

ARTISTIC WIND POWER (PVT) LTD.

Registered office : Plot 4 & 8, Sector-25, Korangi Industrial Area, Karachi-74400 Pakistan
 Phone : 92-21-111 016 016 Fax : 92-21-35075446 Email : energy@artisticmilliners.com

AWPPL/OUT/NEPRA/33-2017

December 04, 2017

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

Subject: Submission of Tariff Petition of Artistic Wind Power Private Limited for 50 MW Wind Power Project (AWPPL) at Jhampir Area, Thatta, Sindh

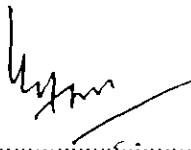
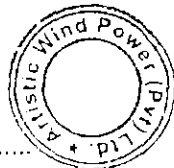
Kindly accept the Company's Tariff Petition, along with the fee as determined by the National Electric Power Regulatory Authority ("NEPRA" or the Authority-) for kind consideration and favourable approval by the Authority in accordance, inter alia, with section-31 of the Regulation of Generation, Transmission 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 Tariff Petition (including its Annexures) is submitted in triplicate together with:

- a. The Bank Draft No. 04068619 dated 29 November 2017, amounting to PKR 609,856 (Pakistan Rupees Six Hundred Nine Thousand, Eight Hundred and Fifty Six Only) as requisite for fee for Tariff Petition as communicated by NEPRA.
- b. Board Resolution of Artistic Wind Power (Private) Limited.
- c. Affidavits of Mr. Rafique Khanani.

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:
ARTISTIC WIND POWER (PRIVATE) LIMITED

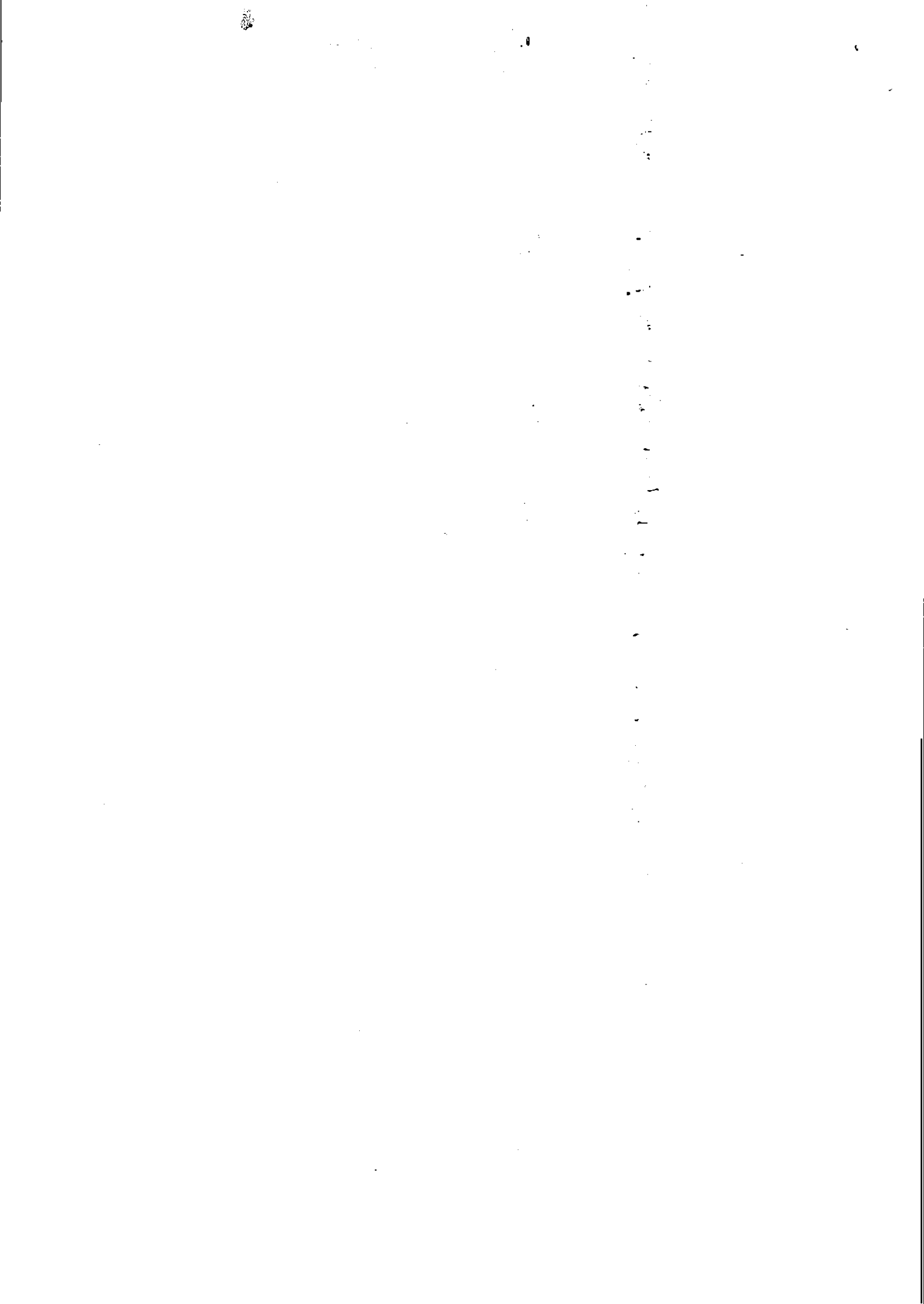



RAFIQUE KHANANI
 (CFO/Company Secretary)

For information is
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Registration
 By No. 11637
 Dated: 06-12-17

Received & registered on 7
 at 11:00 AM on 06/12/17



TARIFF PETITION

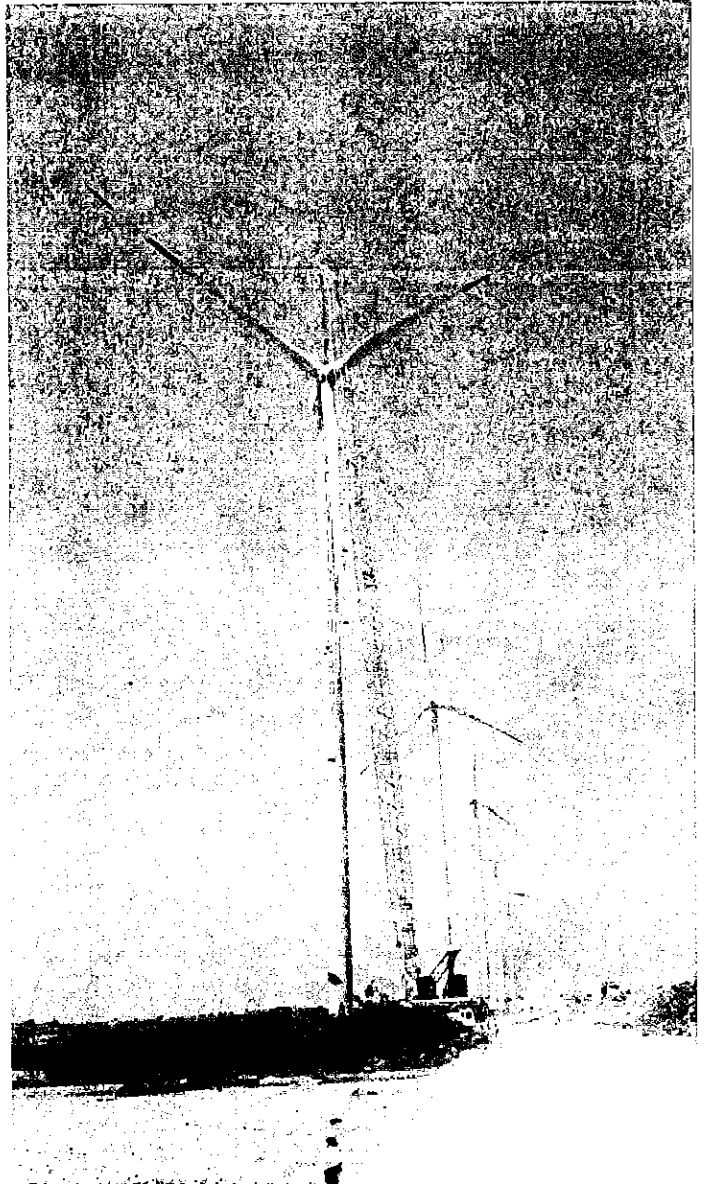
Before

The National Electric
Power Regulatory Authority

for

Artistic Wind Power
(Private) Limited

50MW Wind Power Project



December 04, 2017



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Section 1. Petitioner’s Information

1.1 Name of Petitioner

Name: Artistic Wind Power (Private) Limited (the “Company” or the “Petitioner”).

Address: Plot 4 & 8, Korangi Industrial Area, Karachi.

Email: rkhanani@artisticmilliners.com

Company Registration No: 0095853

1.2 Project Sponsors

Artistic Milliners (Private) Limited	Sponsor
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1.3 Representative of the Petitioner

Rafique Khanani	Chief Finance Officer and Company Secretary
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1.4 Project Advisors

Bridge Factor	Financial Advisors
Renewable Resources (Private) Limited	Technical Advisors
Haidermota BNR & Co	Legal Counsel



Section 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, the Authority 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. NEPRA is also responsible for determining the process and procedures for reviewing and approving tariffs and tariff adjustments.

2.2 About the Petitioner - Brief

Artistic Wind Power (Private) Limited (“the Company”) (a company incorporated under the laws of Pakistan), with its office located at Plot 4 & 8, Sector 25, Korangi Industrial Area, Karachi, was incorporated to develop, own and operate an approximately 30 MW wind power project in Jhimpir, Thatta. Artistic was issued a Letter of Intent (LOI) on 3rd March 2017 (**Annexure 1**) by the Directorate of Alternative Energy, Energy Department Government of Sindh (EDGOS) vide its letter No. DAE/Wind/94/2015/52, The Project is to be developed under the guidelines of “Policy for Development of Renewable Energy Projects 2006” (the “RE Policy”) issued by the Government of Pakistan.

2.3 Process Leading to Tariff Petition

Pursuant to the relevant provisions of the Policy for Development of Renewable Energy for Power Generation 2006 (the RE Policy 2006) and the LOI, Artistic completed the detailed technical feasibility study for the project. The same was submitted to Panel of Experts, EDGOS on 22nd February 2016. The following milestones have been achieved leading up to the submission of tariff petition.

- The land for the Project has already been allotted by Government of Sindh (GOS) for a period of 30 years through Land Allotment letter Reference No: 01-46-2015/SO-VI/29 dated 15th January 2016 (**Annexure 2**).
- The Project Company engaged Renewable Resources (Private) Limited, who completed the initial environmental examination for the Project (the Initial Environmental Examination) and the Project Company submitted the same to the Sindh Environmental Protection Agency (SEPA) on 11th January 2016. After review and analysis of the initial Environmental Examination, SEPA accorded its approval through its decision Ref: SEPA/2016/01/19/IEE/021 dated 17th March 2016 (the IEE Approval Decision) (**Annexure 3**).
- Grid Interconnection Study was conducted by NTDC and submitted by the project on June 06, 2016 for approval.
- GIS approval and Power Evacuation Certificate (PEC) was issued to the Company via letter No: 8804/GM/GSC/NTDC on 1 December 2016 (**Annexure 4**).



- Generation License (GL) application was submitted to NEPRA via letter no. AWPPI./OUT/NEPRA/014-2016 on 24th May 2016. NEPRA granted generation license to the Project on 28th March 2017 via letter No: NEPRA/R/DL/LAG-345/4220-26(Annexure 5).
- Request for issuance of Consent of Power Acquisition Request (PAR) has been made to CPPA (G) via letter no. AWPPI./OUT/CPA/20-2016 on June 03, 2016 (Annexure 6).
- EPC and O&M Contracts for the Project have been executed on 22nd November 2017(Annexure 7).
- Approval of Feasibility Study from EDGOS Panel of Experts have been granted via letter no. DAF/GEN/119/2016 on October 31, 2017 (Annexure 8).
- Project debt funding for extended period of 14.5 years (75% of the project cost) has been arranged from local and foreign banks (Annexure 9). Sponsors have arranged the remaining 25% of the project cost as equity investments.

All requisite information required by NEPRA for processing the Petition has been annexed herewith; Artistic 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 applying to NEPRA for the tariff determination of Artistic's 50 MW power generation facility to be located at District Thatta, Sindh have been completed.

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, Artistic submits herewith before NEPRA, this Petition for approval of

- the Reference Tariff (Negotiated Tariff under Cost-Plus regime);
- the energy production estimate;
- the Indexations, Adjustments and Escalations;
- adjustments at Commercial Operations Date (COD) and
- other matters set out in this Tariff Petition, in each case, for the Project Company's power generation Project to be located at Jhampir District Thatta, Sindh.

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



Section 3. Executive Summary

Background

Artistic Wind Power (Pvt) Limited (the Project Company) is the second 50 MW Wind Power Project of Artistic Milliners Pvt Ltd (the Sponsors). Their first project was Artistic Energy (Pvt) Ltd (formerly Hartford Alternate Energy (Pvt) Ltd) a 49.3 MW Wind Power Project which achieved financial close on 28th December 2016 and is expected to achieve COD by March 2018. This project, consisting of 462 acres, is in the proximity of Artistic Energy Project is located at Jhampir, Nooriabad, District Thatta, Province of Sindh, Pakistan.

Brief Technical Parameters

- Gross Capacity 50 MW
- Power Purchaser CPPA-G
- Wind Turbine Generators Gold Wind GW 121-2.5
- Annual Energy Production 162.25 GWh
- Capacity Factor 37.5%
- Construction Period 18 months
- Concession Period 25 Years
- Project Basis BOO

Summary of Project Cost

Description	US \$ Million
EPC Cost	75.5
Project Development Cost and Land	3.86
Duties and Taxes	0.00
Insurance during Construction	0.57
Financial Fee and Charges	2.30
Interest during Construction	4.92
Total Project Cost	87.15

Project Funding

Description	Percentage	US \$ Million
Equity	25%	21.79
Debt	75%	65.36
Total Financing	100%	87.15

The equity for the Project is being entirely funded by the Sponsors- Artistic Milliners (Pvt) Limited, one of the largest denim exporters of Pakistan with annual turnover of over PKR 26 Billion.



Debt Funding

Description	Percentage	US \$ Million
Foreign Financing	50%	32.68
Local Financing	50%	32.68
Total Debt	100%	65.36

Foreign Funding is being provided by the two leading DFIs (IFC and ADB) along with Local Funding provided by a syndicate lead by Bank Al-Habib. The Company was able to negotiate an extended term of 14.5 years for financing from the Lenders. The Foreign Funding is at 3M-LIBOR+450bps and Local Lending is at 3M-KLIBOR+250bps.

Operating Cost & Insurance

The O&M Cost for the Project is US\$ 1.90 Million/year for all operating years and Insurance Cost is US\$ 0.38 Million/year.

Project Tariff

The Petition proposed the Tariff of US¢ 7.2350 per kWh. **The requested Tariff is lower than the Benchmark Tariff on Local and Foreign Financing mix of 50% each.**

Project Advisors

- Financial Advisors Bridge Factor (Private) Limited
- Technical Advisors Renewable Resources & Lahmeyer International
- Legal Counsel Haidermota BNR & Co

Summary of EPC Selection Process

Project Company carried out a comprehensive competitive bidding process for selection of EPC contractor for the Project. For this purpose an RFP was issued to following EPC Contractors/WTG manufacturers on 18th February 2016

- a) Vestas Denmark
- b) CSIC China
- c) HydroChina Corporation China
- d) Nordex Germany
- e) Descon Pakistan
- f) Orient Pakistan with Gamesa Spain

Bid clarification meetings were held with the bidders. Last date for submission of bids was 11th March 2016, which was extended till 31st March 2016. Later on upon request of Vestas and Descon, further extension was granted up 07th April 2017. All parties submitted the bid except Orient.

Two (02) envelope bidding procedure was adopted, whereby technical and financial bids were submitted in two separate envelopes. Technical bids were evaluated as per pre-defined criteria, and bidders qualifying technical evaluation were then evaluated on the basis of financial bids.



Based on combined technical and financial evaluation, Hydrochina Corporation with Goldwind WTG (GW 121-2.5) was declared as the first preferred bidder. Accordingly an EPC contract has been executed with the preferred bidder on 22nd November 2017.

Project Task Completed

- Letter of Intent
- Land Lease Signed
- Land Allotted
- Wind Mast Installed
- Topographical Study
- Transportation Study
- Geo-technical Study
- Wind Resource Assessment Study
- Feasibility Study
- Grid Interconnection Study
- Initial Environment Assessment
- EPC and O&M Agreements Signed
- Term sheet from Project Lenders

The Project has been in development since the issuance of LOI in September 2015 by EDGOS and all tasks and milestones had been completed to opt 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 our 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. NEPRA instead issued on 27th January 2017 a Wind Benchmark Tariff Decision for bidding. Since that date, despite assurances that RFP shall be issued soon, no such RFP had been issued by April 2017. However, a Review Petition was filed by EDGOS challenging the applicability of bidding for unsolicited Wind LOI holders and requested an Upfront Tariff. The Authority rejected the position of EDGOS in its decision on 30th May 2017 but stated in its decisions that there is no restriction on unsolicited projects to apply tariff under Tariff Standard and Procedure Rules, 1998. Hence, since no RFP has been issued to date, the Company has decided to submit this petition before the Authority to determine Reference Tariff for the Project under Cost-plus Tariff Regime.



Section 4. The Project

4.1 Pakistan's Current Electric Power Shortage

Pakistan currently has around 25.5 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. However, Pakistan still needs to generate electricity to meet future ever increasing demand due to expected increase in GDP growth rate and suppressed demand factor. 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.

Moreover, there should be considerable portion of renewable energy in the overall energy mix of the country to optimize the basket price. Pakistan has been facing severe power shortage for the last few years and inclusion of renewable energy in the electrical power system is the optimum solution. Renewable energy is the cheapest form of energy with no environmental impacts. 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:

- (a) reducing dependence on fossil fuels for thermal power generation;
- (b) increasing diversity in Pakistan's electricity generation mix;
- (c) reducing greenhouse gas emissions through avoidance of thermal power generation; and
- (d) 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 15 wind energy projects having a combined capacity of 788.5 MW are operational and 9 wind energy projects having a combined capacity of 445.8 MW are at different stages of construction.

4.3 About the Sponsors – Artistic Milliners (Private) Limited

The Sponsor financing the Project is Artistic Milliners (Private) Limited (which is one of the leading textile sector undertaking of Pakistan having a variety of business divisions



e.g. spinning, weaving, denim, garments etc.). Artistic Milliners group of companies was established in 1949, and is today one of the Pakistan's leading business houses and one of the largest premium quality denim cloth and finished products mills in the country with the aim of providing high-end costumers with premium quality of denim fabrics and garments. The group has its roots in textile trading and has since expanded to become a complete vertically integrated textile set up with an area of 165,922 sq. m and employing 7,650 persons.

The following table shows financial strength of the Sponsor.

Annual Turnover	21,345	25,037	26,538	26,514
Total Assers	20,790	22,335	26,296	28,341
Net Assets	8,844	12,084	15,729	17,514

Artistic Milliners is developing another wind power project of 49.3 MW, which is under advanced stage of development, named "Hartford Alternate Energy (Pvt.) Limited." recently renamed as "Artistic Energy (Pvt.) Limited". This Project is expected to achieve COD by March 2018.

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 Artistic which is owned 100% by Artistic Milliners Private Limited.

An efficient and dynamic professional team has been appointed to assist in the implementation of the Project. Bridge Factor have been appointed as Transaction Advisor, whereas a Renewable Resources (REL2) and Lahmeyer International has been selected as Technical Advisor for advice on all technical matters while Haidermota BNR & Co has been appointed as Legal Advisor for smooth and efficient execution of the Project. In addition the Project has an experienced technical team already in place.

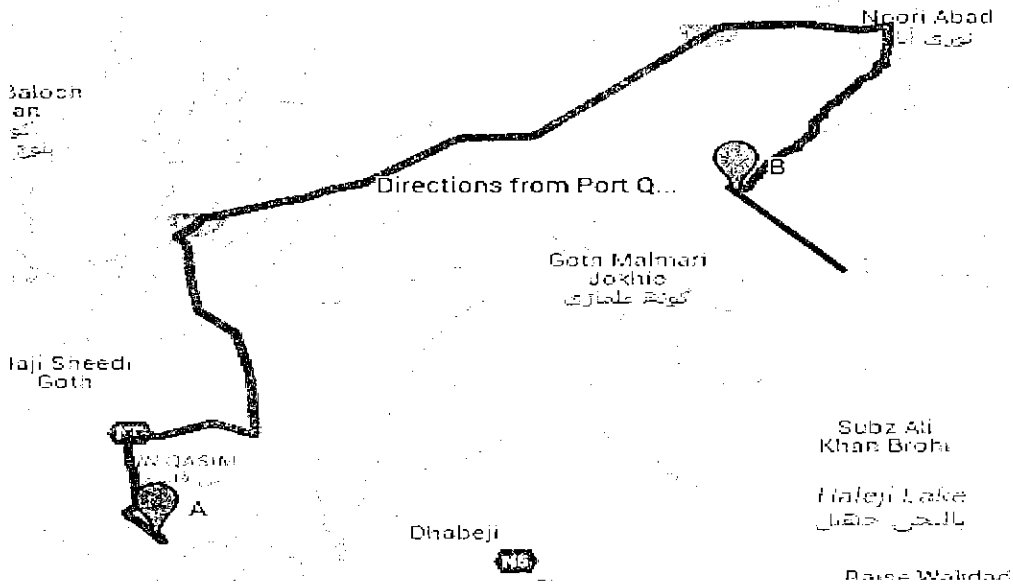
4.5 Project Location

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

- (i) location in the wind corridor,
- (ii) wind conditions at the site,
- (iii) topographic conditions,
- (iv) site accessibility, and
- (v) location of the grid with reference to the site for interconnection.

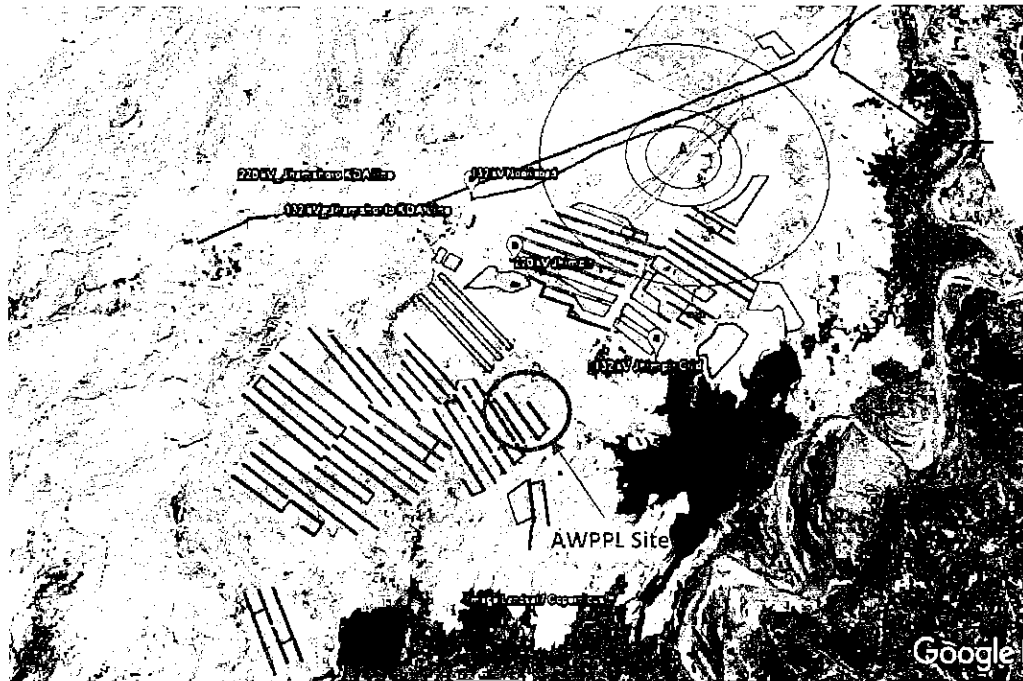


The Site is located in Jhampir, District Thatta, Sindh, which is one of the most promising areas where wind power projects can be viably installed; 122 km from Port Qasim Karachi in the East direction with easy road access.



The Project is located on Thatta-Bannu Khan Road leading towards Jhampir from M-9 Khi-Hyd highway. 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 Jhampir. There is no requirement to establish roads or tracks for movement of traffic.

The overview of the project site is shown in Figure below.



The Project site is exposed to strong winds; wind data analysis of the area suggests that 80% wind blows from the south west direction. The proposed site lies under roughness class 1.5 as there is low vegetation. The ground is hard and rocky; the subsurface soil also includes clay and silt. Internal access roads are the roads connecting the single wind turbine locations with each other and the external access roads and grid station would be constructed during the civil works of the wind farm.

The coordinates of Wind farm are given in Table below:

Total Land Area: 462 Acres		
Geodetic Coordinates		
Point No.	Latitude (N)	Longitude (E)
Boundary 1	24.997024	67.868517
Boundary 2	24.958109	67.899697
Boundary 3	24.968220	67.909032
Boundary 4	24.988781	67.888336
Boundary 5	24.995899	67.866706
Boundary 6	24.959917	67.900899
Boundary 7	24.966988	67.607366
Boundary 8	24.990102	67.889929

4.6 Wind Farms Layout at Project Site

The Project site is in long and narrow in shape. The selected Wind Turbines have 90m hub height. Micro-siting for the WTG towers location setting parameters for the project is tabulated below:

Turbine No.	Coordinates (UTM Z42 WGS84)	
	Easting [m]	Northing [m]
AWPPL_GW01	385,771	2,764,982
AWPPL_GW02	385,994	2,764,696
AWPPL_GW03	386,218	2,764,410
AWPPL_GW04	386,441	2,764,124
AWPPL_GW05	386,665	2,763,838
AWPPL_GW06	386,889	2,763,552
AWPPL_GW07	387,112	2,763,266
AWPPL_GW08	387,336	2,762,980
AWPPL_GW09	387,783	2,762,408
AWPPL_GW10	387,935	2,764,170
AWPPL_GW11	388,006	2,762,122
AWPPL_GW12	388,159	2,763,885
AWPPL_GW13	388,230	2,761,836
AWPPL_GW14	388,453	2,761,550
AWPPL_GW15	388,609	2,763,316
AWPPL_GW16	388,834	2,763,031
AWPPL_GW17	388,938	2,760,926



AWPPL_GW18	389,059	2,762,746
AWPPL_GW19	389,284	2,762,461
AWPPL_GW20	389,509	2,762,176

4.7 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 New Jhirnpir-II 132 kV collector substation.

4.8 Annual Energy Production

Annual Energy Production of 164.25 GWh has been estimated for the project. The table below shows key details relating to power generation from the project.

Total installed / Gross ISO Capacity (MW)	50 MW
Total Annual Full Load Hours	164.25 GWh
Average Wind Turbine Generators (WTG) Availability	37.5%

The energy data of the wind farm is given below:

1	Total installed / Gross ISO Capacity (MW)	50 MW
2	Total Annual Full Load Hours	3328.8
3	Average Wind Turbine Generators (WTG) Availability	97%
4	Total Gross Generation of the Generation Facility / Wind Farm (in GWh)	186.88
5	Arrays & Miscellaneous Losses (GWh)	12.58
6	Availability Losses (GWh)	4.72
7	Balance of Plant Losses (GWh)	3.14



Section 5. EPC Process & Selection

5.1 WTG Technology & EPC Selection

After award of LOI, the Project Company carried out a competitive bidding process in order to select EPC and WTG manufacturers for the Project by circulating RFPs to the EPC contractors and WTG manufacturers working in Pakistan for awarding the turnkey EPC contracts for the development of the Project. For this purpose an RFP was issued to following on 18th February 2016.

- a) Vestas Denmark
- b) CSIC China
- c) HydroChina Corporation
- d) Nordex Germany
- e) Descon Pakistan
- f) Orient Pakistan

Bid clarification meetings were held with the bidders. Last date for submission of bids was 11th March 2016, which was extended till 31st March 2016. Later on upon request of Vestas and Descon, further extension was granted up 07th April 2017. All parties submitted their bids except Orient.

Two (02) envelope bidding procedure was adopted, whereby technical and financial bids were submitted in two separate envelopes. Technical bids were evaluated as per pre-defined criteria, and bidders qualifying technical evaluation were then evaluated on the basis of financial bids.

Following criteria was provided in the Invitation to bid for tender evaluation:

- a) capability (including experience) of the Bidder;
- b) completeness of the Bid;
- c) compliance with the Tender Documents;
- d) prices and economic performance;
- e) risk coverage: liquidated damages, availability guarantee, bank guarantee, total liability, etc;
- f) construction period: completion of the works in the shortest possible time;
- g) technical performance: availability, efficiency, track record, quality assurance, etc;
- h) quality of offered equipment and reputation of proposed vendors operational range;
- i) environmental impact; and
- j) adequacy and robustness of proposed operation and maintenance regime.

Based on combined technical and financial evaluation, HydroChina Corporation with Goldwind WTGs was declared as the first preferred bidder.

As explained earlier the Company completed all other requirements to opt for the then available upfront tariff, however, despite the best efforts put in by the Company, grant of upfront tariff could not be achieved.

After lapse of the Upfront Tariff, NEPRA issued a Benchmark Tariff for bidding in January 2017, since then no Wind RFP has yet been issued by the relevant agencies. Based on the decision of the Authority on Motion for Leave for Review of EDGOS, the



Company decided to opt for Cost Plus Tariff regime and re-negotiated the EPC terms with the earlier selected EPC contractor.

Accordingly, based on due diligence and following a negotiations process with the preferred bidder, the Company signed EPC contract with "**Hydrochina Corporation**" and "**Goldwind WTG GW 121-2.5**" as the technology for its Project with a fixed price and fixed Commercial Operations Date.

Since the Company has already declared preferred bidder for signing of EPC contract in 2016, therefore, NIPRA (Selection of Engineering, Procurement and Construction Contractor by Independent Power Producers) Guidelines, 2017, are not applicable to the instant case.

5.2 Goldwind – The WTG Manufacturer

Goldwind is an international, multi-faceted wind power company based in Beijing, China and has now expanded across six continents, preserving blue skies and white clouds for producing clean energy for future generations around the globe

With strong international research and development capabilities and an extensive experience of more than 27 years in wind farm development, Goldwind has become a global leader in manufacturing wind turbine generators (WTGs) and providing comprehensive wind power solutions. Goldwind's current product portfolio includes turbines with rated capacities of 1.5 MW to 2.5 MW. Additionally, Goldwind offers support services that cover everything from development assistance to operations and maintenance

Goldwind is the largest WTG manufacturer with more than 31 Gigawatts of installed capacity and more than 22,000 installed WTG units worldwide. The 2.5 MW platform selected for the project has more than 1698 installed units in the world. In Pakistan they have already installed 180 MWs of Turbines and have in construction 100 MWs.

Goldwind continues to lead the global wind industry with mature manufacturing capabilities and innovative product lines.

The specifications of 2.5 MW GW 121-2.5 turbine are as follows:

1	Wind Turbine Type, Make & Model	GW 121-2.5
2	Installed Capacity of Wind Farm (MW)	50 MW
3	Number of Wind Turbine Units/Size of each Unit (KW)	20 x 2.5 MW
4	Number of blades	3
5	Rotor diameter	121m
6	Hub Height	90m
7	Generator Voltage	690 V
8	Cut-in wind speed	2.8 m/s
9	Cut-out wind speed	22 m/s
10	Rated wind speed	9.3 m/s



5.3 The EPC Contractor - HydroChina Corporation

HYDROCHINA CORPORATION, is part of Power China group one of the largest groups in China with total revenue of approx. US\$ 50 billion and total assets of over US\$ 77 billion. Power China perform more than 1900 Projects in 116 countries.

The company provides technical services in the field of hydropower, water resources development and wind power development in China, including planning of river basins, reconnaissance, design, consultancy, construction supervision, appraisal, evaluation, safety appraisal, check and acceptance, construction, project management and EPC contracting for hydropower and new energy development, and development, investment, operation and management of hydropower and new energy projects as well. The company was founded in 2002 and is headquartered in Beijing, China.

In Pakistan Hydrochina Corporation has already conducted EPC works since 2011 and has completed EPC contracts for 280 MWs and is executing EPC contracts for another 300 MWs.



Section 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 105.

A summary of the Project Cost is given below:

Project Cost Items	US \$ Million
EPC Cost	75.5
Project Development Cost and Land	3.86
Duties and Taxes*	0.00
Insurance during Construction	0.57
Financial Fee and Charges	2.30
Interest during Construction	4.92
Total Project Cost	87.15

* Duties and Taxes: Cost on account of Duties and Taxes shall be claimed at actual at the time of COD tariff adjustment

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; 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. Copies of executed EPC contract is attached at Annexure 7.

Total EPC cost for the project is US \$ 75.5 Million, table below provides the breakup of onshore and offshore EPC costs:

EPC Cost	US\$ Million
Onshore EPC	11.00
Offshore EPC	64.50
Total EPC Cost	75.50

6.2 Project Development Cost and Land

This cost head includes the cost for development of Project, land cost and includes all costs, fees and expenses incurred or to be incurred for such purpose. A total of US\$ 3.86 million has been estimated 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 EDGOS / 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.

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. These cost estimates i.e. 0.75% of the EPC cost plus custom duties have been developed based on the most recent tariff determinations issued by NEPRA for other wind power projects. Authority is hereby requested to allow Insurance during Construction at 0.75 % of EPC cost plus custom duties, 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:

- (a) Construction All Risk Insurances (CAR);
- (b) CAR Delay in Start-up Insurance;
- (c) Terrorism Insurance;
- (d) Marine and Inland Transit Insurance;
- (e) Marine - Delay-In Startup Insurances; and
- (f) 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. US\$ 2.3 million, 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.

Since foreign financing with ADB and IFC is involved, there will not be requirement of opening LC in favor of EPC contractor. However, in case the Company is required to provide LC confirmation cost for base equity LC and other LC's related to securing the sponsors obligations under the financing agreements, than such costs shall be claimed at true-up on the basis of actual cost incurred.

6.6 Interest during Construction

The Interest during Construction (“IDC”) has been calculated on the basis of 18 months construction period at US \$ 4.92 Million on the terms offered by financial institutions and banks to the Project at 3-month KIBOR plus a spread of 2.50% for local financing and at 3-month LIBOR plus a spread of 4.5% 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 18 months.

The spreads are considered to be reasonable given:

- (i) Tenure of the Loan has increased from 12 years to 14.5 years. In the past for 12 year funding the spread was 4.50% – 5%.
- (ii) Pakistan’s balance of payment situation has deteriorated significantly during the past year which may cause a lowering of our Credit Rating



Section 7. Financing Arrangement

7.1 Project Financing

The Project Cost is envisaged to be funded on the basis of a Debt: Equity ratio of 75:25, 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 75:25 has been assumed, thereby resulting in the following debt and equity injections for the Project:

	MILLION US \$
DEBT	65.36
EQUITY	21.79
TOTAL PROJECT COST	87.15

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

	Local Financing	Foreign Financing
Base Rate	3 Month KIBOR – 6%	3 Month LIBOR – 0.6%*
Spread	2.50%	4.5%
Total Rate	8.50 %	5.10%
Repayment period	13 years	13 years
Repayment basis	Quarterly	Quarterly

* The base rate for LIBOR has been assumed at 0.6% in line with the Benchmark tariff for Wind Projects issued by NEPRA on 27th January 2017.

Sponsors are planning to inject 25% equity into the Project. The financing structure of 75:25 debt: equity might change later on based on mutual arrangement between Banks and Sponsors.

7.1.1 Return on Equity (ROE), ROE during Construction

The Return on Equity (“ROI”) and Return on Equity during Construction (“ROEDC”) have been estimated separately and the same are provided under 0.

Project Company hereby requests:

- ROE of 15% (IRR based) return on invested equity – the rate of 15% is in line with NEPRAs Benchmark Tariff for Wind determination 27th January 2017.
- ROEDC at a rate of 15% over the remaining life of the Project.

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.



7.2 Carbon Credits

Wind Power is a clean form of energy and will reduce CO₂ emission. Artistic intends to register for CDM emission reduction program. In case any income is generated from CDM, the same shall be shared in accordance GoP's prevailing policy.



Section 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. Break-up of the same is provided hereunder:

	USD IN MILLION (PER ANNUM)
O&M COST	1.90
OPERATING INSURANCE	0.38
TOTAL COST	2.28

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 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:

Sub-component	Percentage	Indexation
Local	39%	<ul style="list-style-type: none"> Pakistan CPI (General)
Foreign	61%	<ul style="list-style-type: none"> US CPI (All Urban Consumers) PKR / USD Indexation

8.4 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. 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. Artistic has requested that an annual insurance cost at a rate of 0.5 % of the EPC cost be allowed.

	USD IN MILLION (PER ANNUM)
INSURANCE COST	0.38



9.1 Reference Generation Tariff

Year	O&M	Insurance	ROE	ROEDC	Local Financing		Foreign Loan		Tariff	
					Principal	Mark-up	Principal	Mark-up	Rs./kWh	US ¢/kWh
					Rs./kWh					
1	1.2146	0.2413	2.0891	0.2339	0.9237	1.7468	1.1646	1.0434	8.6575	8.2452
2	1.2146	0.2413	2.0891	0.2339	1.0048	1.6658	1.2252	0.9829	8.6575	8.2452
3	1.2146	0.2413	2.0891	0.2339	1.0930	1.5776	1.2888	0.9192	8.6575	8.2452
4	1.2146	0.2413	2.0891	0.2339	1.1889	1.4817	1.3558	0.8522	8.6575	8.2452
5	1.2146	0.2413	2.0891	0.2339	1.2932	1.3774	1.4263	0.7817	8.6575	8.2452
6	1.2146	0.2413	2.0891	0.2339	1.4067	1.2639	1.5005	0.7075	8.6575	8.2452
7	1.2146	0.2413	2.0891	0.2339	1.5301	1.1404	1.5785	0.6295	8.6575	8.2452
8	1.2146	0.2413	2.0891	0.2339	1.6644	1.0062	1.6605	0.5475	8.6575	8.2452
9	1.2146	0.2413	2.0891	0.2339	1.8104	0.8601	1.7468	0.4612	8.6575	8.2452
10	1.2146	0.2413	2.0891	0.2339	1.9693	0.7013	1.8377	0.3704	8.6575	8.2452
11	1.2146	0.2413	2.0891	0.2339	2.1421	0.5285	1.9332	0.2748	8.6575	8.2452
12	1.2146	0.2413	2.0891	0.2339	2.3300	0.3405	2.0337	0.1745	8.6575	8.2452
13	1.2146	0.2413	2.0891	0.2339	2.5345	0.1361	2.1394	0.0686	8.6575	8.2452
14	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
15	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
16	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990

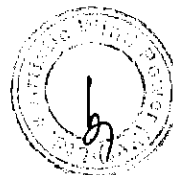


17	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
18	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
19	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
20	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
21	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
22	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
23	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
24	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
25	1.2146	0.2413	2.0891	0.2339	0.0000	0.0000	0.0000	0.0000	3.7789	3.5990
Levelized Tariff									7.5967	7.2350



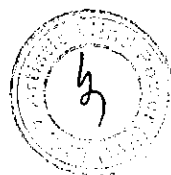
9.2 Reference Debt Servicing Schedule- Local Financing

Repayment Period	Principal Repayment - US\$	Principal Repayment - Tariff Component (Rs/kWh)	Interest - US\$	Interest - Tariff Component (Rs/kWh)	Installments US\$	Installment - Tariff Component (Rs/kWh)
1	349,936	0.2237	694,439	0.4439	1,044,376	0.6676
2	357,373	0.2285	687,003	0.4392	1,044,376	0.6676
3	364,967	0.2333	679,409	0.4343	1,044,376	0.6676
4	372,732	0.2383	671,654	0.4294	1,044,376	0.6676
5	380,643	0.2433	663,733	0.4245	1,044,376	0.6676
6	388,731	0.2485	655,645	0.4191	1,044,376	0.6676
7	396,992	0.2538	647,384	0.4139	1,044,376	0.6676
8	405,428	0.2592	638,948	0.4085	1,044,376	0.6676
9	414,043	0.2647	630,333	0.4030	1,044,376	0.6676
10	422,842	0.2705	621,534	0.3973	1,044,376	0.6676
11	431,827	0.2761	612,549	0.3916	1,044,376	0.6676
12	441,003	0.2819	603,372	0.3857	1,044,376	0.6676
13	450,375	0.2879	594,001	0.3797	1,044,376	0.6676
14	459,945	0.2940	584,431	0.3736	1,044,376	0.6676
15	469,719	0.3003	574,657	0.3674	1,044,376	0.6676
16	479,701	0.3067	564,675	0.3610	1,044,376	0.6676
17	489,894	0.3132	554,482	0.3545	1,044,376	0.6676
18	500,304	0.3198	544,071	0.3478	1,044,376	0.6676
19	510,936	0.3266	533,440	0.3410	1,044,376	0.6676
20	521,793	0.3336	522,583	0.3341	1,044,376	0.6676
21	532,881	0.3407	511,494	0.3270	1,044,376	0.6676
22	544,205	0.3479	500,171	0.3197	1,044,376	0.6676
23	555,770	0.3553	488,606	0.3124	1,044,376	0.6676
24	567,580	0.3628	476,796	0.3048	1,044,376	0.6676
25	579,641	0.3705	464,735	0.2971	1,044,376	0.6676
26	591,958	0.3784	452,418	0.2892	1,044,376	0.6676
27	604,537	0.3865	439,839	0.2812	1,044,376	0.6676
28	617,384	0.3947	426,992	0.2730	1,044,376	0.6676
29	630,503	0.4031	413,873	0.2646	1,044,376	0.6676
30	643,901	0.4116	400,475	0.2560	1,044,376	0.6676
31	657,584	0.4204	386,792	0.2473	1,044,376	0.6676
32	671,558	0.4293	372,818	0.2385	1,044,376	0.6676
33	685,828	0.4384	358,548	0.2292	1,044,376	0.6676
34	700,402	0.4477	343,974	0.2199	1,044,376	0.6676
35	715,286	0.4573	329,090	0.2104	1,044,376	0.6676
36	730,486	0.4670	313,890	0.2007	1,044,376	0.6676
37	746,008	0.4769	298,367	0.1907	1,044,376	0.6676
38	761,861	0.4870	282,515	0.1806	1,044,376	0.6676
39	778,051	0.4974	266,325	0.1705	1,044,376	0.6676
40	794,584	0.5080	249,792	0.1597	1,044,376	0.6676
41	811,469	0.5187	232,907	0.1489	1,044,376	0.6676
42	828,713	0.5298	215,663	0.1379	1,044,376	0.6676
43	846,323	0.5410	198,053	0.1266	1,044,376	0.6676
44	864,307	0.5525	180,069	0.1151	1,044,376	0.6676
45	882,674	0.5643	161,702	0.1034	1,044,376	0.6676
46	901,431	0.5763	142,945	0.0914	1,044,376	0.6676
47	920,586	0.5885	123,790	0.0791	1,044,376	0.6676
48	940,149	0.6010	104,227	0.0666	1,044,376	0.6676
49	960,127	0.6138	84,249	0.0539	1,044,376	0.6676
50	980,529	0.6268	63,846	0.0408	1,044,376	0.6676
51	1,001,366	0.6401	43,010	0.0275	1,044,376	0.6676
52	1,022,645	0.6537	21,731	0.0139	1,044,376	0.6676



9.3 Reference Debt Servicing Schedule- Foreign Financing

Repayment Period	Principal Repayment - US\$	Principal Repayment - Tariff Component (Rs/kWh)	Interest - US\$	Interest - Tariff Component (Rs/kWh)	Installments US\$	Installment - Tariff Component (Rs/kWh)
1	446,829	0.2856	416,664	0.2664	863,493	0.5520
2	452,526	0.2893	410,967	0.2627	863,493	0.5520
3	458,296	0.2930	405,197	0.2590	863,493	0.5520
4	464,139	0.2967	399,354	0.2553	863,493	0.5520
5	470,057	0.3005	393,436	0.2515	863,493	0.5520
6	476,050	0.3043	387,443	0.2477	863,493	0.5520
7	482,120	0.3082	381,373	0.2438	863,493	0.5520
8	488,267	0.3121	375,226	0.2399	863,493	0.5520
9	494,493	0.3161	369,000	0.2359	863,493	0.5520
10	500,797	0.3201	362,696	0.2319	863,493	0.5520
11	507,182	0.3242	356,311	0.2278	863,493	0.5520
12	513,649	0.3284	349,844	0.2236	863,493	0.5520
13	520,198	0.3325	343,295	0.2195	863,493	0.5520
14	526,831	0.3368	336,662	0.2152	863,493	0.5520
15	533,548	0.3411	329,945	0.2109	863,493	0.5520
16	540,350	0.3454	323,143	0.2066	863,493	0.5520
17	547,240	0.3498	316,253	0.2022	863,493	0.5520
18	554,217	0.3543	309,276	0.1977	863,493	0.5520
19	561,283	0.3588	302,210	0.1932	863,493	0.5520
20	568,440	0.3634	295,053	0.1886	863,493	0.5520
21	575,687	0.3680	287,806	0.1840	863,493	0.5520
22	583,027	0.3727	280,466	0.1793	863,493	0.5520
23	590,461	0.3775	273,032	0.1745	863,493	0.5520
24	597,989	0.3823	265,504	0.1697	863,493	0.5520
25	605,614	0.3872	257,879	0.1649	863,493	0.5520
26	613,335	0.3921	250,158	0.1599	863,493	0.5520
27	621,155	0.3971	242,338	0.1549	863,493	0.5520
28	629,075	0.4021	234,418	0.1499	863,493	0.5520
29	637,096	0.4073	226,397	0.1447	863,493	0.5520
30	645,219	0.4125	218,274	0.1395	863,493	0.5520
31	653,445	0.4177	210,048	0.1343	863,493	0.5520
32	661,777	0.4231	201,716	0.1290	863,493	0.5520
33	670,214	0.4284	193,279	0.1236	863,493	0.5520
34	678,760	0.4339	184,733	0.1181	863,493	0.5520
35	687,414	0.4394	176,079	0.1126	863,493	0.5520
36	696,178	0.4450	167,315	0.1070	863,493	0.5520
37	705,055	0.4507	158,438	0.1013	863,493	0.5520
38	714,044	0.4565	149,449	0.0955	863,493	0.5520
39	723,148	0.4623	140,345	0.0897	863,493	0.5520
40	732,368	0.4682	131,125	0.0838	863,493	0.5520
41	741,706	0.4741	121,787	0.0779	863,493	0.5520
42	751,163	0.4802	112,330	0.0718	863,493	0.5520
43	760,740	0.4863	102,753	0.0657	863,493	0.5520
44	770,440	0.4925	93,053	0.0595	863,493	0.5520
45	780,263	0.4988	83,230	0.0532	863,493	0.5520
46	790,211	0.5052	73,282	0.0468	863,493	0.5520
47	800,286	0.5116	63,207	0.0404	863,493	0.5520
48	810,490	0.5181	53,003	0.0339	863,493	0.5520
49	820,824	0.5247	42,669	0.0273	863,493	0.5520
50	831,289	0.5314	32,204	0.0206	863,493	0.5520
51	841,888	0.5382	21,605	0.0138	863,493	0.5520
52	852,622	0.5451	10,871	0.0069	863,493	0.5520



Section 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:

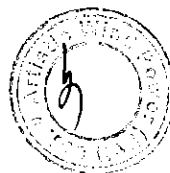
- (a) the USD/PKR exchange rate, based on the revised TT & OD selling rate of USD as notified by the National Bank of Pakistan; and
- (b) US CPI (for all Urban-consumer), as issued by the US Bureau of Labor Statistics.

The applicable formula shall be as follows:

$$\text{O\&M}_{(Rev)} = \text{Relevant Reference Generation Tariff Component} * \left[\frac{\text{US CPI}_{(Rev)}}{\text{US CPI}_{(Ref)}} * \frac{\text{FX USD}_{(Rev)}}{\text{FX USD}_{(Ref)}} \right]$$

Where:

- $\text{O\&M}_{(Rev)}$ = the revised Foreign O&M Cost Component applicable for the relevant quarter
- $\text{US CPI}_{(Rev)}$ = 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
- $\text{US CPI}_{(Ref)}$ = the US CPI (for all Urban-consumers) for the relevant month as issued by the US Bureau of Labor Statistics.
- $\text{FX USD}_{(Rev)}$ = 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.
- $\text{FX USD}_{(Ref)}$ = Reference TT & OD selling rate of PKR/USD, of PKR 105 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:

$$\text{O\&M}_{(L,Rev)} = \text{Relevant Reference Generation Tariff Component} * \left[\frac{\text{CPI}_{(Rev)}}{\text{CPI}_{(Ref)}} \right]$$

Where:

- $\text{O\&M}_{(L,Rev)}$ = the revised Local O&M Cost Component applicable for the relevant quarter
- $\text{CPI}_{(Rev)}$ = 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.
- $\text{CPI}_{(Ref)}$ = 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.

(a) Indexation Formula

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

$$\text{Insurance}_{(Rev)} = \text{Relevant Reference Generation Tariff Component} * \left[\frac{\text{FX USD}_{(Rev)}}{\text{FX USD}_{(Ref)}} \right]$$

Where:

- $\text{Insurance}_{(Rev)}$ = the revised Insurance Cost Component applicable for the relevant year
- $\text{FX USD}_{(Rev)}$ = 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.
- $\text{FX USD}_{(Ref)}$ = Reference TT & OD selling rate of PKR/USD, of PKR 105 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:

$$\boxed{\text{ROE}_{(\text{Rev})}} = \boxed{\text{Relevant Reference Generation Tariff Component}^*} \times \boxed{\text{FX USD}_{(\text{Rev})} / \text{FX USD}_{(\text{Ref})}}$$

$$\boxed{\text{ROE-DC}_{(\text{Rev})}} = \boxed{\text{Relevant Reference Generation Tariff Component}^*} \times \boxed{\text{FX USD}_{(\text{Rev})} / \text{FX USD}_{(\text{Ref})}}$$

Where:

- $\text{ROE}_{(\text{Rev})}$ = the revised ROE component applicable for the relevant quarter
- $\text{ROE-DC}_{(\text{Rev})}$ = the revised ROE-DC component applicable for the relevant quarter
- $\text{FX USD}_{(\text{Rev})}$ = 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.
- $\text{FX USD}_{(\text{Ref})}$ = Reference TT & OD selling rate of PKR/USD, of PKR 105 for USD1

10.1.5 Debt Component

- a) **Local Financing:** The principal and interest component of local financing will remain unchanged throughout the term except for the adjustment due to variation in 3 months KIBOR, while spread of 2.5% on KIBOR remaining the same, according to the following formula:

$$\boxed{\Delta I} = \boxed{P_{(\text{Rev})}} * \boxed{(\text{KIBOR}_{(\text{Rev})} - 6.0\%) / 4}$$

Where:

- ΔI = the variation in interest charges applicable corresponding to variation in 3 month KIBOR. ΔI can be positive or negative depending upon whether $\text{KIBOR}_{(\text{Rev})} >$ or $<$ 6.0%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each period under adjustment applicable on bi-annual basis.
- $P_{(\text{Rev})}$ = the outstanding principal on a quarterly basis at the relevant calculation dates.



- b) **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 4.5% on LIBOR remaining the same, according to the following formula:

$$\Delta I = P_{(Rev)} * (LIBOR_{(Rev)} - 0.6\%) / 4$$

Where:

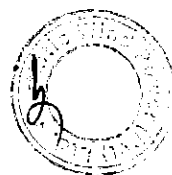
ΔI = the variation in interest charges applicable corresponding to variation in 3 month LIBOR. ΔI can be positive or negative depending upon whether $LIBOR_{(Rev)} >$ or $< 0.6\%$. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each period under adjustment applicable 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:-

- (a) The Principal Repayment and cost of debt be adjusted at COD as per the actual borrowing composition;
- (b) Interest During Construction be adjusted as per actual based on actual disbursement of loans and prevailing LIBOR rates during the project construction period;
- (c) 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;
- (d) Customs duty and other taxes (including SIDS) be adjusted/allowed as per actual;
- (e) 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.
- (f) Pre-COD Insurance Cost be adjusted at actual subject to a cap of 1.0 % of the EPC cost in line with earlier tariff determinations by NEPRA for other IPPs.
- (g) Return on Equity be adjusted at COD in order to ensure an IRR based return of 15% on equity (while treating the project as a Build-Own-Operate type project).
- (h) ROEDC is to be allowed at the time of COD, as true-up adjustment, based on actual equity injections to the Artistic by the Project Sponsors.



Section 11. Pass Through Items & Tariff Assumptions

11.1 Pass Through Items

Authority is requested to allow following cost components as pass-through to Artistic 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.

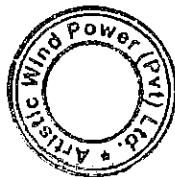
- a) No provision of income tax has been provided for in the tariff. If the Project Company is obligated to pay any type of tax, the same should be allowed to the Project Company as pass through.
- b) No withholding tax on dividend has been included in the tariff. Authority is requested to allow payment of withholding tax on dividend as pass through at the time of actual payment of dividend.
- c) 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.
- d) Zakat deduction on dividends as required under Zakat Ordinance is considered as a pass through;
- e) No tax on income of Artistic (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;
- f) 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;
- g) 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.
- h) 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:



- a) Debt for the Project will be sourced from local and foreign financial institutions. 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;
- b) An exchange rate of PKR 105 /USD 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;
- c) 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;
- d) Adjustments in Project Cost due to variation in PKR / USD variations and KIBOR fluctuations will also be catered for at the time of COD;
- e) Taxes and Custom duties shall be claimed on actual at the time of COD tariff adjustment;
- f) Withholding tax at 8.0% 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 L+PC cost and ultimately the Project cost and the Reference Tariff will need to be adjusted accordingly;
- g) 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;
- h) The power purchaser shall be solely responsible for the financing, engineering, procurement, construction, testing and commissioning of the interconnection and transmission facilities uptill the Project gantry point. Said facilities will be made available to the Project at least on or before the deadline set out in the FPA. Furthermore, the power purchaser will be solely responsible for operation and maintenance of the said interconnection and transmission facilities;
- i) 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;
- j) 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;
- k) Any additional indexation or concession allowed by the GOP, NEPRA or any other Govt. entity to any IPP will be allowed to Artistic without any discrimination.



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Artistic Wind Power (Private) Limited

Dated:

Tariff Petition Application
Submission Date: - 4th December, 2017



LOI Govt. of Sindh

