WESTERN ENERGY

WESTERN ENERGY (PRIVATE) LIMITED

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The Registrar
National Electric Power Regulatory Authority
NEPRA Tower Attaturk Avenue (East),
Sector G-5/1, Islamabad.

Date: May 12, 2020
Ref# WEL/NEPRA/005/20

Subject: Submission of Cost Plus Tariff Petition of Western Energy (Private) Limited for 50 MW Wind Power Projects

Kindly accept the Company's Tariff Petition, along with the fee as determined by the National Electric Power Regulatory Authority ("NEPRA" or the "Authority") for kind consideration and favourable approval by the Authority in accordance, inter alia, with the Regulation of Generation. Transmission and Distribution of Electric Power Act, 1997 read with Rule 3 of the NEPRA tariff Standards and Procedure Rules, 1998 and other applicable provisions of NEPRA law.

The Cost Plus Tariff Petition is submitted together with:

a. The Bank Draft No. 01558103 dated May 11, 2020, amounting to PKR 741,792/- (Pakistan Rupees Seven Hundred Forty-One Thousand, seven Hundred and ninety-two only) as requisite for fee for Tariff Petition as communicated by NEPRA.
b. Board Resolution of Western Energy (Private) Limited.
c. Affidavit of Mr. Tabish Tapal
d. Affidavit of Mr. Muhammad Sadiq Tapal.

We look forward to receive an early positive determination in order to achieve the completion of project within timelines in the national interest of Pakistan.

Respectfully submitted for and on behalf of:
WESTERN ENERGY (PRIVATE) LIMITED

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TABISH TAPAL
(CHIEF EXECUTIVE OFFICER)

TABLE OF CONTENTS

1. Petitioner's Information

1.1 PETITIONER

Name: Western Energy (Private) Limited ("WEL", the "Project Company" or the "Petitioner").

Address: F -25, Block-5, Rojhan Street, Kehkashan, Clifton, Karachi, Pakistan.

Company Registration #: 0084483

1.2 PROJECT MAIN SPONSOR

Tapal Group

1.3 REPRESENTATIVE OF THE PETITIONER

Chief Executive Officer: Mr. Tabish Tapal

Director: Mr. Muhammad Sadiq Tapal

1.4 PROJECT ADVISORS

Financial Advisors: Bridge Factor (Pvt) Ltd.

Technical Advisors: Renewable Resources (Private) Limited

Legal Council: Axis Law Chambers

2. Grounds for Petition

2.1 BASIS FOR PETITION

This Petition is made to the National Electric Power Regulatory Authority ("NEPRA") under the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of) 1997 (the "NEPRA Act") and the Tariff Standards and Procedure Rules, 1998 (the "NEPRA Rules") made under the NEPRA Act; and other applicable laws.

Under the NEPRA Act, NEPRA is responsible for determining tariffs, rates and other terms and conditions for the supply of electric power services by the generation, transmission and distribution companies and recommending them to the Federal Government for notification and therefore, in light of such authority, the Petitioner is hereby submitting this Petition for NEPRA's consideration.

2.2 ABOUT THE PETITIONER - BRIEF

The Project Company was incorporated on 9th July 2013, to develop, own and operate an approximately 50 MW wind power project in Jhimpir, Thatta ("Project") pursuant to a Letter of Intent issued by the Alternative Energy Development Board ("AEDB") vide its letter No. B/3/16/2007-138 dated 6th March 2013 ("LOI") (Annexure 1).

Subsequent to the issuance of LOI, Project was allocated 852 acres of land by the Government of Sindh through the Sindh Board of Investment and Land Utilization Department. The soil investigation, topography survey and technical feasibility were carried out. Wind mast installed and site-specific wind data for over 18 months was collected and the approval for our wind resource analysis was received from AEDB vide letter no B/3/1/WEPL/13 dated 23rd June 2015.

As the land allocated was close vicinity of the PAF Bholari Base, micro sighting of the wind turbines was effected due to a height restriction perimeters declared by PAF Bholari Base. As per the height restrictions set by the PAF, AEDB and Energy Department of Government of Sindh relocated the Project land measuring 428 acres, which required the Project company to carry out all the studies again on the new Project site.

Despite achieving all the required prerequisites for Power Acquisition Request ("PAR"), the Project Company was not awarded PAR within the tariff validity time of 2015 upfront tariff which expired in June 2016.

Company filed tariff petition before NEPRA for approval of reference generation tariff under cost plus mode on 27th November, 2017. The Authority announced Reference Tariff ("Tariff Determination") on 20th August 2018 and initially allowed 06 months to achieve financial close period from date of issuance of tariff determination. The Company filed motion for review on and requested to review some parameters of tariff.

The Tariff Determined was not "Bankable" and therefore no progress could be made on the project development during the pendency of the Review Motion. Decision on the motion for leave for review was made on 12th February 2019 and some of the key parameters i.e. capacity factor and interest rate were revised by the Authority. However, the time was achievement of financial close was extended to 12 months

commencing from the date of original decision. Effectively, the Authority has allowed only six (6) months (from 12th February 2019 to 20th August 2019) to Company for achieving financial close.

The Company filed clarification letter ("Review Clarification") to Authority dated 25th March 2019 ("Review letter") to highlight that the one (1) year time period for achieving financial close from the date of the original tariff determination (which was based on some assumption which were not bankable) was not justified. The aforementioned review letter was later converted into a review motion in which Company requested Authority to extend the financial closing date till 12 Feb 2020, i.e. the date which is 12 months after announcement of the Revised Tariff Determination. Hearing on the review motion filed in March 2019 was called on 18th December 2019. Keeping in view the fact that decision would take at least a month or so, leaving no more time to achieve financial close by 12th February 2020, the Company in the hearing withdrew its request for review motion and decided to file a new tariff petition before NEPRA for the determination.

Upon the Revised Tariff Determination, the Company also reinitiated the process to extend the validity of its LOI. AEDB extended the validity period of the Company's LOI on September 25, 2019 and AEDB has advised that this will be extended as soon as the AEDB board meets.

2.3 PROCESS LEADING TO TARIFF PETITION

The following milestones have been achieved leading up to the submission of tariff petition.

- Grid Interconnection Study was approved and Power Evacuation Certificate (PEC) was issued by NTDC on 11th November 2016 (Annexure 2).
- NEPRA granted generation license to the Project on 5th January 2017 (Annexure 3).
- IEE Study was approved by Sindh Environmental Protection Agency on 25th January 2017 (Annexure 4).
- The Feasibility Study was accorded approval by AEDB Panel of Experts on 15th November 2017.
- The land required for the Project has already been leased by Government of Sindh (GOS) for a period of thirty (30) years through Agreement of Lease dated 11th April 2018 (Annexure 5).
- Consent to purchase power form the Project was issued to the Company by CPPA-G ("Power Purchaser") on 19th August 2019 (Annexure 6).
- EPC Contracts for the Project have been executed (Annexure 7).
- Project debt funding (which is to account for 80% of the total project cost) has been arranged from a consortium of local and foreign banks (Annexure 8). The Sponsors of the Project will provide the remaining 20% of the project cost as in the form of equity investments.

All requisite information required by NEPRA for processing the Petition has been annexed herewith. WEL will be pleased to submit any further information as and when required by NEPRA in connection with the determination.

Accordingly, it is submitted that the requirements of the regulatory process for application of the tariff determination have been completed.

6

2.4 REQUEST FOR TARIFF DETERMINATION - SUBMISSION

In accordance with the requirements of the NEPRA Act, NEPRA Rules and the Policy for Development of Renewable Energy Project 2006 (RE Policy), Petitioner hereby submits this Petition for determination/approval of the Reference Tariff (Negotiated Tariff under Cost-Plus regime) along with adjustments, pass-through items, indexation mechanisms and other terms and conditions for supply of electric power service to CPPA (G) (the "Power Purchaser") from the Project.

Pursuant to the relevant provisions of the NEPRA Act, NEPRA Rules, the RE Policy 2006, WEL submits herewith before NEPRA, this Petition for approval of

- the Reference Tariff (Negotiated Tariff under Cost-Plus regime);
- the indexations, adjustments and escalations;
- adjustments at Commercial Operations Date ("COD") and
- other matters set out in this Tariff Petition.

NEPRA (the "Authority") is requested to process the Petition at the earliest, thereby enabling the Project Company to proceed further with the development and construction process.

6

3. Executive Summary

3.1 BACKGROUND

Western Energy (Private) Limited (WEL) a 50 MW Wind Power Plant in Jhimpir, Nooriabad, District Thatta, Sindh. The Project is being developed for a concession period of 25 years.

- Type of Project: Build, Own and Operate (BOO)
- Gross Capacity: 50 MW
- Capacity Factor: 38%
- Annual Energy Generation: 166.44 GWh
- Construction Period: 15 months
- Tariff: USD Cents 4.7261/kWh
- Power Purchaser: CPPA-G
- Wind Turbine Generators: GE 2.5 - 132
- Land Area: 428 acres
- Exchange rate assumption: PKR 166.75/USD

3.2 PROJECT COST SUMMARY

Total project cost is estimated to be USD 63.92 million. The breakup of the same is presented below in USD millions.

- EPC Cost: 58.00
- Project Development Cost: 2.500
- Insurance During Construction: 0.290
- Financial Fees and Charges: 1.216
- Interest During Construction: 1.914

3.3 PROJECT FINANCING

The Project is financed through 80% Debt and 20% Equity. The total Debt amounts to USD 51.14 million, whereas the total Equity is USD 12.78 million.

The Debt is financed through a mix of Local and Foreign Lenders with 50:50 ratio. Faysal Bank Limited and Bank Al Habib is acting as the financier for local financing and the required foreign financing is being arranged by the Company through FMO, CDC, PROPARCO or all others International DFI's. The financing terms are tabulated below for reference.

PROJECT FINANCING		
DESCRIPTION	PERCENTAGE	USD MILLION
Local Financing by Faysal Bank Limited & Bank Al Habib – SBP Refinance Facility	50%	25.57

6

DESCRIPTION	PERCENTAGE	USD MILLION
Foreign Financing – Commercial Facility	50%	25.57
Total Debt		51.14

FINANCING TERMS

DESCRIPTION	SBP FINANCING	FOREIGN FINANCING
Loan Term	11.5 years	14.5 years
Debt Repayment	10 years	13 years
Mark-Up Rate	6 %	3-M LIBOR (1.4505%) + 4.25 %
Repayment Style	Fixed Principal Repayment	Annuity

3.4 OPERATIONAL PHASE COSTS

The Project will have annual Operations and Maintenance cost of USD 1.15 million and annual Insurance costs of 0.4% of the EPC amounting USD 0.23 million.

3.5 SUMMARY OF EPC SELECTION

WTG make and model GE 2.5 - 132 has been selected on the basis of site suitability, long term reliability and optimal yield.

A fair estimation of EPC cost has been taken into consideration on the basis of prevailing market trends and results of Company's discussions with EPC Contractors developing projects in Pakistan. The Company conducted its own competitive bidding process for selection of EPC Contractor and then executed EPC Contract with an experienced contractor for a reliable and cost efficient solution.

3.6 PROJECT TASKS COMPLETED

The Project is ready for construction and has completed the following milestones:

- Letter of Intent;
- Land Lease Signed;
- Land Allotment;
- Wind Mast Installed;
- Topographical Study;
- Transportation Study;
- Geo-technical Study;
- Wind Resource Assessment Study;
- Feasibility Study Approval;

6

- Grid Interconnection Study;
- Initial Environment Examination Study;
- EPC Agreements Signed; and
- Letter of Intent / Term sheet from Project Lenders

The Project has been in development since the issuance of LOI in 6th March 2013 by AEDB and all tasks and milestones had been completed to opt for Wind Upfront Tariff in 2016. This Project was one of the ten Projects with approved Interconnection Studies which were selected by Ministry of Water and Power, AEDB and EDGOS to be allowed the last Wind Upfront Tariff, however, at the last moment for unknown reasons, Central Power Purchase Agency ("CPPA-G") did not provide consent for power procurement due to which NEPRA returned Company's Tariff Petition filed prior to expiry of Wind Upfront Tariff.

The Company was advised by the concerned Authorities to await for a fresh Wind Upfront Tariff to be announced by NEPRA shortly. However, on 27th January 2017, NEPRA issued a Wind Benchmark Tariff Decision for bidding. Since that date, despite assurances that RFP shall be issued soon, no such RFP had been issued yet.

Company filed tariff petition before NEPRA for approval of reference generation tariff under cost plus mode on 27th November, 2017. The Authority announced Reference Tariff ("Tariff Determination") on 20th August 2018 and initially allowed 06 months to achieve financial close period from date of issuance of tariff determination. The Company filed motion for review on and requested to review some parameters of tariff.

The Tariff Determined was not "Bankable" and therefore no progress could be made on the project development during the pendency of the Review Motion. Decision on the motion for leave for review was made on 12th February 2019 and some of the key parameters i.e. capacity factor and interest rate were revised by the Authority. However, the time was achievement of financial close was extended to 12 months commencing from the date of original decision. Effectively, the Authority has allowed only six (6) months (from 12th February 2019 to 20th August 2019) to Company for achieving financial close.

The Company filed clarification letter ("Review Clarification") to Authority dated 25th March 2019 ("Review letter") to highlight that the one (1) year time period for achieving financial close from the date of the original tariff determination (which was based on some assumption which were not bankable) was not justified. The aforementioned review letter was later converted into a review motion in which Company requested Authority to extend the financial closing date till 12th February 2020, i.e. the date which is 12 months after announcement of the Revised Tariff Determination. Hearing on the review motion filed in March 2019 was called on 18th December 2019. Keeping in view the fact that decision would take at least a month or so, leaving no more time to achieve financial close by 12th February 2020, the Company in the hearing withdrew its request for review motion and decided to file a new tariff petition before NEPRA for the determination.

6

4. The Project

4.1 PAKISTAN'S CURRENT ELECTRIC POWER SHORTAGE

Pakistan currently has over 32 GW of installed capacity for electricity generation. Conventional thermal plants (oil, natural gas, coal) account for 65.5% of Pakistan's capacity, with hydroelectricity making up 28%, Renewable Energy (Wind, Solar & Bagasse) 3.4% and Nuclear 3.1%.

Pakistan is moving ahead towards solving its energy crises. A major contributor to this solution is the injection of electricity through base load power plants i.e. LNG and Coal based generation. Base load plants are generating electricity through imported fuels which increases the burden on the foreign exchange reserves. Therefore, it is imperative for Pakistan to look for indigenous/cheap energy resources for sustainable growth through self-reliance.

The 2019 Renewable Policy of GOP requires a substantial portion of renewable energy in the overall energy mix of the country to optimize the basket price. Pakistan has abundant renewable resources, which should be utilized to provide affordable electric energy to its people.

4.2 WIND POWER PROJECTS – A NATURAL CHOICE

To ensure a sustainable energy future for Pakistan, it is necessary that the energy sector be accorded a high priority. It is considered that wind power generation could become a significant contributor to Pakistan's electricity supply in the near future. The development of wind generation projects supports the environmental objectives of the Government of Pakistan by:

- reducing dependence on fossil fuels for thermal power generation;
- increasing diversity in Pakistan's electricity generation mix;
- reducing greenhouse gas emissions through avoidance of thermal power generation; and
- helping in reduction of the exorbitant trade deficit.

Pakistan has a huge wind potential which can be effectively and efficiently utilized for the economical generation of power. The coastal belt of Pakistan is blessed with a wind corridor that is 60 km wide (Gharo - Kati Bandar) and 180 km long (up to Hyderabad). This corridor has potential of 50,000 MW of electricity generation through wind energy that is ready to be exploited. Currently twenty four 24 wind energy projects having a combined capacity approx. 1,230 MW are operational and recently 12 wind energy projects having combined capacity of 610 MW achieved financial close in November 2019 and will achieve commercial operations by September 2021.

The Petitioner is hopeful that the country will overcome the power shortfalls faced in recent years and achieve security of base load soon. It is pertinent to note that wind power generation becomes even more useful in cases where secure base load is available. The cheaper electricity offered by wind projects can be utilized as much as possible when available and demand in low wind period can be supplemented through base load plants.

6

Tariffs for all base load plants are split between the Capacity Purchase Price (CPP-fixed costs) and Energy Purchase Price (EPP-fuel costs). Most of the base load plants have an EPP component (excluding capacity charge) higher than the total wind tariff. The Power Purchaser (and as a result the consumers) can realize significant savings by replacing expensive base load plants with wind power generation in high wind periods. It is also important to highlight the fact that high wind periods in Pakistan coincide with the highest demand periods (summer months). The Petitioner firmly believes that advantages of having wind power in the mix (including cost saving in generation of electricity) cannot be undermined.

4.3 ABOUT THE MAIN SPONSOR – TAPAL GROUP

Tapal Group, the lead Sponsors in 50 MW Western Energy (Private) Limited are the principals of Ameejee Valleejee & Sons (Private) Limited ("AVS"). Tapal Group is a major shareholders of Tapal Energy (Private) Limited, a 126 MW diesel engine based power project in operation for more than past 22 years.

Tapal Group comprise of Mr. Moiz Tapal, Mr. Tajwar Tapal, Mr. Tabish Tapal and Mr. Muhammad Sadiq Tapal. Tapal Group has been in business for the past 145 years. The reason for its successful existence in the highly competitive corporate sector for such a long period is its good standing as a professionally managed group.

Ameejee Valleejee & Sons (Private) Limited is a business house established in 1867 dealing in engineering and construction related products, chemicals and consumer products. It represents some of the most renowned international companies like Steinmuller, Lurgi, Standard, Chint, Buhler, Kessel, Henkels, Dorr Oliver, Atlas Copco etc. dealing in engineering equipment and has been a key player in installation of several power plants in public utility companies and various industries in Pakistan.

Western Energy (Private) Limited ("Project Company" or "WEL") is a private limited company incorporated under the laws of Pakistan and has been specifically established to undertake 50 MW Wind Power Project at Bholari, District Jhimpir, Sindh (the "Project").

4.4 ABOUT THE PROJECT

The 50 MW (gross) Wind Project is located at Jhimpir, District Thatta, Sindh. The development of the Project is being undertaken on a Build-Own and Operate (BOO) basis by WEL.

A professional team has been appointed to assist in the implementation of the Project. Bridge Factor has been appointed as Transaction Advisor, whereas a Renewable Resources (RE2) is selected as Technical Advisor and Axis Law Chambers is acting as Legal Advisor for smooth and efficient execution of the Project.

4.5 PROJECT LOCATION

The site for the implementation of the project has been selected considering

- location in the wind corridor,
- wind conditions at the site,

6

- topographic conditions,
- site accessibility, and
- location of the grid with reference to the site for interconnection.

The Site is located in Jhimpir, District Thatta, Sindh, which is one of the most promising areas where wind power projects can be viably installed. The Project's wind farm site is located 109 km from Karachi city in the East direction with easy road access.

The project has been surrounded by 50 MW Jhimpir Power (Private) Limited, 50 MW Hawa Energy (Private) Limited and 51 MW Shaheen Renewable Energy-1 (Private) Limited.

The major track from Karachi to Nooriabad is via the Karachi-Hyderabad Motorway, and another access to the Project site is through Jhimpir. When travelling via the Karachi-Hyderabad Motorway the access from Nooriabad to the site is a single track which turns toward the site.

However, the terrain is flat and long and heavy vehicles can easily navigate through this road. There are number of neighboring wind farms in the surrounding area of Jhimpir. The proposed site is located about 85 km from Port Qasim Karachi.

The Project site is exposed to strong winds; wind data analysis of the area suggests that 60% wind blows from the south west direction. The site is easily accessible through metaled roads. The terrain at the site and surrounding area has elevations varying between 44m to 88m.

The coordinates of Wind farm are given in Table below:

SITE COORDINATES		
	LATITUDE	LONGITUDE
1	25°11'12.32" N	68°02'44.02" E
2	25°11'7.61" N	68°02'40.98" E
3	25°10'0.35" N	68°04'29.78" E
4	25°09'59.66" N	68°04'30.91" E
5	25°09'42.2 I" N	68°05'8.50" E
6	25°09'38.41" N	68°05'5.14" E
7	25°09'0. I 3" N	68°05'4.99" E
8	25°08'55.40" N	68°05'1.84" E
9	25°09'33.30" N	68°04'11.44" E
10	25°09'33.99" N	68°04'10.28" E
11	25°10'39.92" N	68°02'23.60" E
12	25°10'35.90" N	68°02'20.53" E

6

4.6 GRID CONNECTIVITY

The Project would be connected by a double circuit of 132kV looping in-out with a sub cluster also connecting nearby WPPs to Jhimpir - I 220/132 kV collector substation. Unlike, for majority of other wind projects which require a new grid to be constructed the Company has exiting grid availability like Master Green Energy Limited and Tricom Wind Power (Private) Limited

4.7 ANNUAL ENERGY PRODUCTION

Annual Energy Production of 166.44 GWh has been estimated for the project. The table below shows key details relating to power generation from the project.

ENERGY PRODUCTION	
Total Installed Gross ISO Capacity of the Generation Facility - MW	50 MW
Annual Energy Generation (25 years equivalent Net AEP) - kWh	166.44 GWh
Net Capacity Factor	38%

6

5. EPC – Process & Selection

5.1 WTG TECHNOLOGY & EPC SELECTION

As explained in earlier sections, the Project is under development since 2013, and the Company opted for the upfront tariff of 2015 with CSIC WTGs model HZ's H11-2.0MW and CSIC as EPC Contractor. The Project was declared one of the active projects under China Pakistan Economic Corridor (CPEC) energy projects.

Since the upfront tariff was not awarded, the Company then applied for tariff under Cost Plus Regime. NEPRA announced Tariff Determination in August 2018, and initially only allowed six months to achieve financial close and the capacity factor initially approved was 42%. Since tariff determination parameters e.g capacity factor, financing rate, time for financial close etc. made the Project un-bankable, the Company initiated review proceedings on the Original Tariff Determination. In the review petition decision, the Authority addressed the key concerns related to capacity factor and financing cost and also extended the financial closing date till August 2019. However, the selected WTGs were still not able to meet the revised capacity factor of 38%, and also the project could not maintain its listing on the CPEC active project list, the EPC arrangement with CSIC was cancelled by the Company.

In order to file the new tariff petition and determine the most suitable WTGs at Site, fresh wind resource assessment was undertaken by the Company, detailed provided below, and GE 2.5 - 132 was found most suitable WTG at Site conditions.

For the selection of EPC Contractor, although the competitive bidding process as per NEPRA guidelines was not precisely followed, however, quotations were taken from multiple contractors. After thorough negotiations and based on the Wind Resource Assessment Studies on various WTGs having footprints in Pakistan, General Electric GE 2.5 - 132 is found most suitable WTG for the Project site. Therefore, the Company has finalized and selected Descon FZE as EPC Contractor with General Electric WTG.

The price of EPC contract is very competitive and in line with the market prevailing rates. Most importantly the Company in line with NEPRA directives has opted for a local EPC contractor, who in the past has successfully completed 5 wind projects which are operational since over 5 years Furthermore, we would like to highlight that the EPC cost determined by Authority to other similar wind power projects which achieved financial close in November 2019 is comparable with the negotiated EPC price of our project.

5.2. WIND RESOURCE ASSESSMENT AND ENERGY ESTIMATES

The Petitioner engaged Renewable Resources (Pvt) Limited (RE2) of Pakistan backed by its foreign partners Tractebel Engie GmbH (TEG) of Germany to carry out a bankable Wind Resource and Energy Yield Assessment for the Project.

The wind studies have been carried out using wind data from a met mast that was installed in early 2017. Measurements were performed for approximately 14 months starting from 14.01.2017 to 30.03.2018. Out of the available data, a measurement period of 12 months from 01.04.2017 to 31.03.2018 was selected for the

6

annual average wind speed and wind direction having the highest data coverage period with good quality data, which is considered as a bankable time series. Analyzed average wind speed for the selected period is calculated as 7.81m/s at 92.5m height. For the assessment of long-term wind speed, the reference data set of ERA-5 and MERRA-2 has been considered and resulted in the coefficient of determination (R^2) of more than 80%. Resultantly, the long-term wind speed of 7.78 m/s is calculated at 92.5 m height above ground level (a.g.l.) at the mast location.

Twenty (20) General Electric wind turbines (GE 2.5 132) at 94 m hub height have been used for the Project. The micro-siting was performed based on the site-specific topographic map.

The WindPRO (ver.3.2) / WAsP (ver.11) software is used to estimate the wind conditions at each turbine location within the wind farm area based on the measured input wind data at a height of 92.5m. The potential influence of all surrounding wind farms has been taken into account for the wake analysis. Losses are occurring along the whole energetic transformation chain from the rotor (kinetic energy) to the substation's delivery point (electricity) and have been considered based on turbine specifications and prudent assumptions.

Following losses have been considered to arrive at net energy number from the total gross:

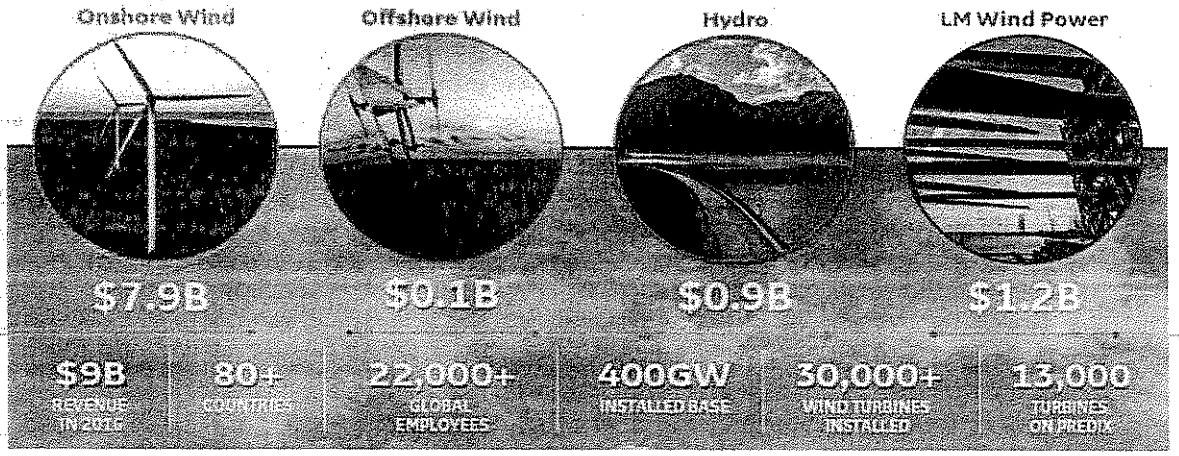
- Wake Effects
- Availability
- Turbine Performance
- Electrical
- Environmental

Additionally, an uncertainty assessment was also carried out. Uncertainty sources are associated to measuring equipment, data acquisition, data processing, energy model development, turbine parameters and energy estimation.

The expected energy output of the Project is determined as 166,440MWh per annum, which translates into a 38% annual capacity factor, and is considered comparable with the recent cases in the sector utilizing similar technologies and the expectations of NEPRA.

5.3. GENERAL ELECTRIC – THE WTG MANUFACTURER

General Electric is among the world's leading suppliers of power generation technologies including coal, oil, nuclear energy, natural gas and renewable sources such as water, wind, solar, geothermal and alternative fuels. With over 30,000 wind turbines, their installed capacity of renewable energy exceeds 400 GW. Building on a strong power generation heritage and spanning more than a century, General Electric wind turbines have delivered proven performance, availability and reliability.



As one of the world's leading wind turbine suppliers, GE Energy's current product portfolio includes wind turbines with rated capacities ranging from 1.5 - 4.1 MW and support services extending from development assistance to operation and maintenance.

5.4. THE EPC CONTRACTOR – DESCON

Established in 1977, Descon's global presence spreads across United Arab Emirates, Saudi Arabia, Oman and Qatar from where new ventures are executed in Kuwait, Iraq and Egypt. The development and manufacturing of industrial process equipment and piping spool takes effect from our state-of-the-art plant. The strength of our experienced project team carrying operations have the essential ISO, OHSAS and ASME certifications in addition to our own QA & QC and HSE standards.

Descon is a multinational company renowned in the region for its quality, safety and on-time delivery of projects and products. All the faculties required to deliver turnkey projects, reside within the company. This unique strength enables us to provide solutions as EPCC (Engineering, Procurement, Construction and Commissioning) services provider to a host of international clients.

Descon Integrated Projects Limited (DIPL) is a state-of-the-art engineering office with 500 design personnel. Descon operates seven manufacturing/fabrication facilities in the region to supply industrial process equipment and bulk items like steel structure and piping spools.

Descon owns and operates chemical and power plants, with allied interests in inspection and testing. Descon Chemicals Business comprises of Descon Oxychem Limited. Descon Power Business takes shape in the form of Descon Power Solutions (DPS), providing power plant operations and maintenance (O&M) services for thermal and renewable power plants in Pakistan. Descon also owns two Independent Power Plants (IPPs), Altern Energy Limited, 32 MW gas based power plant and Rousch (Pakistan) Power Limited, a 450 MW combined cycle power plant.

Descon has been executing EPC for projects since the early 1990s based on in-house facilities for engineering design, manufacturing/procurement, construction, commissioning and maintenance wrapped up with the

6

overall project management expertise. The EPC Division is at the forefront of the Company's strategic direction to ascend the value chain by providing turnkey solutions tailored to the clients' requirements. The three operational Business Units in the Division include Engineering & Technology, Power and Oil & Gas with various projects executed worldwide and regionally. In wind power generation sector of Pakistan, Descon successfully executed Onshore works under EPC contract for 5 wind power projects which are successfully operating for more than 5 years.

The specifications of 2.5 MW GE 2.5 - 132 turbine are as follows:

GENERAL ELECTRIC GE 2.5 132		
	DESCRIPTION	SPECS.
1	Wind Turbine Type, Make & Model	GE 2.5 - 132
2	Installed Capacity of Wind Farm (MW)	50 MW
3	Number of Wind Turbine Units/Size of each Unit (MW)	20 x 2.5 MW
4	Number of blades	3
5	Rotor diameter	132m
6	Hub Height	94m
7	Generator Voltage	690 V
8	Cut-in wind speed	3 m/s
9	Cut-out wind speed	20 m/s
10	Extreme wind speed	49 m/s

6. Project Cost

The Project Cost is based on the firm EPC Contract comprising of the Offshore Contract and the Onshore Contract. The reference exchange rate used to convert the PKR denominated costs into United States Dollars is US $ 1 = PKR 166.75.

A summary of the Project Cost is given below:

PROJECT COST		
	DESCRIPTION	USD MILLION
1	EPC Cost	58.00
2	Project Development Cost	2.50
4	Insurance during Construction	0.29
5	Financial Fee and Charges	1.21
6	Interest During Construction	1.91
	Total Project Cost	**63.92**

6.1 EPC COST

The scope of work to be carried out by the EPC contractor has been split into two parts, namely, onshore works and offshore works for which contract have been signed with Descon Engineering Limited and Descon Engineering FZE respectively; where offshore works primarily relate to procurement and supply of electrical and mechanical equipment outside Pakistan and onshore works comprise of civil works, erection, commissioning, testing, etc.

Total EPC cost for the project is US $ 58.00 Million. As identified above, WEL adopted an effective and efficient process for procuring the services of EPC Contractor at the most competitive prices. WEL believes that the price as contracted with the EPC Contractor is reasonable as compared to recent tariff determination of wind power project and as per the prevailing market conditions.

EPC Cost

	DESCRIPTION	USD MILLION
1	Onshore EPC Cost	12.00
2	Offshore EPC Cost	46.00
	Total EPC	**58.00**

WHT on Off-Shore EPC Contract:

Prior to amendments introduced by the Finance Act, 2018, the supply of goods by a non-resident person, incase of an overall arrangement for Engineering, Procurement, Construction and Commissioning projects in

Pakistan, was not subject to taxation under the Income Tax Ordinance 2001 if the supply was made outside Pakistan and the importer on record was the purchaser.

However, the Finance Act 2018 brought about amendments in Section 2(41)(g), Section 101(3) and certain provisions of Section 152 to tax the supply of goods by a non-resident even if the supply is made outside Pakistan and the importer on record is the purchaser. Pursuant to the aforementioned amendments in the tax laws through Finance Act, 2018, as per the domestic law, income on account of sale of goods by a non-resident person (even when imported by a Pakistani resident), whether or not title to the goods passes outside Pakistan, is now considered as Pakistan source income of the non-resident person's Permanent Establishment, and taxable as such.

We would like to highlight that there is a possibility that tax authorities may argue that since with Descon Engineering Limited and Descon Engineering FZE are associated, the employer is required to deduct 4% of the gross amount to be paid to Offshore Contractor. However, if the employer obtains an order from the Commissioner under section 152(4B), remittance may be allowed after deduction at 2.1% of the Offshore Contract payments.

In summary, we submit to the Authority that in past there was not income tax withholding on the EPC Offshore Contract payments, however, after the aforementioned changes in the tax laws the employer is now required to withhold income tax from the payments made to the Offshore Contractor. The EPC Price requested in this petition does not include any withholding tax and if the payments are subject to withholding income tax the price of the EPC Offshore Contractor will be adjusted accordingly. While the employer will do its best efforts to reduce the tax exposure in the EPC Offshore Price, we request the Authority to allow increase in the EPC Offshore price on account of withholding of income tax obligations applicable on the Project Company.

6.2 PROJECT DEVELOPMENT COSTS

This head includes the cost for development of Project and Land, it includes all costs, fees and expenses incurred or to be incurred for such purpose. A total of US $ 2.50 million has been estimated as allowed in the recent wind tariff determinations under this head. These costs include costs of:

- Feasibility study costs including cost for Topographical survey of land, Geological and geotechnical study, Project layout study, and electrical study; and Transportation study etc.
- Costs related to the performance guarantee to be furnished to AEDB;
- Costs related to the Power Purchaser letter of credit to be furnished to the Power Purchaser pursuant to the provisions of the EPA;
- Various regulatory fees to be paid to NEPRA;
- Costs incurred during Project Company formation;
- Project Company staff salaries, allowances and other benefits;
- Project Company head office - development and running expenses during construction period;
- Travelling costs of Project Company staff for arrangement of financing agreements;
- Cost of security arrangement for the Project;

- Costs relating to various permits for the Project; and
- Project advisors, including cost of Local and Foreign Financial Advisors, Insurance Advisor, Audit and Tax Advisors, Security Advisors, Carbon Credit Advisors etc. and their travelling cost related to financial close.

Since 2013, the Project is in development phase, the Project Company has already paid Land lease and incurred Project development cost over USD 1.2 Million.

6.3 DUTIES AND TAXES

Duties and Taxes of non-refundable nature shall be adjusted at Commercial Operations Date, based on the actual cost incurred for which the Project Company shall submit documentary evidence to the satisfaction of the Authority.

6.4 INSURANCE DURING CONSTRUCTION

Insurance during Construction cost covers the insurance cost of the Project's assets during the construction period. Authority is hereby requested to allow Insurance during Construction at USD 0.290 million, which is 0.5% of the EPC Price, as is allowed in case of other wind power projects.

The Project, in view of the practices set by other IPPs in Pakistan and in accordance with the requirements typically set out by the Lenders funding the Project, intends to procure the following insurances during the construction phase of the Project:

- Construction All Risk Insurances (CAR);
- CAR Delay in Start-up Insurance;
- Terrorism Insurance;
- Marine and Inland Transit Insurance;
- Marine - Delay-In Startup Insurances; and
- Comprehensive General Liability.

6.5 FINANCIAL FEES AND CHARGES

Financial Fee & Charges include costs related to Debt Financing of the project. Such costs include fees and charges related to lenders up-front fee, lenders advisors & agents charges, commitment fee, management fee, charges related to various letters of credit to be established in favor of various contracting parties, fees payable and stamp duty applicable on the financing documents, agency fee, security trustee fee, L/C commitment fee/charges for EPC, commitment fee and other financing fees cost and charges.

The financial charges requested as part of the Project Cost i.e. USD 1.216 million which is 2.5% of the Debt as allowed to the similar wind projects, based on discussions held with the financial institutions and their experience regarding costs incurred on projects of such stature. Keeping in view the deteriorating country risk profile of the country and prevailing circular debt issue, higher financing cost is required to be incurred for obtaining financing for the project.

6

6.6 INTEREST DURING CONSTRUCTION

The Interest during Construction ("IDC") has been calculated on the basis of 15 months construction period at USD 1.914 Million on the terms offered by financial institutions and banks to the Project at 6% SBP refinancing facility for local financing and at 3-month LIBOR (@ 1.4505%) plus a spread of 4.25% for foreign loan. Actual IDC, however, shall be subject to change depending on the fluctuations in base rate, funding requirement (draw-downs) of the Project during the construction period, changes in Project Cost including changes due to Taxes and Duties, and variations in PKR / USD exchange rate. Construction period assumed for IDC calculation is 15 months.

The spreads are considered to be reasonable given:

- Tenure for foreign financing has been to 14.5 years. In the past for 12 year funding the spread was 4.50% – 5%.
- Pakistan's balance of payment situation has deteriorated significantly during the past year which may cause a lowering of our Credit Rating.

6.7 RETURN ON EQUITY (ROE), ROE DURING CONSTRUCTION

The Return on Equity ("ROE") and Return on Equity during Construction ("ROEDC") have been estimated separately and the same are provided under Section 9.

Project Company hereby requests:

- ROE of 14% (IRR based) return on invested equity net of withholding tax.
- ROEDC at a rate of 14% over the remaining life of the Project.

In line with NEPRA's previous determinations, the ROE and ROEDC the Reference Generation Tariff shall be quarterly indexed to the USD/PKR exchange rate, based on the revised TT & OD selling rate of USD notified by the National Bank of Pakistan.

It is pertinent to highlight that the withholding tax component has not been identified as a separate line item in the tariff as the same is assumed to be paid on all equity components i.e. ROE and ROE-DC, at actual as a pass-through item under the tariff.

7. Financing Arrangement

7.1 PROJECT FINANCING

The Project Cost is envisaged to be funded on the basis of a Debt: Equity ratio of 80:20, however, this shall be firmed up once the financing documents for debt financing have been executed prior to financial close. For the purpose of this Petition, a debt: equity ratio of 80:20 has been assumed, thereby resulting in the following debt and equity injections for the Project:

FINANCING SUMMARY		
	DESCRIPTION	USD MILLION
1	Debt	51.14
2	Equity	12.78
	Total Project Cost	**63.92**

Key terms and condition of financing are provided in the table below:

FINANCING TERMS			
	DESCRIPTION	SBP REFINANCING	FOREIGN FINANCING
1	Base Rate	6.0%	3-M LIBOR (1.4505%)
2	Spread	-	4.25%
3	Total Rate	6.0%	5.7005%
4	Repayment period	10 years	13 years
5	Repayment basis	Quarterly	Quarterly
6	Repayment Style	Fixed Principal Repayment	Annuity

Sponsors are planning to inject 20% equity into the Project. The financing structure of 80:20 debt: equity might change later on based on mutual arrangement between Banks and Sponsors.

State Bank of Pakistan issued a revised scheme for Renewable Energy (RE) projects under IH&SMEFD Circular No. 10 of 2019 on 26 July 2019, under which the SBP concessionary financing to Project was restricted to 50% of total financing requirement.

While approving financing under SBP RE Refinancing Scheme for other wind projects, SBP has recently directed that the repayment of the facilities under SBP RE Refinancing Scheme will be based on fixed principal repayment installments. Therefore, the debt schedule for the SBP financing based on the fixed principal repayment.

7.2 CARBON CREDITS

Wind Power is a clean form of energy and will reduce CO^2 emission. WEL intends to register for CDM emission reduction program. In case any income is generated from CDM, the same shall be shared in accordance GoPs prevailing policy.

6

8. Operations Cost

The operational cost of the Project comprises of the operations and maintenance cost, and the cost of the operational period insurances to be taken out by the Project Company.

8.1 O&M COSTS

This component caters for the cost of services rendered by the O&M operator that are dependent on the operation of the Project thereby determinable on a kWh basis. This component also includes costs expected to be incurred by the project locally; these include costs associated with local staff, administrative expenses, corporate fees, audit fees, advisory fees etc. This component also includes cost associated with replacement of parts necessitated due to regular operation / normal wear and tear. The O&M cost of USD 23,000/MW/annum equiv. to USD 1.15 million per annum is assumed by the Project Company to be incurred.

The O&M cost will be incurred in local as well as foreign currency – percentage of local: foreign components is specified below along with indexations applicable on the same:

O&M COSTS			
	DESCRIPTION	PERCENTAGE	INDEXATION
1	Local	50%	Pakistan CPI (General)
2	Foreign	50%	US CPI (All Urban Consumers) PKR / USD Indexation

8.2 OPERATING INSURANCE COST

The insurance cost consists of operations all risk insurance for the project, as well as business-interruption insurance; these are standard insurances required by all lenders' and also set out under the EPA.

Aforementioned insurances are required to be maintained throughout the life of the Project. Since the Pakistan Insurance/Reinsurance industry does not have sufficient capacity and expertise to manage such huge risks entirely, therefore this risk is required to be insured/reinsured internationally. The risks' to be covered through insurance will include machinery breakdown, natural calamities (like earthquake, floods, etc.), sabotage and consequential business interruption, etc. The annual Insurance Cost is USD 0.23 million per annum which is computed at 0.4% of the EPC Price and is same as allowed to other recent wind power projects.

9. Reference Tariff

As the Project is 80% debt funded with loan tenure of 14.5 years for repayment for the foreign debt and 11.5 years for the local debt, this means that there will be higher debt service cost requirements in the first 13 years of the Project. In the last 12 years of the Project, the tariff will be decreased due to no debt service related costs.

The proposed tariff is for the life of the Project i.e. term of the EPA, to be signed with the Purchaser, which is 25 years from COD. The tariff is divided into three (03) bands i.e. year 1 – 10, 11-13 and year 14 – 25 to cover the variations due to the debt repayment period.

A summarized Reference Generation Tariff table setting out the two bands is provided below:

REFERNCE TARIFF					
	DESCRIPTION		YEAR 1-10	YEAR 11-13	YEAR 14-25
				PKR/kWh	
1	O&M - Local		0.5761	0.5761	0.5761
2	O&M - Foreign		0.5761	0.5761	0.5761
3	Insurance		0.2324	0.2324	0.2324
4	ROE		1.7931	1.7931	1.7931
5	ROEDC		0.1617	0.1617	0.1617
6	Debt Servicing	Local	4.0408	-	-
		Foreign	2.8033	2.8033	-
	Total		**10.1834**	**6.1426**	**3.3393**

6

9.1 REFERENCE GENERATION TARIFF

Year	O&M	Insurance	ROE	ROEDC	Local Financing		Foreign Loan		Tariff	
					Principal	Mark-up	Principal	Mark-up		
	Rs./kWh								Rs./kWh	US ¢/kWh
1	1.1521	0.2324	1.7931	0.1617	2.5615	1.4793	1.3720	1.4312	10.1834	6.1070
2	1.1521	0.2324	1.7931	0.1617	2.5615	1.3256	1.4519	1.3513	10.0297	6.0148
3	1.1521	0.2324	1.7931	0.1617	2.5615	1.1719	1.5365	1.2668	9.8760	5.9227
4	1.1521	0.2324	1.7931	0.1617	2.5615	1.0182	1.6260	1.1773	9.7223	5.8305
5	1.1521	0.2324	1.7931	0.1617	2.5615	0.8645	1.7207	1.0826	9.5687	5.7383
6	1.1521	0.2324	1.7931	0.1617	2.5615	0.7108	1.8209	0.9824	9.4150	5.6462
7	1.1521	0.2324	1.7931	0.1617	2.5615	0.5571	1.9269	0.8764	9.2613	5.5540
8	1.1521	0.2324	1.7931	0.1617	2.5615	0.4034	2.0391	0.7641	9.1076	5.4618
9	1.1521	0.2324	1.7931	0.1617	2.5615	0.2497	2.1579	0.6454	8.9539	5.3696
10	1.1521	0.2324	1.7931	0.1617	2.5615	0.0961	2.2835	0.5197	8.8002	5.2775
11	1.1521	0.2324	1.7931	0.1617			2.4165	0.3867	6.1426	3.6837
12	1.1521	0.2324	1.7931	0.1617			2.5572	0.2460	6.1426	3.6837
13	1.1521	0.2324	1.7931	0.1617			2.7062	0.0971	6.1426	3.6837
14	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
15	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
16	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
17	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
18	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
19	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
20	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
21	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
22	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
23	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
24	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
25	1.1521	0.2324	1.7931	0.1617					3.3393	2.0026
Levelized Tariff									**7.8808**	**4.7261**

**the requested levelized tariff is lower than the Recent Tariff awarded to similar wind projects by NEPRA on 100% Local financing.*

6

9.2 REFERENCE DEBT SERVICING SCHEDULE – SBP FINANCING

Western Energy (Private) Limited
SBP Debt Servicing Schedule

Year	Base Amount (PKR)	Principal Repayment	Interest	Balance Principal	Principal Reyament PKR/kWh	Interest Reyament PKR/kWh
1	4,263,420,765	106,585,519	63,951,311	4,156,835,246		
1	4,156,835,246	106,585,519	62,352,529	4,050,249,727	2.5615	1.4793
1	4,050,249,727	106,585,519	60,753,746	3,943,664,208		
1	3,943,664,208	106,585,519	59,154,963	3,837,078,689		
2	3,837,078,689	106,585,519	57,556,180	3,730,493,170		
2	3,730,493,170	106,585,519	55,957,398	3,623,907,651	2.5615	1.3256
2	3,623,907,651	106,585,519	54,358,615	3,517,322,132		
2	3,517,322,132	106,585,519	52,759,832	3,410,736,612		
3	3,410,736,612	106,585,519	51,161,049	3,304,151,093		
3	3,304,151,093	106,585,519	49,562,266	3,197,565,574	2.5615	1.1719
3	3,197,565,574	106,585,519	47,963,484	3,090,980,055		
3	3,090,980,055	106,585,519	46,364,701	2,984,394,536		
4	2,984,394,536	106,585,519	44,765,918	2,877,809,017		
4	2,877,809,017	106,585,519	43,167,135	2,771,223,498	2.5615	1.0182
4	2,771,223,498	106,585,519	41,568,352	2,664,637,978		
4	2,664,637,978	106,585,519	39,969,570	2,558,052,459		
5	2,558,052,459	106,585,519	38,370,787	2,451,466,940		
5	2,451,466,940	106,585,519	36,772,004	2,344,881,421	2.5615	0.8645
5	2,344,881,421	106,585,519	35,173,221	2,238,295,902		
5	2,238,295,902	106,585,519	33,574,439	2,131,710,383		
6	2,131,710,383	106,585,519	31,975,656	2,025,124,864		
6	2,025,124,864	106,585,519	30,376,873	1,918,539,344	2.5615	0.7108
6	1,918,539,344	106,585,519	28,778,090	1,811,953,825		
6	1,811,953,825	106,585,519	27,179,307	1,705,368,306		
7	1,705,368,306	106,585,519	25,580,525	1,598,782,787		
7	1,598,782,787	106,585,519	23,981,742	1,492,197,268	2.5615	0.5571
7	1,492,197,268	106,585,519	22,382,959	1,385,611,749		
7	1,385,611,749	106,585,519	20,784,176	1,279,026,230		
8	1,279,026,230	106,585,519	19,185,393	1,172,440,711		
8	1,172,440,711	106,585,519	17,586,611	1,065,855,191	2.5615	0.4034
8	1,065,855,191	106,585,519	15,987,828	959,269,672		
8	959,269,672	106,585,519	14,389,045	852,684,153		
9	852,684,153	106,585,519	12,790,262	746,098,634		
9	746,098,634	106,585,519	11,191,480	639,513,115	2.5615	0.2497
9	639,513,115	106,585,519	9,592,697	532,927,596		
9	532,927,596	106,585,519	7,993,914	426,342,077		
10	426,342,077	106,585,519	6,395,131	319,756,557		
10	319,756,557	106,585,519	4,796,348	213,171,038	2.5615	0.0961
10	213,171,038	106,585,519	3,197,566	106,585,519		
10	106,585,519	106,585,519	1,598,783	-		

9.4 REFERENCE DEBT SERVICING SCHEDULE – FOREIGN FINANCING

Western Energy (Private) Limited
Foreign Debt Servicing Schedule

Year	Base Amount (USD)	Principal Repayment	Interest	Balance Principal	Principal Reyament PKR/kWh	Interest Reyament PKR/kWh
1	25,567,741	335,141	364,372	25,232,600	1.3720	1.4312
1	25,232,600	339,917	359,596	24,892,683		
1	24,892,683	344,761	354,752	24,547,922		
1	24,547,922	349,674	349,839	24,198,248		
2	24,198,248	354,658	344,855	23,843,591	1.4519	1.3513
2	23,843,591	359,712	339,801	23,483,879		
2	23,483,879	364,838	334,675	23,119,041		
2	23,119,041	370,038	329,475	22,749,003		
3	22,749,003	375,311	324,202	22,373,692	1.5365	1.2668
3	22,373,692	380,660	318,853	21,993,032		
3	21,993,032	386,085	313,428	21,606,947		
3	21,606,947	391,587	307,926	21,215,361		
4	21,215,361	397,167	302,345	20,818,193	1.6260	1.1773
4	20,818,193	402,828	296,685	20,415,366		
4	20,415,366	408,568	290,944	20,006,797		
4	20,006,797	414,391	285,122	19,592,406		
5	19,592,406	420,297	279,216	19,172,110	1.7207	1.0826
5	19,172,110	426,286	273,227	18,745,823		
5	18,745,823	432,361	267,151	18,313,462		
5	18,313,462	438,523	260,990	17,874,939		
6	17,874,939	444,773	254,740	17,430,166	1.8209	0.9824
6	17,430,166	451,111	248,402	16,979,055		
6	16,979,055	457,540	241,973	16,521,515		
6	16,521,515	464,061	235,452	16,057,454		
7	16,057,454	470,674	228,839	15,586,780	1.9269	0.8764
7	15,586,780	477,382	222,131	15,109,399		
7	15,109,399	484,185	215,328	14,625,214		
7	14,625,214	491,085	208,428	14,134,128		
8	14,134,128	498,084	201,429	13,636,045	2.0391	0.7641
8	13,636,045	505,182	194,331	13,130,862		
8	13,130,862	512,382	187,131	12,618,481		
8	12,618,481	519,684	179,829	12,098,797		
9	12,098,797	527,090	172,423	11,571,707	2.1579	0.6454
9	11,571,707	534,602	164,911	11,037,106		
9	11,037,106	542,220	157,293	10,494,885		
9	10,494,885	549,948	149,565	9,944,938		
10	9,944,938	557,785	141,728	9,387,153	2.2835	0.5197
10	9,387,153	565,734	133,779	8,821,419		
10	8,821,419	573,797	125,716	8,247,622		
10	8,247,622	581,974	117,539	7,665,648		
11	7,665,648	590,268	109,245	7,075,380	2.4165	0.3867
11	7,075,380	598,680	100,833	6,476,701		
11	6,476,701	607,212	92,301	5,869,489		
11	5,869,489	615,865	83,648	5,253,624		
12	5,253,624	624,642	74,871	4,628,981	2.5572	0.2460
12	4,628,981	633,544	65,969	3,995,437		
12	3,995,437	642,573	56,940	3,352,864		
12	3,352,864	651,730	47,783	2,701,134		
13	2,701,134	661,018	38,495	2,040,116	2.7062	0.0971
13	2,040,116	670,439	29,074	1,369,677		
13	1,369,677	679,993	19,520	689,684		
13	689,684	689,684	9,829	-		

10. Indexations & Adjustments

10.1 INDEXATIONS

It is submitted that indexations be made on 1st January, 1st April, 1st July and 1st October respectively, on the basis of latest information available with respect to Consumer Price Index (CPI) (General), as notified by Pakistan Bureau of Statistics, US CPI (for all Urban-consumer) as notified by US Bureau of Labor Statistics and exchange rate as notified by National Bank of Pakistan.

10.1.1 Foreign O&M Cost Component

The Reference Foreign O&M Cost Component of the O&M Cost shall be quarterly indexed to both:

- the USD/PKR exchange rate, based on the revised TT & OD selling rate of USD as notified by the National Bank of Pakistan; and
- US CPI (for all Urban-consumer), as issued by the US Bureau of Labor Statistics.

The applicable formula shall be as follows:

$O\&M_{(FREV)}$ = RELEVANT REFERENCE GENERATION TARIFF COMPONENT * (US $CPI_{(REV)}$/ US $CPI_{(REF)}$) * (FX $USD_{(REV)}$ /FX $USD_{(REF)}$)

WHERE	
$O\&M_{(FRev)}$	the revised Foreign O&M Cost Component applicable for the relevant quarter
US $CPI_{(Rev)}$	the revised US CPI (for all Urban-consumers) for the month prior to the month in which indexation is applicable, as issued by the US Bureau of Labor Statistics
US $CPI_{(Ref)}$	the US CPI (for all Urban-consumers) for the relevant month, as issued by the US Bureau of Labor Statistics.
FX $USD_{(Rev)}$	the revised TT & OD selling rate of PKR/USD as on the date on which indexation is applicable, as notified by the National Bank of Pakistan.
FX $USD_{(Ref)}$	Reference TT & OD selling rate of PKR/USD, of PKR 166.75 for USD1

10.1.2 Local O&M Cost Component

The Reference Local O&M Cost Component of the O&M Cost shall be quarterly indexed to the CPI (General) in Pakistan, as notified by the Pakistan Bureau of Statistics based on the following formula:

$O\&M_{(LREV)}$ RELEVANT REFERENCE GENERATION TARIFF COMPONENT * ($CPI_{(REV)}$/ $CPI_{(REF)}$)

6

WHERE	
$O\&M_{(LRev)}$	the revised local O&M cost component applicable for the relevant quarter
$CPI_{(Rev)}$	the revised CPI (General) in Pakistan for the month prior to the month in which indexation is applicable, as notified by the Federal Bureau of Statistics.
$CPI_{(Ref)}$	the CPI (General) in Pakistan for the relevant month as notified by the Federal Bureau of Statistics

10.1.3 Insurance Cost

The Reference Insurance Cost Component shall be annually indexed to USD/PKR exchange rate, based on the revised TT & OD selling rate of USD notified by the National Bank of Pakistan.

The indexation of the Insurance Cost Component shall be based on the following formula:

$INSURANCE_{(REV)}$	RELEVANT REFERENCE GENERATION TARIFF COMPONENT * ($FX\ USD_{(REV)}/FX\ USD_{(REF)}$)

WHERE	
$Insurance_{(Rev)}$	the revised Insurance Cost Component applicable for the relevant year
$FX\ USD_{(Rev)}$	the revised TT & OD selling rate of PKR/USD as on the date on which indexation is applicable, as notified by the National Bank of Pakistan.
$FX\ USD_{(Ref)}$	Reference TT & OD selling rate of PKR/USD, of PKR 166.75 for USD1

10.1.4 Return on Equity and Return on Equity during Construction

In line with NEPRA's previous determinations, the ROE and ROEDC the Reference Generation Tariff shall be quarterly indexed to the USD/PKR exchange rate, based on the revised TT & OD selling rate of USD notified by the National Bank of Pakistan.

The applicable formula shall be as follows:

$ROE_{(REV)}$	RELEVANT REFERENCE GENERATION TARIFF COMPONENT* ($FX\ USD_{(REV)}$ /$FX\ USD_{(REF)}$)

$ROEDC_{(REV)}$	RELEVANT REFERENCE GENERATION TARIFF COMPONENT* ($FX\ USD_{(REV)}$ /$FX\ USD_{(REF)}$)

WHERE	
$ROE_{(Rev)}$	the revised ROE component applicable for the relevant quarter
$ROE\text{-}DC_{(Rev)}$	the revised ROE-DC component applicable for the relevant quarter
$FX\ USD_{(Rev)}$	the revised TT & OD selling rate of PKR/USD as on the date on which indexation is applicable, as notified by the National Bank of Pakistan.
$FX\ USD_{(Ref)}$	Reference TT & OD selling rate of PKR/USD, of PKR 166.75 for USD1

10.1.5 Debt Component

Foreign Loan LIBOR: The principal and interest component of foreign loan will remain unchanged throughout the term except for the adjustment due to variation in 3 months LIBOR, while spread of 4.25% on LIBOR remaining the same, according to the following formula:

$$\Delta I \qquad P_{(REV)} * (LIBOR_{(REV)} - 1.4505\%)/4$$

WHERE	
ΔI	the variation in interest charges applicable corresponding to variation in 3 month LIBOR. ΔI can be positive or negative depending upon whether $LIBOR_{(REV)}$ > or < 1.4505%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each period under adjustment applicable on bi-annual basis.
$P_{(Rev)}$	the outstanding principal on a quarterly basis at the relevant calculation dates.

10.2 ADJUSTMENTS

The Project Company requests NEPRA to allow adjustment to the total Project Cost for the following items forming part of Project Cost:

- The Principal Repayment and cost of debt be adjusted at COD as per the actual borrowing composition;
- Interest During Construction be adjusted as per actual based on actual disbursement of loans and prevailing KIBOR and LIBOR rates during the project construction period;
- The specific items of Project Cost to be incurred in foreign currency (US$) be adjusted at COD based on the PKR / US$ exchange rate prevailing on the date the transaction was carried out;
- Customs duty and other taxes (including SIDS) be adjusted/allowed as per actual;
- Any negative financial implications resulting from changes in tax rates, duties etc. and currently applicable sales tax structure may kindly be adjusted in the Project Cost.
- Pre-COD Insurance Cost be adjusted at actual subject to a cap of 0.5% of the approved EPC cost in line with earlier tariff determinations by NEPRA for wind IPPs.
- Return on Equity be adjusted at COD in order to ensure an IRR based return of 14% on equity (while treating the project as a Build-Own-Operate type project).

- ROEDC is to be allowed at the time of COD, as true-up adjustment, based on actual equity injections to the WEL by the Project Sponsors.

10.3 NON PROJECT MISSED VOLUME (NPMV)

The Petitioner expects that the Non-Project Missed Volume (NPMV) shall be paid by CPPA on the basis of the same energy generation estimate on which the tariff is based, that is, an annual capacity factor of 38%. The NPMV mechanism shall be similar to that agreed in the EPAs of tweleve (12) wind power projcts that achieved financial clsoing in 2019.

10.4 ENERGY SALE PRIOR TO COD

It is standard practice for wind power projects internationally to come online one WTG at a time, thereby, enabling the wind farm to commence dispatching energy to the grid as soon as a WTG is capable of power generation. Commissioning of a WTG cannot be completed without the substation being completed, tested and commissioned, therefore, all protection and safety equipment required to ensure smooth, safe operation of the wind farm (and the grid) would already be in place prior to commissioning of the WTGs. As soon as a WTG has been commissioned, it is ready to supply energy to the grid.

The standard EPA approved by the GOP permitted wind power developers to claim compensation from CPPA-G / NTDC for supply of electricity prior to achievement of COD. The same has been allowed to wind power projects developed under the upfront tariff regimes.

As it has been allowed for past wind IPPs, NEPRA is humbly requested to allow the Project to claim compensation from the Power Purchaser for all electricity supplied into the grid system prior to achievement of COD at the tariff rate applicable for the first year of operation minus the debt servicing components of the tariff.

11. Pass Through Items & Tariff Assumptions

11.1 PASS THROUGH ITEMS

Authority is requested to allow following cost components as pass-through to WEL on the basis of actual costs incurred by Project Company or obligated to be paid in relation to the Project pursuant to Laws of Pakistan.

- No provision of income tax has been provided in the tariff. If the Project Company is obligated to pay any type of tax, the same should be allowed to the Project Company as pass through.
- No withholding tax on dividend has been included in the tariff. Authority is requested to allow payment of withholding tax on dividend as pass through at the time of actual payment of dividend.
- The payments to Workers Welfare Fund and Workers Profit Participation Fund have not been accounted for in the Project budget and have been assumed to be reimbursed as pass through at actual by the power purchaser.
- Zakat deduction on dividends as required under Zakat Ordinance is considered as a pass through;
- No tax on income of WEL (including proceeds against sale of electricity to CPPA) has been assumed. Corporate tax, turn over tax, general sales tax / provincial sales tax and all other taxes, excise duty, levies, fees etc. by any federal / provincial entity including local bodies as and when imposed, shall be treated as a pass through item;
- No hedging cost is assumed for exchange rate fluctuations during construction and all cost overruns resulting from variations in the exchange rate during construction shall be allowed as pass through;
- Any costs incurred by Project Company, which are required to be incurred by Power Purchaser pursuant to provisions of EPA shall also be treated as pass through.
- Taxes and charges that constitute as part of the Project Cost for construction period and operation period shall be treated as pass through.

11.2 ASSUMPTIONS

The proposed Reference Tariff is based on the following assumptions. A change in any of these assumptions will necessitate a corresponding adjustment in the Reference Tariff:

- Debt for the Project will be sourced from SBP RE refinancing scheme and foreign DFIs. Exact composition of local and foreign debt will be finalized prior to financial close; adjustment against the same will be requested at the time of COD;
- An exchange rate of PKR 166.75/USD of 31st March 2020 has been assumed. Indexation against PKR / USD variations will be permitted for debt servicing payments and all other project costs denominated in foreign currency. Tariff components shall be respectively indexed for exchange rate variations as discussed in Section 10;
- The timing of drawdown of debt and equity may vary from those specified in this Petition; as such, the Project Cost will be adjusted on the basis of actual IDC at COD. Similarly, ROEDC component will also be updated in the Reference Tariff;
- Similarly, adjustments in Project Cost due to variation in PKR / USD variations and LIBOR fluctuations will also be catered for at the time of COD;
- Taxes and Custom duties shall be claimed on actual at the time of COD tariff adjustment;
- Withholding tax at 8% on supplies and Onshore Contract. No withholding tax is anticipated on the Offshore Contract. In case there is any change in taxes etc., or additional taxes, fees, excise duty, levies, etc. are imposed, the EPC cost and ultimately the Project cost and the Reference Tariff will need to be adjusted accordingly;
- The power purchaser will compensate for energy delivered to the power purchaser prior to COD. For this purpose Energy Purchase Price shall be paid for all energy delivered prior to COD. Payments will be invoiced to the power purchaser as per mechanism specified in the EPA;
- The power purchaser shall be solely responsible for the financing, engineering, procurement, construction, testing and commissioning of the interconnection and transmission facilities up till the Project gantry point. Said facilities will be made available to the Project at least on or before the deadline set out in the EPA. Furthermore, the power purchaser will be solely responsible for operation and maintenance of the said interconnection and transmission facilities;
- Project contingency and maintenance reserves are not included in Reference Tariff calculations. If required by lenders, these will be adjusted accordingly in the Reference Tariff;
- In case of any unintentional error or omissions, typographic errors, and any genuine assumption being overlooked, the same will be corrected/incorporated and advised to NEPRA as soon as the Project Company becomes aware of it;
- Any additional indexation or concession allowed by the GOP, NEPRA or any other Govt. entity to any IPP will be allowed to WEL without any discrimination.

Tabish Tapal
Chief Executive Officer & Authorized Representative of
Western Energy (Private) Limited