



Registrar

National Electric Power Regulatory Authority Islamic Republic of Pakistan

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No. NEPRA/R/LAG-398/20477-83

October 14, 2019

Mr. Rumman Arshad Dar,
Chief Executive Officer,
Master Green Energy Limited,
80-C-1, Gulberg-III,
Lahore.

Subject: **Modification-I in Generation Licence No. WPGL/52/2017
Licence Application No. LAG-398
Master Green Energy Limited (MGEL)**

Reference: *MGEL's LPM submitted vide letter No. MGEL/NEPRA/Tariff/002-19 dated April 22, 2019 (received on April 24, 2019)*

It is intimated that the Authority has approved Modification in Generation Licence No. WPGL/52/2017 dated November 27, 2017 in respect of Master Green Energy Limited (MGEL), pursuant to Regulation 10(11) of the NEPRA Licensing (Application and Modification Procedure) Regulations 1999.

2. Enclosed please find herewith determination of the Authority in the matter of Licensee Proposed Modification in the Generation Licence of MGEL along with Modification-I in the Generation Licence No. WPGL/52/2017 as approved by the Authority.

Encl: As above



Rumman
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(Syed Safer Hussain)

Copy to:

1. Secretary, Power Division, Ministry of Energy, A-Block, Pak Secretariat, Islamabad.
2. Managing Director, NTDC, 414-WAPDA House, Lahore.
3. Chief Executive Officer, CPPA-G, ENERCON Building, Sector G-5/2, Islamabad.
4. Chief Executive Officer, Alternative Energy Development Board (AEDB), 2nd Floor, OPF Building, G-5/2, Islamabad
5. Chief Executive Officer, Hyderabad Electric Supply Company Limited (HESCO), WAPDA Offices Complex, Hussainabad, Hyderabad
6. Director General, Environment Protection Department, Government of Sindh, Complex Plot No. ST-2/1, Korangi Industrial Area, Karachi.

National Electric Power Regulatory Authority
(NEPRA)

Determination of the Authority
in the Matter of Licensee Proposed Modification in the
Generation Licence of Master Green Energy Limited

October 14, 2019
Case No. LAG-398

(A). Background

(i). In terms of Section-14B (previously Section-15) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act"), the Authority granted a generation licence (No. WPGL/52/2017 dated November 27, 2017) to Master Green Energy Limited (MGEL)

(ii). Under the above mentioned generation licence, the 50.00 MW generation facility/Wind Power Plant (WPP) proposed to be located at Goth Dehson Walhar, Taluka Kotri, District Jamshoro, in the province of Sindh, is based on twenty five (25) wind turbine generators of Gamesa (G114-2.0 MW), with a hub height of 93m.

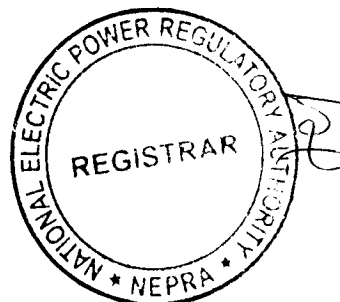
(B). Communication of Modification

(i). MGEL in accordance with Regulation-10(2) of the NEPRA Licensing (Application & Modification Procedure) Regulations, 1999 (the Licensing Regulations), communicated a Licensee Proposed Modification (LPM) in its existing generation licence on April 24, 2019.

(ii). In the "text of the proposed modification", MGEL proposed to (a). extend the life span of the project from twenty (20) years to twenty five (25) years; (b). change the capacity factor of plant from 35% to 38.48% and (c). change the commercial operation date (COD) of the project from September 30, 2019 to 2020.

(iii). Regarding the "statement of the reasons in support of the modification", MGEL has submitted that the cost plus tariff for the project determined/granted by the Authority envisages that MGEL will be in operation for twenty five (25) years with a capacity factor of 38.48 %. The revised operational parameters will optimize production efficiency and ensure low levelized cost of energy.

(iv). About the "statement of the impact on the tariff, quality of service and the performance by the licensee of its obligations under the licence", MGEL submitted that



modification will optimize the project tariff, quality of service and obligations of the licensee under the licence.

(C). Processing of LPM

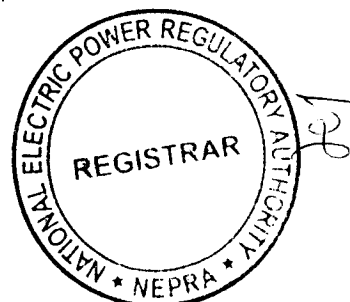
(i). After completion of all the required information as stipulated under the Regulation-10(2) and 10(3) of the Licensing Regulations by MGEL, the Registrar published the communicated LPM on May 11, 2019, in one (01) Urdu (Daily Express) and one (01) English (the News) newspaper, informing the general public about the communicated LPM and inviting their comments within a period of fourteen (14) days from the date of the said publication.

(ii). Apart from the above, separate letters were also sent to other stakeholders including Government Ministries and their attached departments, various representative organization, individual experts and others, on May 13, 2019. Through the said letters, the stakeholders were informed about the communicated LPM and publication of its notice in the press. Further, the said entities were invited to submit their views and comments in the matter, for assistance of the Authority.

(D). Comments of Stakeholders

(i). In reply to the above, the Authority received comments from four (04) stakeholders including Engineering Development Board (EDB), National Transmission and Despatch Company Limited (NTDC), Central Power Purchasing Agency (Guarantee) Limited (CPPA-G) and Ministry of Science and Technology (MoST). The comments offered by the said stakeholders are summarized in the following paragraphs:-

- (a). EDB submitted that none of the clauses of the LPM are related to it however, it is recommended that efforts should be made to utilize indigenous potential available for the project.
- (b). NTDC commented that regarding WPPs, Ministry of Energy has recently issued a policy whereby all wind and solar power plants have been placed into three categories. The subject WPP falls in the Category-II (i.e. Projects with LOI and tariff determination but no LOS). Regarding comments on Modification of generation License of the subject Power Plant, CCoE policy may be followed;
- (c). CPPA-G submitted that the Authority may consider application of the project company if the proposed Licence modification ensures



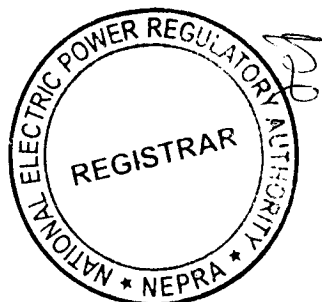
optimized efficiency and lower levelized tariff so that it is beneficial to end consumers. Furthermore, CPPA-G has not issued any consent to purchase power from the project company. Before considering the application of the project company, NEPRA should review the proposed LPM in the context of Indicative Generation Capacity Expansion Plan (IGCEP) submitted by NTDCL to NEPRA for approval and demand vs. supply situation coupled with quantum of renewable energy to be induced in the National Grid according to the recommendation of Grid Code Review Panel (GCRP); and

(d). MoST has commented that matter may be decided by NEPRA on its own after considering all technical and financial parameters.

(ii). The Authority examined the above comments of stakeholders and considered it appropriate to seek perspective of MGEL on the observations of the EDB, NTDC and CPPA-G. Regarding comments of the EDB, MGEL submitted that it is agreed with EDB's recommendation on utilization of indigenous resources for the project. MGEL is a 50 MW WPP which utilizes indigenous wind resource for power generation. The project benefits both our economy and environment through reduction in our use and reliance on fossil fuel resources to meet national energy demand. Further, MGEL is committed to hiring of local engineering resources that adhere to international project standards to the extent compliant with our financing requirements.

(iii). On the comments of NTDC, the licensee submitted that observations of NTDC are correct as the project of MGEL falls in the category-II (i.e. projects with LOI and tariff determination but no LOS). NTDC's comments following of the CCoE decision and MGEL concurs with the same.

(iv). On the observations of CPPA-G, MGEL submitted that CPPA-G has not raised any objection to the LPM, as long as the LPM ensures optimized efficiency and low cost of electricity for end consumer. The LPM has been filed to align the generation licence with the recently issued tariff determination dated February 12, 2019 by NEPRA. (i.e. 25 years tariff period, higher capacity factor and one of the lowest levelized tariff). Further, injection of low cost RE to the grid without capacity charge is the benefit of end consumes and lead to reduction of overall cost of electricity in Pakistan.



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(v). The Authority examined the above submissions/response of MGEL and found the same plausible. Foregoing in view, the Authority considered it appropriate to proceed further with the communicated LPM as stipulated in the Licensing Regulations and the NEPRA Licensing (Generation) Rules, 2000 ("the Generation Rules").

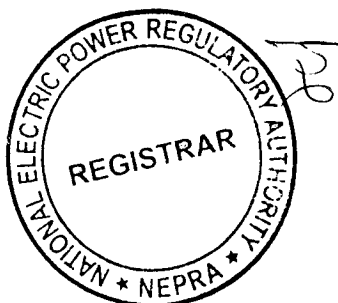
(E). Findings/Evaluation

(i). The Authority examined the entire case in details including the already granted generation licence, the communicated LPM, granted cost-plus tariff of MGEL, the provisions of the Policy for Development of Renewable Energy for Power Generation 2006 ("the RE Policy"), comments of the stakeholder and relevant rules & regulations.

(ii). In this regard, the Authority observed that in terms of Regulation-10(5) of the Licensing Regulations, the Authority is entitled to modify a licence subject to and in accordance with such further changes as the Authority may deem fit if, in the opinion of the Authority such modification (a). does not adversely affect the performance by the licensee of its obligations; (b). does not cause the Authority to act or acquiesce in any act or omission of the licensee in a manner contrary to the provisions of the NEPRA Act or the rules or regulations made pursuant to it; (c). is or is likely to be beneficial to the consumers; (d). is reasonably necessary for the licensee to effectively and efficiently perform its obligations under the licence; and (e). is reasonably necessary to ensure the continuous, safe and reliable supply of electric power to the consumers keeping in view the financial and technical viability of the licensee.

(iii). The main features of the application under consideration are that the Authority originally granted a generation licence (No. WPGL/52/2017 dated November 27, 2017) to MGEL with an installed capacity of 50 MW based on 25 WTGs of Gamesa (G114-2.0MW). Article-4 of the existing generation licence stipulates that the licence shall become effective from the date of its issuance and will have a term of twenty (20) years from the COD of the WPP of the Licensee whereas the anticipated COD is mentioned as September 30, 2019. Further, Schedule-II of the generation licence envisages the capacity factor of the generation facility as 35.0%.

(iv). Now, through the communicated LPM, MGEL has proposed to (a). Extend the life span of the project from twenty (20) years to twenty five (25) years; (b). Change the capacity factor of plant from 35% to 38.48% and (c). Change the



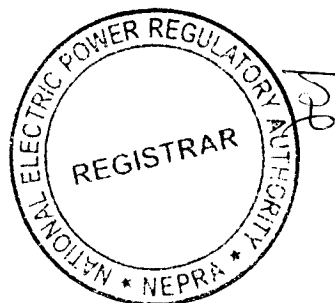
anticipated commercial operation date (COD) of the project from September 30, 2019 to 2020.

(v). Regarding the proposed extension in term of licence, the Authority has observed that under Rules-5(1) of the Generation Rules the term of generation licence is to commensurate with the maximum expected useful life of the units comprised in a generation facility, except where an applicant for a generation licence consents to a shorter term. As per international benchmark, the useful life of wind turbine generators is considered normally as 20 to 25 years. Although, as per the the Original Equipment Manufacturer (OEM), the WTGs selected by MGEL are robust, efficient and can be safely operated up to 30 years (if properly maintained), but the Licensee has consented to a shorter term of 25 years. In this regard, the cost plus tariff granted to MGEL also envisages a control period of 25 years. Further, the proposed extension in the term of licence is in line with other similar wind projects. Therefore, the Authority is of the view that the proposed extension in the term of licence is in-line with the said standards for useful life of WTGs and control period of tariff.

(vi). Regarding the proposed change in the anticipated commercial operation date (COD) of the project from September 30, 2019 to 2020, the Authority has observed that according to the tariff granted to MGEL, the targeted maximum construction period after financial close is fifteen (15) months. As MGEL has successfully achieved financial close on August 19, 2019 therefore, in view of the fifteen months construction time, the Authority considers the anticipated COD of the project as November 18, 2020.

(vii). Regarding the proposed change in capacity factor of the WPP, the Authority has observed that with proposed modification the net capacity factor of the WPP of MGEL will increase from 35% to 38.48% (i.e. the net annual generation will increase from 153.30 GWh to 168.54 GWh) without changing the installed capacity of the WPP. In this regard, the Authority has also observed that the proposed change in capacity factor is also in line with the above mentioned cost plus tariff granted to MGEL.

(viii). Regarding the impact of the communicated LPM on the tariff, the Authority hereby clarifies that it has already granted a cost-plus tariff to MGEL (through determination (No. NEPRA/TRF-412/MGEL-2017/2504-2506 February 12, 2019). The said tariff already accounts for the proposed modifications therefore, it is



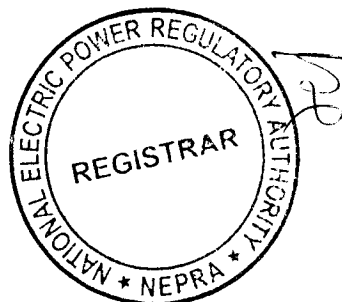
considered that the communicated LPM of MGEL will not have any adverse impact on its existing tariff.

(ix). Regarding the observations of CPPA-G and NTDC as mentioned at Para D(i)(b)&(c) above, the Authority has observed that MGEL has a valid generation licence and tariff granted by the Authority. According to decision of CCoE dated February 27, 2019 the project of MGEL falls in the Category-II of renewable energy projects and all Category-II projects are allowed to proceed ahead towards the achievement of their requisite milestones as per RE-Policy 2006. Regarding consent of purchasing power, CPPA-G through its letter dated May 30, 2019 has confirmed that in case of project that fall in the category-II of CCoE decision, CPPA-G will consider granting of consent based on NTDC's confirmation of evacuation and timeline decided for the completion of wind and solar projects. In this regard, it is clarified that NTDC has already issued the required power evacuation certificate for the project of MGEL, according to the proposed timelines of the project. Now, the project has successfully achieved financial close on August 19, 2019 therefore, the observations of CPPA-G and NTDC stand resolved.

(x). Foregoing in view, the Authority is of the considered opinion that the proposed LPM will not have any adverse effect on the performance of MGEL of its obligations, instead its performance will be improved. Further, the LPM will not cause the Authority to act or acquiesce in any act or omission of the Licensee in a manner contrary to the provisions of the NEPRA Act or the rules or regulations made pursuant to the NEPRA Act. The LPM will be beneficial to the consumers in general as more electricity will be available to the power purchaser and that too without installing any additional wind turbine generator. The LPM is reasonably necessary for the Licensee to effectively and efficiently perform its obligations under the Licence. The LPM is necessary to ensure the continuous, safe and reliable supply of electric power to the consumers keeping in view the financial and technical viability of the Licensee.

(F). Approval of LPM

(i). In view of the above, the Authority is satisfied that the Licensee has complied with all the requirements of the Licensing Regulations pertaining to the modification. Therefore, the Authority in terms of Regulation-10(11) of the Licensing Regulations approves the communicated LPM.




(ii). Accordingly, the already granted Generation Licence (No. WPG/L/52/2017 dated November 27, 2017) is hereby modified. The changes made in the generation licence are attached as annexure to this determination. The approval of the LPM will be subject to the provisions contained in the NEPRA Act, relevant rules framed there under, terms & conditions of the generation licence and other applicable documents.

Authority

Rafique Ahmed Shaikh
(Member)


7/10/19

Rehmatullah Baloch
(Member)


28/10/19

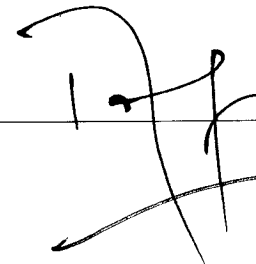
Saif Ullah Chattha
(Member)

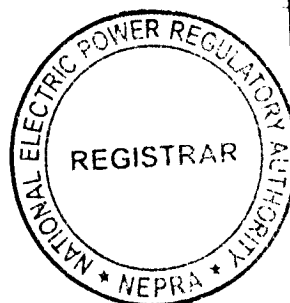
(Did not Attend the meeting-Away)

Engr. Bahadur Shah
(Member/Vice Chairman)



Tauseef H. Farooqi
(Chairman)







**National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan**

GENERATION LICENCE

No. WPGL/52/2017

In exercise of the Powers conferred under Section-26 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, the Authority hereby modifies the Generation Licence (No. WPGL/52/2017 dated November 27, 2017 granted to Master Green Energy Limited, to the extent of changes mentioned hereunder:

- (a). Changes made in the ~~Articles~~, ~~Schedule-I~~ and ~~Schedule-II~~ of the Generation Licence are attached as Annexure-A.

This Modification-I is given under my hand on this 14th day of October Two Thousand & Nineteen

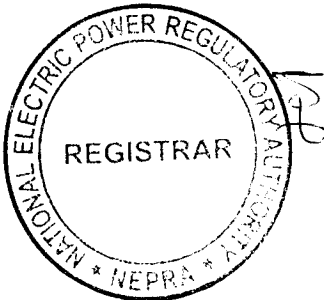

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Registrar







Annexure-A



(i). Changes made in Articles of the Generation Licence:

Article-4.1 of the Generation Licence is rephrased as:
“This licence shall become effective from the date of its issuance and will have a term of twenty five (25) years from the COD of the generation facility/Wind Power Plant/Wind Farm of the Licensee, subject to provisions of Section-14B of the Act.”

(ii). Changes made in Schedule-I of the Generation Licence

“At Para D(i)&(ii) under Detail of the Generation Facility/Wind Power Plant/Wind Farm, the anticipated COD is changed to November 18, 2020 and the minimum useful life is changed to 25 years.”

(iii). Changes made in Schedule-II of the Generation Licence

The detail appearing at Schedule-II of the generation licence is replaced with the following:-

(1).	Total Installed Gross ISO Capacity of the Generation Facility /Wind Farm (in MW)	50.00
(2).	Total Annual Full Load Hours	3370.85
(3).	Average Wind Turbine Generator (WTG) Availability	97.0 %
(4).	Total Gross Generation of the Generation Facility/Wind Farm (in GWh)	189.24
(5).	Array & Miscellaneous Losses (in GWh)	12.74
(6).	Availability Losses (in GWh)	4.78
(7).	Balance of Plant Losses (in GWh)	3.18
(8).	Annual Energy Generation (25 years equivalent Net AEP) (in GWh)	168.54
(9).	Net Capacity Factor	38.48 %

