking since all the repowered WEG's are considered as new WEG's as per the MNRE guidelines.

iii) The implementation for Type II is as follows:

a) Additional capacity due to repowering needs load flow study since most of the sub stations in which the repowering potential exists are fully loaded.

b) After load flow study if the feasibility exists for additional capacity the repowering may be considered, subject to land and technical feasibility.

c) The RWEG's shall be planned for inter-connection with STU/ TANGEDCO substation through dedicated transmission line/cable at voltage level of 11KV and above.

d) The improvement needed in the existing board substation will be under IDC scheme by the developer @ Rs 30 Lakhs/MW subject to load flow study and feasibility of the space and technical constraints of the particular substations. If the feasibility of the particular generator is not available, the developer has the option to erect new substation under sec 10(1) of the Electricity act 2003 as per the prevailing procedure in vogue. The developer may also establish the connectivity by themselves through already established substation erected and maintained by the other developers under sec 10(1) of the Electricity Act 2003.

e) Transmission from the project up to the STU/TANGEDCO substation including cost of construction of line, breakers, bay etc. shall be borne by the RWEGs and it will not be reimbursed by the TANGEDCO or met by the STU/TANGEDCO. The responsibility of getting Transmission Connectivity and access to the transmission system owned by the STU/TANGEDCO will lie with the RWEGs and shall be at the cost of RWEG. The RWEGs shall not be entitled to any deemed generation in case of any delay in connectivity to the Project whatsoever the reason may be.

d) The STU/TANGEDCO shall endeavour to match the commissioning of the transmission system with the commissioning of the Repowering of WEG's projects.

iv) Cost of Generation:

For the WEGs that sell energy to TANGEDCO under existing agreements, the entire power generated after repowering is proposed to be purchased at Rs.2.80 per unit cost or the latest tender discovered rate at the time of commissioning of repowered WEG whichever is less.

For the WEGs under the Energy Wheeling Agreement, to adopt the latest Wind Energy Tariff order No.6 of 2018 dt.13.4.2018 for wheeling and banking considering that the repowered WEGs are new WEGs as per the MNRE guidelines.

v) *Further, relaxation of spacing criteria from the 7D x 5D norm has been proposed.*

vi) *Regarding fiscal benefits, accelerated depreciation as applicable to new wind power projects is specified.*

vii) Review:

The Repowering Policy would be reviewed by the TANGEDCO as and when required.

8.4TANGEDCO has relaxed the micrositing norms from its earlier notified spacing criteria of 5D x 7D in (Per) TANGEDCO Proceedings (Technical Branch) (CMD) No.469 dt.9.11.2018 for vertical, horizontal direction and wind flow and depending on the location of windmill with reference to peripheral distances and in clusters.

8.5 The petition of TANGEDCO seeking approval for repowering of wind machines and the B.P on relaxed spacing criteria were hosted in TANGEDCO's website inviting comments from stakeholders. In addition to the comments sought on the petition from stakeholders, Commission also conducted a hearing on

4.12.2019. During the hearing held in the Commission's Court Hall on 4.12.2019, stakeholders presented their views.

8.6. Key issues raised by stakeholders:

- Petition mixes the powers of TANGEDCO,TNERC and the Government and in contravention of section 86 of the Act.
- Repowering policy has to be issued by the Government of Tamil Nadu. TANGEDCO has proceeded with proposing a procedure to meet its own end ignoring the guidelines issued by MNRE for repowering. Repowering has to be done at the option of the generators.
- Clause 5.11(g) of National Tariff Policy specifies need for renovation and Modernisation of power plant including repowering of wind generating plants.
- Petition has been filed under sections 62(1)(a),63 and 86(1)(b) of the Electricity Act 2003 and therefore is a tariff petition. Commission shall obtain comments from stakeholders. Repowering primarily consists of installing new wind machines in place of old machines. This includes cost of dismantling, disposal of old turbines. A project specific or feed in tariff may be arrived.
- Data on evacuation facilities and data on sites for repowering should be made available. Any order on repowering be passed after complying with the provisions of the law.
- Best practices of RE leaders in the Globe like in Denmark,Germany be followed. In the said countries repowering was initiated in stages Owners received 'Repowering certificates' that could be traded. The certificate holder is awarded a higher price of electricity produced from new turbines. In

countries in Europe, old turbines are allowed even beyond 25 years with safety certificates.

- Tamil Nadu has the highest installed capacity of wind energy. Best resource sites include Muppandal, Tirunelveli, Kethanur, Poolavadi, Gudimangalam etc. Wind resource rich sites have wind power of 200-250 W/sq.mt. There is no data on whether repowering is possible at such sites. Capacity additions in the last few years have decreased.
- Repowering cannot be made mandatory on completion of design life. MNRE's policy says that the States shall facilitate procurement of additional lands required for higher capacity WEGs.
- MNRE has come out with a draft Indian Wind Turbine Certification scheme which is a comprehensive policy document with regard to installation and operation of WEGs which includes operation of WEGs beyond the design life. Legal aspects of lifetime extension have been brought out by MNRE in the paper in 2018. Lifetime extension, safety of machines, decommissioning aspects have to be studied in detail. No regulations are in place for lifetime extensions. This is a matter to be studied

- The IDC and O&M costs for old machines were fixed by TANGEDCO on their own. These costs should be re-fixed after obtaining comments and after prudent check by the Commission.
- Hon'ble APTEL in the A.No.53 of 2010 dt.21.9.2011 has observed that 'It would be impossible to set-up the Wind energy units without the banking facilities'. Hence, banking should be extended to all the repowered machines. Repowering project shall be given the option to choose the mode

of sale. In other words, after repowering, the developer can opt for a PPA or to adjust for captive consumption of third party sale or a combination of captive or group captive/third party sale.

- The STU shall commit a date for completion of the transmission system. As per the best industry practice, the STU shall pay compensation for deemed generation if commissioning date exceeds the committed date.
- The issue of tariff has been settled by MNRE in its advisory dt.05.8.2016 and therefore no occasion arises to spell a tariff. MNRE has not proposed fixing of tariff through competitive bidding.
- Repowering of windfarms with distributed ownership has challenges. A business model has to be evolved. Technical feasibility of intercropping may be studied. A policy and regulatory framework for a minimum period of 5 years may be put in place to provide certainty.
- Changes in micrositing may be evolved instead of going for repowering.
- For any investor to go for repowering, there has to be an incentive.

8.7. Remarks of TANGEDCO

- From the year 1990, the NCES wing has taken care of policy requirements. The installed capacity of wind mills has surpassed all other states which is proof enough to show that absence of policy is no lacuna for development of wind energy.
- MNRE guidelines have been considered and a petition filed for approval of procedure for repowering to make it statutory. Repowering is suggested for better harnessing of the wind resources.

- Proposal is to treat the repowered wind energy generators as new generators with tariff applicable to new WEGs though capital cost of repowered WEGs is less when compared to that of new WEGs since there is a reduction in land and evacuation cost.
- The lifetime of 20/25 years proposed is in accordance to the Tariff orders issued by the Commission for wind energy.
- Stakeholders have made contradicting remarks on MNREs guidelines as one which has statutory force and another as being only advisory in nature.
- Stakeholders have confused between augmentation of Transmission system before the Pooling sub station and after the pooling sub station. Guidelines specify that augmentation has to be carried out by STU after the Pooling sub station. The system augmentation before the pooling sub station is to be taken care of by the generators. The STU will strengthen the Transmission system if required after the pooling sub station beyond the interconnection point.
- TANGEDCO does not intend to make the repowering procedure mandatory as has been understood by many of the stakeholders. It is an option left to the generator.
- Any policy has to take into consideration the interest of various stakeholders. The generators opting to repower enjoy the new tariffs without spending on land and evacuation. TANGEDCO and the state are benefitted by way of optimum utilization of natural resources and existing transmission infrastructure. Safety quotient of new machines are far

superior to the old machines with better grid integration requirements like LVRT, kvarh,harmonics etc.

- New machines are to be commissioned either under the feed in tariff or under bidding route at a tariff adopted by the Commission under section 63 of the Electricity Act 2003 whichever is less. Since repowered machines are to be treated on par with new machines, the tariff hitherto adopted for new machines that has undergone public consultation is considered. Hence, approval for repowering is filed under a Miscellaneous petition.
- TANGEDCO will strive to match completion of transmission infrastructure with that of commissioning of repowered WEGs or make alternate arrangements to commission the repowered WEGs. Paying for deemed generation is not practically feasible.

8.8. From the submissions made by the petitioner and other parties who have furnished comments, the following issues arise for consideration:

1. Whether the petition seeking approval for repowering of wind machines could be considered without a policy framed by the State Government?

2. Is the petitioner correct in having filed the petition as a Miscellaneous petition instead of a Tariff petition?

3. Has the issue of tariff been settled by MNRE in its Repowering Policy issued on 4.8.2016? Can the Distribution Licensee procure energy from repowered WEGs under competitive bidding?

4. Aspects of repowering – Mandatory or optional, micrositing, legal aspects of lifetime extension, safety of machines, decommissioning aspects

5. Treatment of excess energy and banking in the case of captive and third party and adjustment of generation.

These issues have been dealt with in the succeeding paragraphs.

8.9. Analysis and decision

8.9.1 Issue 1 -Whether the petition seeking approval for repowering of wind machines could be considered without a policy framed by the State Government?

8.9.1.1 There are several orders of Hon'ble APTEL and that of the Hon'ble Supreme Court of India with observations that Policies of the Government are guiding in nature and not binding, and the Regulatory Commissions constituted are statutory authorities and specialized bodies to perform functions contemplated in the Act. This issue has also been dealt in Commission's order in M.P No.9 of 2017 dt.25.3.2019.

8.9.1.2 The Hon'ble Supreme Court of India in APTRANSCO vs Sai Renewable Energy Pvt. Ltd.: (2011)11SCC34 (Civil Appeal No.2926 of 2006 etc dt.8.7.2010) has dealt with the specialized powers of the State Electricity Regulatory Commission and the supremacy over the policies framed by the State Government. Relevant extract of the judgement:

"27. The Reform Act, 1998 was enacted, primarily, with the object of constituting two separate corporations; one for generation and other for transmission and distribution of electrical energy. The essence was restructuring, so as to achieve the balance required to be maintained in regard to competitiveness and efficiency on the one part and the social objective of ensuring a fair deal to the consumer on the other. This Act is also intended for creation of a statutory regulatory authority. ***Section 12 of the Act vests the State Govt. with the power to issue policy directions on matters concerning electricity in the State including the overall planning and co- ordination. All policy directions shall be issued by the State Govt. consistent with the objects sought to be achieved by this Act and, accordingly, shall not adversely affect or interfere with the functions and powers of the Regulatory Commission including, but not limited to, determination of the structure of***

tariffs for supply of electricity to various classes of consumers. The State Govt. is further expected to consult the Regulatory Commission in regard to the proposed legislation or rules concerning any policy direction and shall duly take into account the recommendation by the Regulatory Commission on all such matters. Thus the scheme of these provisions is to grant supremacy to the Regulatory Commission and the State is not expected to take any policy decision or planning which would adversely affect the functioning of the Regulatory Commission or interfere with its functions. …"

8.9.1.3 Hon'ble APTEL has quoted the above judgment in A.No.200 of 2011 dt.4.10.2012,A.No.92 & 109 of 2013 dt.21.1.2014. Further, as per the judgement of the Hon'ble Supreme Court in PTC vs CERC; 2010 (4) SCC 603, even without a regulation, the Commission is empowered to take measures/ steps in discharge of its functions under section 86 of the Electricity Act 2003.

The relevant portion of the judgment is extracted below:

"40. As stated above, the 2003 Act has been enacted in furtherance of the policy envisaged under the Electricity Regulatory Commissions Act, 1998 as it mandates establishment of an independent and transparent Regulatory Commission entrusted with wide ranging responsibilities and objectives inter alia including protection of the consumers of electricity. Accordingly, the Central Commission is set up under Section 76(1) to exercise the powers conferred on, and in discharge of the functions assigned to, it under the Act. On reading Sections 76(1) and 79(1) one finds that Central Commission is empowered to take measures/steps in discharge of the functions enumerated in Section 79(1) like to regulate the tariff of generating companies, to regulate the inter-State transmission of electricity, to determine tariff for inter-State transmission of electricity, to issue licenses, to adjudicate upon disputes, to levy fees, to specify the Grid Code, to fix the trading margin in inter-State trading of electricity, if considered necessary, etc.. These measures, which the Central Commission is empowered to take, have got to be in conformity with the regulations under Section 178, wherever such regulations are applicable. Measures under Section 79(1), therefore, have got to be in conformity with the regulations under Section 178. To regulate is an exercise which is different from making of the regulations. However, making of a regulation under Section 178 is not a pre-condition to the Central Commission taking any steps/measures under Section 79(1). As stated, if there is a regulation, then the measure under Section 79(1) has to be in conformity with such regulation under Section 178. This principle flows from various judgments of this Court which we have discussed hereinafter. …"

8.9.1.4 Therefore, Commission is at liberty to approve the procedure for repowering of wind energy generators albeit considering the facts and issues placed and the technicalities and financial/legal aspects involved in implementation. Though here

it is not the case that there is no policy or guideline for repowering of WEGs since MNRE has issued a Repowering policy in notification dt.4.8.2016.

8.9.2 Issues 2 & 3 : Is the petitioner correct in having filed the petition as a Miscellaneous petition instead of a Tariff petition? Has the issue of tariff been settled by MNRE in its Repowering Policy issued on 4.8.2016? Can the Distribution Licensee procure energy from repowered WEGs under competitive bidding?

Since the issues are interlinked, they are dealt together.

8.9.2.1 (i) Nature of petition - The Developers/generators have all stated that the petition has been filed under sections 62(1)(a),63 and 86(1)(b) of the Electricity Act 2003 and therefore is a tariff petition. TANGEDCO's contention is that since repowered machines are to be treated on par with new machines, the tariff of Rs.2.80 hitherto adopted for new machines that has undergone public consultation has been considered and hence approval for repowering is filed as a Miscellaneous petition.

(ii) At the time of filing of the petition, the tariff order for wind issued vide Order No. 6 of 2018 prevailed. TANGEDCO has proposed a tariff of Rs.2.80 per unit the tariff (with A.D) fixed in the wind order of 2018 for the repowered machines.

(iii) On the issue of the nature of the petition, since no tariff is sought to be determined, Commission upholds the miscellaneous petition filed by TANGEDCO.

8.9.2.2(i)Settlement of tariff with respect to MNRE's Repowering Policy - A review of the comments received from stakeholders would prove the contradicting views of stakeholders on adoption of MNRE's Policy for Repowering of Wind

Power Projects. On the issue of tariff, stakeholders have taken the stand that MNRE's policy on repowering is statutory in nature and that the matter on tariff is settled by MNRE in the repowering policy notified on 4.8.2016. On other issues of lifetime extension etc. and on the issue of repowering procedure itself, stakeholders have expressed views that the policy of MNRE is only advisory in nature and need not be followed.

(ii) The covering page of the Policy for Repowering of the Wind Power Projects dt.5.8.2016 issued by Ministry of New & Renewable Energy reads,

"Ministry of New & Renewable Energy hereby releases the Policy for Repowering of the Wind Power Projects for information of the stakeholders and general public.'

The expression 'for information of the stakeholders and general public' itself does not make the Policy mandatory to be followed in toto by the States.

(iii) Commission's Regulations on Power Procurement from New and Renewable Sources of Energy on 'Determination of Tariff' specifies,

"*4 (2) While deciding the tariff for power purchase by distribution licensee from new and renewable sources based generators, the Commission shall, as far as possible, be guided by the principles and methodologies specified by:*
(a) Central Electricity Regulatory Commission
(b) National Electricity Policy
(c) Tariff Policy issued by the Government of India
(d) Rural Electrification Policy
(e) Forum of Regulators (FOR)
(f) Central and State Governments"

Commission's regulations and the provisions in sections 61, 62 of the Electricity Act 2003 specifies that the Commission shall be guided by the policies of the Government. There are several orders of the Hon'ble Supreme Court of India and

APTEL that have spelt the determination of tariff to be the exclusive domain of the Appropriate Electricity Commissions.

(iv) In the case of W.B Electricity Regulatory Commission vs CESC reported as (2002) 8 SCC 715, where the West Bengal ERC appealed against the orders of the High Court fixing a tariff, the Hon'ble Supreme Court has observed,

"103. We notice that the Commission constituted under Section 17 of the 1998 Act is an expert body and the determination of tariff which has to be made by the Commission involves a very highly technical procedure, requiring working knowledge of law, engineering, finance, commerce, economics and management. A perusal of the report of the ASCI as well as that of the Commission abundantly proves this fact. Therefore, we think it would be more appropriate and effective if a statutory appeal is provided to a similar expert body, so that the various questions which are factual and technical that arise in such an appeal, get appropriate consideration in the first stage also."

(v) Further, relevant para from the Apex Court's judgment in APTRANSCO vs Sai Renewable Energy Pvt. Ltd.: (2011)11SCC34 that fortifies the powers of the Commission is extracted below:

"30. The Regulatory Commission is vested with very vast powers and functions. Section 11 of the Reform Act, 1998 declares fixation of tariff as one of the primary functions of the Regulatory Commission in general more particularly, to the specified consumers under Section 26 of the Reform Act, 1998. While under the Electricity Act, 2003, Sections 61 and 62 read with Section 86 (1)(a)(b) deal with fixation of tariffs in relation to production, distribution and sale of generated power to the end consumer. These provisions clearly demonstrate that the Regulatory Commission is vested with the function for determining the tariff for generation, supply, transmission and billing of electricity etc., as well as regulation of electricity purchase and procurement process of distribution licensees, including price at which electricity shall be procured from the generating companies."

The above extracts of the judgements is proof enough that the tariffs suggested for consideration in the Repowering policy is not a settled issue. The State Commission has alternate remedies to either determine tariff under section 62 or adopt the tariff determined through transparent process of bidding under section 63 of the Electricity Act 2003.

8.9.2.3Procurement of power under competitive bidding: The Tariff Policy, National Electricity Policy encourages procurement of power from renewable energy sources through competitive bidding.

(i) Section 5.12.2 of National Electricity Policy 2005 :

5.12.2 .....Such percentage for purchase of power from non-conventional sources should be made applicable for the tariffs to be determined by the SERCs at the earliest. Progressively the share of electricity from non-conventional sources would need to be increased as prescribed by State Electricity Regulatory Commissions. Such purchase by distribution companies shall be through competitive bidding process. Considering the fact that it will take some time before non-conventional technologies compete, in terms of cost, with conventional sources, the Commission may determine an appropriate differential in prices to promote these technologies.

(ii) The Tariff policy 2016, para 6.4(2) specifies :

"*(2) States shall endeavor to procure power from renewable energy sources through competitive bidding to keep the tariff low, except from the waste to energy plants. Procurement of power by Distribution Licensee from renewable energy sources from projects above the notified capacity, shall be done through competitive bidding process, from the date to be notified by the Central Government.*
However, till such notification, any such procurement of power from renewable energy sources projects, may be done under Section 62 of the Electricity Act, 2003."

(iii) Competitive bidding for renewable energy has been enabled by Ministry of Power, Government of India by issue of tariff based competitive bidding guidelines for procurement of wind power vide resolution No. 23/54/2017-R&R dt.8.12.2017 and its amendments issued from time to time.

(iv) CERC in the Statement of reasons provided for the RE Tariff Regulations 2020 has observed as follows: " *As regards determination of generic tariff for solar PV projects and wind projects, the Commission is of the view that under the prevailing market conditions, when most of the solar and wind projects are being set up primarily through competitive bidding, determination of generic tariff based on norms will not provide right price signals…."*

(v) Commission in the wind order 2018 determined the tariff exercising the exclusive right of the Commission to either determine under section 62 or adopt under section 63.

(vi) Maharashtra ERC has accorded approval to MSEDCL for procurement of power from Wind Energy Generators whose EPAs have expired or nearing expiry through competitive bidding process following the GoI bidding guidelines and tariff adoption petitions at the rate of Rs.2.52 per unit have been approved by the Commission. In the order issued for 'Procurement of wind power and related issues' on 7.10.2020, Commission has directed the licensee to procure wind energy through competitive bidding adopting guidelines issued by the Central Government. If necessary, the licensee has been directed to conduct separate bidding for plant sizes of smaller capacity with prior approval of the Commission.

(vii) In view of the above mentioned facts, we decide that the WEGs who opt for repowering may participate in the competitive bidding conducted by Distribution licensee for procurement of power exclusively for repowered WEGs. Distribution Licensee may conduct a competitive bidding of repowered WEGs with/without a

ceiling tariff seeking prior approval of Bid document from the Commission in accordance with the competitive bidding guidelines issued by the Central Government for procurement of power from Grid connected wind power projects. All repowered WEGs will be considered as new machines, whether for the purpose of sale of generated energy to the Distribution Licensee or for the purpose of wheeling of generated energy for captive use or third party.

8.9.3 Issue No.4:Aspects of repowering – Mandatory or optional, evacuation facilities, micrositing, life time extension, safety of machines, decommissioning

8.9.3.1 Repowering whether mandatory or optional - TANGEDCO has made it clear during the oral submission on 4.12.2019 as well as in the written submission that repowering is not mandatory and it is an option to be exercised by the wind generators. Accordingly, this issue gets settled.

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8.9.3.2 Evacuation facilities–

8.9.3.2.1 Petition of TANGEDCO speaks of repowering only in terms of installed capacity and therefore has classified as repowering without exceeding installed capacity and repowering exceeding installed capacity. The term repowering has not been defined in the repowering policy of MNRE or in the Act or regulations of Central Commission. Repowering in general is to replace old wind turbines with new generation machines that have higher energy yields. Therefore, essentially 'repowering process is aimed at increase in power generated from the same site. For any form of repowering, the strength of the evacuation infrastructure may have to be examined with the projected yield per MW. If augmentation of

infrastructure is necessary under Type I also, TANGEDCO may inform the applicant of cost and timelines.

8.9.3.2.2 The WEGs who opt for repowering shall file an application to TANGEDCO with details of capacity, projected energy yield per MW, probable dates of decommissioning of existing machines.

8.9.3.2.3 The availability of transmission capacity Sub-station wise may be notified by TANGEDCO in the public domain prior to conducting bidding for repowered wind machines.

8.9.3.3 Micrositing –

9.3.3.1 TANGEDCO has issued Proceedings specifying revised spacing criteria to be maintained with neighbouring windmills and the land peripheries in (Per) TANGEDCO Proceedings (CMD) No.469 dt.9.11.2018. The spacing norms specified in the said Proceedings may be adopted by the developers.

8.9.3.4 Lifetime extension, safety of machines, decommissioning –

(i) Wind generation in this State has begun from 1986. The capacity of machines installed in 1986 were from 200 KW to 600 KW. TANGEDCO states that these machines have served their full life period and are still running. Technological advancements have increased the capacities to the level of 2100 KW that have been installed in this state. By virtue of regulation 1(3) of Commission's Power Procurement from New and Renewable Sources of Energy regulations 2008, the generators who signed the agreements prior to 15th May 2006 had the option to mutually re-negotiate and sign agreements as per the said regulations. According

to the statement of TANGEDCO, 90% of the old machines are under captive scheme.

(ii) In the Commission's tariff orders, life period of 20 years was considered in the Orders issued in 2006, 2009 and 2012. The tariff orders issued from 2016 have considered a life period of 25 years. Internationally, many countries have adopted 20 to 25 years of life period.

(iii) The petition has been filed by TANGEDCO to facilitate repowering of wind machines pursuant to the Policy for Repowering of the wind, power projects released by the Ministry of New and Renewable Energy on 5.8.2016. TANGEDCO has clarified that repowering of wind machines is not mandatory.

(iv) Repowering whether partial or full has not been discussed in the petition. Neither have the stakeholders furnished suggestions on the above aspect of repowering. It is viewed that life time extension programs are involved in partial repowering. A WEG who opts for repowering will be bound by the procedure submitted by TANGEDCO and as approved by the Commission in this order. Therefore, discussion on life time extensions are beyond the purview of this case.

(v) Regarding safety of machines and decommissioning procedures, the WEGs are expected to comply with relevant statutes, regulations, codes on safety over their lifetime. The WEGs shall adhere to the safety instructions of inspecting authorities of CEIG. MNRE has issued a Draft Indian Wind Turbine Certification Scheme on 5.11.2018. Volume IV of the above scheme deals with 'Failure Assessment, Safety & Performance Assessment and Decommissioning'**.** The scheme as and when notified shall be followed.

8.9.4 Issue No.5: Treatment of excess energy and banking in the case of captive and third party and adjustment of generation:

8.9.4.1 Treatment of excess energy and banking of energy in the case of captive and third party, and adjustment of energy generated against consumption shall be as per the prevailing wind tariff orders on the date of commissioning of repowered machines i.e if a repowered WEG is commissioned in 2021 the tariff order for wind power issued vide Order No.8 of 2020 dt.7.10.2020 will be applicable. During the period of repowering, power will be supplied by the Distribution licensee at applicable retail tariff rates.

8.10 The procedure submitted on repowering of old WEGs by TANGEDCO stands amended to the effect as directed by the Commission in this order.

The amended procedure for repowering of WEGs is annexed to this order.

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

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

/True Copy /

Secretary
Tamil Nadu Electricity
Regulatory Commission

ANNEXURE

Procedure to be adopted by TANGEDCO for Repowering of WEGs in Tamil Nadu

1. Introduction:

The wind generation started in Tamil Nadu from 1986 with the machine capacity of 200 KW,250 KW,410 KW,500 KW,550 KW & 600 KW. These machines have served their life period and still running. Most of them are under EPA or EWA with a tariff of Rs.2.75 andRs.2.90 per unit. Due to technological advancement now the machine capacities are 750 KW,850 KW,1500 KW,2000 KW and 2100 KW. Earlier the WEG developers were insisted to adopt 5Dand 7D spacing and for repowering this has been relaxed based on MNRE guidelines.

2. Objective:

Objective of the Repowering Policy is to promote optimum utilization of wind energy resources by creating facilitative framework for repowering.

3. Eligibility:

All wind turbine generators would be eligible for repowering under the policy.

4. Implementation Arrangements:

4. 1 TYPE I : Repowering not exceeding the installed capacity

A. Distribution Licensee may conduct a competitive bidding exclusively for procurement of power from repowered WEGs with/without a ceiling tariff seeking prior approval of Bid document from the Commission in accordance with the competitive bidding guidelines issued by the Central Government for procurement of power from Grid connected wind power projects. The WEGs who opt for repowering may participate in the competitive bidding conducted by Distribution licensee exclusively for repowered WEGs.

B. For the WEGs under the wheeling agreement, treatment of excess energy and banking of energy in the case of captive and third party, and adjustment of energy generated against consumption shall be as per the prevailing wind tariff orders on the date of commissioning of repowered machines i.e if a repowered WEG is commissioned in 2021 the tariff order for wind power issued vide Order No.8 of 2020 dt.7.10.2020 will be applicable. During the period of repowering, power will be supplied by the Distribution licensee at applicable retail tariff rates.

C. Depending on the projected yield per MW, the capacityand strength of evacuation infrastructure may be determined and where augmentation is required, the applicant informed of cost and timelines as per relevant Commission's Regulations/orders/provisions in the Act 2003 or under IDC scheme as applicable.

4.2 TYPE II – Repowering exceeding the installed capacity

4.2.1 Since most of the sub stations in which the repowering potential exits, are fully loaded the accommodating of additional capacity due to repowering needs load flow study.

a) After load flow study, if the feasibility exists for additional capacity, the repowering may be considered, subject to land and technical feasibility.

b) The RWEGs shall be planned for inter - connection with STU/TANGEDCO sub station through dedicated transmission line/cable at voltage level of 11 KV and above.

c) The improvement needed in the existing board sub station will be under IDC scheme by the developer @ Rs.30 Lakhs/MW subject to load flow study and feasibility of the space and technical constraints of the particular sub stations. If the

feasibility of the particular generator is not available, the developer has the option to erect new sub station under sec 10(1) of the Electricity Act 2003 as per the prevailing procedure in vogue. The developer may also establish the connectivity by themselves through already established sub stations erected and maintained by the other developers under sec 10(1) of the Electricity Act 2003.The entire cost of Transmission from the project upto the STU/TANGEDCO sub station including cost of construction of line,breakers, bay etc. shall be borne by the RWEGs and it will not be reimbursed by the TANGEDCO or met by the STU/TANGEDCO. The responsibility of getting Transmission Connectivity and access to the transmission system owned by the STU/TANGEDCO will lie with the RWEGs and shall be at the cost of RWEG. The RWEGs shall not be entitled to any deemed generation in case of any delay in connectivity to the Project whatsoever the reason maybe.

d)The STU/TANGEDCO shall endeavour to match the commissioning of the transmission system with the commissioning of the Repowering of WEG projects.

4.2.2 GENERATION:

A. Distribution Licensee may conduct a competitive bidding exclusively for procurement of power from repowered WEGs with/without a ceiling tariff seeking prior approval of Bid document from the Commission in accordance with the competitive bidding guidelines issued by the Central Government for procurement of power from Grid connected wind power projects. The WEGs who opt for repowering may participate in the competitive bidding conducted by Distribution licensee exclusively for repowered WEGs.

B. For the WEGs under the wheeling agreement, treatment of excess energy and banking of energy in the case of captive and third party, and adjustment of energy generated against consumption shall be as per the prevailing wind tariff orders on the date of commissioning of repowered machines i.e if a repowered WEG is commissioned in 2021 the tariff order for wind power issued vide Order No.8 of 2020 dt.7.10.2020 will be applicable. During the period of repowering, power will be supplied by the Distribution licensee at applicable retail tariff rates.

4.2.3 The WEGs who opt for repowering shall file an application to TANGEDCO with details of capacity, projected energy yield per MW, probable dates of decommissioning of existing machines.

4.2.4 The availability of transmission capacity Sub-station wise may be notified by TANGEDCO in the public domain prior to conducting bidding for repowered wind machines.

4.2.5 The WEGs who opt for repowering shall file an application to TANGEDCO with details of capacity, projected energy yield per MW, probable dates of decommissioning of existing machines.

5. Micrositing:

For erection of repowered wind turbines, spacing criteria in the TANGEDCO Proceedings (Per) (CMD) No.469, dt.09.11.2018 may be adopted.

5A. Safety of machines and Decommissioning:

Regarding safety of machines and decommissioning procedures, the WEGs are expected to comply with relevant statutes, regulations, codes on safety over their

lifetime. The WEGs shall adhere to the safety instructions of inspecting authorities of CEIG. MNRE has issued a Draft Indian Wind Turbine Certification Scheme on 5.11.2018. Volume IV of the above scheme deals with 'Failure Assessment, Safety & Performance Assessment and Decommissioning'**.** The scheme as and when notified shall be followed.

6. Financial outlay:

The repowering projects may avail Accelerated Depreciation benefit as per the conditions applicable to new wind power projects.

7. Review:

The procedure for repowering the WEGs would be reviewed by the TANGEDCO as and when required and approval sought from the Commission for implementing any change in the procedure.

…….

ANNEXURE- IV

Reply of TANGEDCO to the comments by Various Stakeholder on M.P.No.3 of 2019 filed by TANGEDCO Seeking approval for the procedure to be adopted by TANGEDCO for Repowering of existing old Wind Energy Generator's within the State of Tamil Nadu

Comments / Suggestions received from South Indian Mills Association (SIMA), Indian Wind Power Association (IWPA) and Tamil Nadu Spinning Mills Association (TASMA) are summarized below:

1) State government has not made any attempt to issue any policy on wind energy so far, as issued for solar policy.
2) MNRE policy is only issued for the information of the stakeholders and it has no statutory or mandatory obligation.
3) Only the State (in India) ought to have issued repowering policy and not the CE/NCES.
4) The policy instead of giving incentive to the generators, try to make it mandatory with a statutory force.
5) Life time of the machine need not be restricted to specific 20/25 years.
6) Disputing the maintainability of the petition under section 62(1)(a), 63 & 86(1)(b).
7) Repowering is to be made optional to the WEG rather than making it mandatory.
8) After MNRE has specified the rate to be adopted for the repowered WEGs, there is no need to revisit the same by TANGEDCO.
9) The reservation regarding the life time of the machine and oppose any fixing of life time by TANGEDCO.
10) The transmission system augmentation is to be carried out by TANGEDCO, as per the MNRE policy and not to be by the generators.
11) Withdrawal of banking facility to the repowered machines is against the MNRE policy.
12) The repowering procedure only helps the select manufacturer.
13) The petition is a clean tariff petition not to be dealt under M.P. since it involves fixation of tariff, which needs stakeholders comments. The Commission cannot relegate its irresponsibility to TANGEDCO.

14)The Commission may come out with general feed in tariff for repowering.

15)IDC and O&M charges are to be re-fixed.

16)Existing mixed feeder to be segregated.

17)The cost of improvement needed in the infrastructure to be borne by TANGEDCO.

18)Deemed generation for the delay in commissioning of the transmission infrastructure.

Reply to issue 1:-

From the year 1990, the NCES Wing is taking care of policy requirements of Renewable Energy which makes Tamil Nadu as the number one State in wind installation capacity from the year 1990 to till date for 30 long years, surpassing the other States which are having exclusive wind policy as claimed by TASMA. This itself proves that absence of a policy is no lacuna in development of wind energy, and as per the necessity, the NCES Wing has taken a policy initiative with regard to repowering to address the interest of both wind generators and TANGEDCO.

Reply to issue 2:-

The MNRE guidelines is only taken as information and repowering procedure was submitted to TNERC for making it statutory for implementing the repowering to the existing old WEGs to better harness the wind resources.

Reply to issue 3:-

The NCES Wing is addressing the policy issues of the wind generators and since it has been proved successful so far there is no need for State's policy directive as claimed by the stakeholder.

Reply to issue 4:-

Actually the repowering procedure filed by the TANGEDCO gives more incentive than the repowering guidelines issued by the MNRE.

The MNRE policy envisages to give only the old PPA tariff to the average 3 years previous generation to the repowered WEGs where as TANGEDCO proposes, new feed in tariff which may vary with years for all the generation after repowering. It may be 10 paise less than the existing PPA tariff Rs.2.90 per unit to some of the generators and 5 paisegain to some of the generators which are having the existing tariff of Rs.2.75 per unit but in the long run, the feed in tariff is going to increase than Rs.2.75 per unit or Rs.2.90 per unit which will be beneficial to the generators. In short, the TANGEDCO treats the repowered WEG as new WEGs and gives the tariff given to the new WEGs even though, the capital cost of repowered WEGs is much less compared to the new WEGs since the cost of land and evacuation which cost 15% of the capital cost is not needed for repowered WEGs. Hence the repowering procedure filed by the TANGEDCO is only incentives to the wind generators contrary to the claim of the stakeholder.

Reply to issue 5:-

The life time of 20/25 years mentioned on various tariff orders by TNERC is for calculating the levelised feed in tariff and the agreement executed for the period of 20/25 years as the case may be. TANGEDCO never says it has intended to fell down the running WEGs and the stake holder is misleading this forum.

Reply to issue 6:-

The repowering procedure approval has been sought by TANGEDCO under various sections since, it involves major policy change. Under 86(1)(b) the TNERC has the statutory power to visit the procedure with respect to various stakeholders. Further since the procedure involves deciding the tariff issue, as per either under section 62(1)(a) or 63, the petition has been filed under these sections.

Reply to issue 7:-

TANGEDCO is not intend to make the repowering procedure as mandatory and left to the generators to decide the repowering.

Reply to issue 8:-

This statement of the stakeholder is contradicting his own statements in issue 2. Whereas the state holder has mentioned that the MNRE guidelines is to be taken only as information since it has no statutory or mandatory force. This petition is filed only to give the MNRE guidelines and the repowering procedure a statutory force after hearing the stakeholder views for smooth enforcement without affecting either stakeholder.

Reply to issue 9:-

The repowering policy is nothing to do with the life time of the machines. It is only made optional to the wind generators and the apprehension of the generators is unwarranted.

Reply to issue 10:-

The stakeholder is confusing themselves between the augmentation of Transmission system before the pooling SS and after the pooling SS. The guideline specifies that the augmentation after pooling Substation is to be carried out by the State Transmission Utility (STU). Hence, the system augmentation required on the pooling SS it to be taken care by the generators and the STU will strengthen the Transmission system if required after the pooling SS beyond the interconnection point/Substation.

Reply to issue 11:-

The MNRE policy specifies that the repowered machines are to be treated as new machines and all the facility extended to the new machines have to be extended to the repowered machines also. Hence the new tariff as well as other conditions specified in the prevailing tariff order is made applicable to the new repowered machines also.

Reply to issue 12:-

Any policy is to take into consideration of the interest of various stakeholders connected with the issue. Hence, the procedure arrived by the TANGEDCO address the various concerns of the generator, TANGEDCO (in turn

public) and the manufacturer of WEG and is not favouring WEG manufacture, as claimed by the stakeholders.

The repowering generators enjoyed the new tariff on par with the new generators without spending on land and evacuation infrastructure which constitutes around 15% of capital cost of the new generators which are taken into account while determining the levelised feed in tariff in every tariff order.

The TANGEDCO and the State are benefited by way of optimum utilization of natural resources and existing Transmission Infrastructure erected by way of realizing additional generation.

The manufacturer of WEG get new avenue of business with new technology. Further the safety quotient of the new machines are farsuperior than the machines erected 25 years back which is adoptable to the latest grid integration requirements like LVRT, Rkvah export facility, SCADA requirement, Harmonics etc., which is more desirable to the larger interest of grid safety and general public.

Reply to issue 13:-

New machines are to be commissioned by the generators either under feed in tariff (F.I.T.) fixed by the Commission under Section 62 or to be commissioned under bidding route at a tariff adopted by the Commission under Section 63 of Electricity Act, 2003 whichever is less. Since the repowered machines are to be treated on par with the new machines, the tariff hitherto adopted for the new machines is considered for repowered machines also. Hence, the M.P. has been filed under both the Section. Since already public hearing has been already done for fixing F.I.T. there is no need for getting public hearing for tariff issue.

Reply to issue 14:-

Project specific tariff or general feed in tariff is not necessary for repowering. The cost of evacuation infrastructure and the land is the savings to the repowered WEGs compared to the new WEG. Hence the cost of dismantling and disposal of old turbines is less compared to the cost of land and evacuation

and so in fact applying the feed in tariff of new machines to the repowered WEGs may be advantageous to the generators.

Reply to issue 15:-

The issue of Infrastructure Development Charges (IDC) and Operation and Maintenance (O&M) are outside the purview of this M.P. and rather both the above issues are subjudice.

Reply to issue 16:-

This issue is outside the purview of this M.P.

Reply to issue 17:-

The generator has the option to improve the pooling SS infrastructure either under Section 10(1) of Electricity Act, 2003 or if it is not viable for the lower capacity, the TANGEDCO may undertake to augment existing pooling SS after collecting IDC for the incremental capacity needed. All the improvements needed after the pooling SS is borne by the TANGEDCO.

Reply to issue 18:-

The TANGEDCO will strive to match the completion of transmission infrastructure with that of the commissioning of repowered WEG (or) make alternate arrangement to Commission the repowered WEGs. Paying deemed generations is practically not feasible.

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