The Registrar
National Electric Power Regulatory Authority (NEPRA)
NEPRA Tower,
Attaturk Avenue (East),
Opposite Federal Flood Commission,
Sector G-5/1,
Islamabad, Pakistan

Subject: Application for License Proposed Modification

I, Saleem uz Zaman, Company Secretary, being the Company Secretary of Jhimpir Power Private Limited (the "**Applicant**"), by virtue of Board Resolution dated 11 March 2016, hereby apply to the National Electric Power Regulatory Authority (NEPRA) (the "Authority") for the modification of our Generation License for the Company bearing No. WPGL/25/2014 dated 16 September 2014 in respect of the Company's 50MW wind energy power project at Jhimpir, Sindh (the "**Project**") pursuant to Regulation 10(2) of the National Electric Power Regulatory Authority (Application and Modification Procedure) Regulations, 1999 (the "**AMP**R").

I certify that the documents-in-support attached with this application are prepared and submitted in conformity with the provisions of the National Electric Power Regulatory Authority (Application and Modification Procedures) Regulations, 1999, and undertake to abide by the terms and provisions of the above-said regulations. I further undertake and confirm that the information provided in the attached documents-in-support is true and correct to the best of my knowledge and belief.

A Pay Order (PO) No 03711004 dated 16 March 2016 in the sum of Rs.281,840/- (Rupees Two Hundred Eighty One Thousand Eight Hundred Forty Only), being the non-refundable license Application Fee; calculated in accordance with Schedule II to the National Electric Power Regulatory Authority (Application and Modification Procedures) Regulations 1999, is also attached herewith.

Date: May 08, 2014

Saleem uz Zaman
Company Secretary

Jhimpir Power (Private) Limited

Extracts of the minutes of the meeting of the Board of Directors of Jhimpir Power (Private) Limited held at 2nd Floor, Building No. 36-C Bukhari Commercial, Lane no. 7, Phase 6, DHA, Karachi, Pakistan on 11 March 2016

RESOLVED THAT Mr. Saleem uz Zaman, Company Secretary of Jhimpir Power (Private) Limited, (" **JPL**") be and is hereby authorized to approve and sign an application for the modification in the Generation License for submission to National Electric Power Regulatory Authority (NEPRA) in respect of its wind power generation project to be located at Jhimpir, District Thatta, Province of Sindh, Pakistan (the "**Project**") and in relation thereto, enter into and execute all required documents, make all fillings and pay all applicable fees, in each case, of any nature whatsoever as required.

FURTHER RESOLVED THAT in respect of application for the modification in the Generation License for submission to NEPRA, Mr. Saleem uz Zaman as Company Secretary be and hereby empowered and authorized for and on behalf of the Company to:

I. Review, execute, submit and deliver the modification in the Generation License Application and related documentation required by NEPRA, including any contacts, documents, power of attorney, affidavits, statements, letters, forms, applications, deeds, guarantees, undertakings, approvals, memoranda, amendments, letters, communications, notices, certificates, request, statements and any other instruments of any nature whatsoever;
II. Sign and execute necessary documentation, pay the necessary fees, appear before NEPRA as needed, and do all acts necessary for completion and processing of the Modification in the Generation License Application;
III. Do all such acts, matters, and things as may be necessary for carrying out the purposes aforesaid and giving full effect to the above resolution(s).

AND FURTHER RESOLVED THAT Mr. Saleem uz Zaman as Company Secretary be and is hereby authorized to delegate all or any of the above powers in respect of the foregoing to any other official of the company as deemed appropriate.

Certified true copy

Company Secretary

Jhimpir Power (Private) Limited

Application for the Modification of Generation License

Jhimpir Power Private Limited

(A project of Burj Capital)

a 49.735MW Wind Power Project at Jhimpir, District Thatta, Sindh Pakistan

16 March 2016

Licensee Proposed Modification Application ("LPM")

This application is for the proposed modification in the Generation License duly issued to M/s Jhimpir Power Private Limited, a project of Burj Capital for its 49.6MW Wind Power Project (the "**Project**") in Jhimpir, Sindh, Pakistan.

1. Background:

The National Electric Power Regulatory Authority ("**NEPRA**" or the "**Authority**") issued to M/s Jhimpir Power (Private) Limited (the "**Applicant**" or the "**Company**" or the "**Licensee**" or "**JPL**"), a Generation License No. WPGL/25/2014 dated 16 September 2014 (the "**Generation License**") under the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the NEPRA Act) and the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000 (the Generation Rules). A copy of the Generation License is attached herewith as **Annexure A.**

The term of the Generation License is twenty (20) years after the Commercial Operations Date (COD) of the generation facility/Wind Farm.

The installed capacity of the proposed wind farm was 49.60MW Gross ISO. The Generation License issued to the Company was based on the selection of General Electric (G.E.) 1.6-82.5m-50Hz wind turbines. However, now the Company has decided to install General Electric (G.E.) 1.7-103m-50Hz wind turbines in order to achieve greater efficiency in performanceby selecting upgraded model (the "**Proposed Modification**"). The selection of the proposed modification is based on prudency and proven acceptance.

Jhimpir Power (Private) Limited hereby requests for the modification in its Generation License.

2. Legal Basis:

Jhimpir Power (Private) Limited in pursuance of inter alia, Regulation 10(2) of the (Application and Modification Procedure) Regulations, 1999 (the "**AMPR**") and other applicable provisions of the Regulation of Generation Transmission and Distribution of Electric Power Act, 1997 (the "Act"), Rules, Regulations and applicable documents submits this Licensee Proposed Modification Application (the "**LPM**") in respect of its Generation License # No. WPGL/25/2014.

Under Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, NEPRA awarded a Generation License to the Company for its proposed Generation Facility/Wind Farm located at Jhampir, near Nooribad, District Thatta, in the Province of Sindh.

3. Project Status:

The Company was incorporated on 18 April 2007, and the Sponsors of the Company are persistently and actively developing the Project. Besides in house expertise, they have also engaged a number of consultants for assisting them in developing the Project.

The Applicant is developing a 49.735MW wind power project under the upfront tariff regime prescribed by National Electric Power Regulatory Authority vide its determination dated 24 June 2015 (the "**Upfront Tariff**"). The construction of the proposed wind farm shall take approximately

18 months from the issuance of notice to proceed to the project contractors and it is expected that plant will commission on 31December 2017.

Project's current status is given below;

a. The Company obtained Letter of Support ("**LOS**") dated 23 December 2014 from the Alternative Energy Development Board ("**AEDB**") and later got an extension in LOS on 17 December 2015. The extended LOS shall expire on 10 August 2016. A copy of the Letter of Support extension letter by AEDB is attached herewith as **Annexure B**.

b. The Project is being developed with the facilitation of AEDB under the Government of Pakistan's Policy for Renewable Energy Projects for Pakistan, 2006, on a fast track basis and the Company has successfully (i) obtained land from the Government of Sindh, (ii) obtained generation license from NEPRA, (iii) obtained the approval of upfront tariff approval from NEPRA, (v) signed an EPA with the power purchaser, and (iv) obtained the commitment from OPIC for the financing of the Project.

c. All third party studies have been completed by the Company on the extended land i.e. topographical survey, geo-tech study, environmental assessment, and wind assessment study.

4. Statement of the reasons in Support of Modifications:

a. While evaluating different models of turbines, the Company has now selected latest and more advanced wind turbines. The selected model of wind turbines are more efficient and more reliable than previously selected turbine model.

b. Generation License issued to the Company was based on the selection of General Electric (G.E.) 1.6-82.5m-50Hz wind turbines. However, now the Company has decided to install General Electric (G.E.) 1.7-103m-50Hz wind turbines (the "**Proposed Modification**") hence the size of the Project would be 49.735MW Gross ISO (with each unit having a generation capacity of 1.715MW) instead of 49.60MW Gross ISO(with each unit having a generation capacity of 1.6MW). The selection of the proposed modification is based on prudency and proven acceptance.

c. Because of the above development, a modification in the existing Generation License of the Company is required. It is humbly stated that the earlier application of the Company was filed under the Section 15 of Regulation of Generation, Transmission and Distribution of Electric Power Act 1997, which was kindly accepted by NEPRA.

5. Statement of impact on the tariff, quality of service and the performance by the Licensee of its obligation under the Generation License:

a. The Company previously opted wind upfront tariff determined by the Authority on April 24, 2013 (hereinafter referred to as Upfront Tariff 2013). The Company was awarded Upfront Tariff, 2013 vide Authority's decision No. NEPRA/TRF-268/JPPL-2013/6682-6684 on June 20, 2014 based on 100% foreign loan. The Honorable Authority subsequently allowed the Company to opt 2015 Upfront Tariff for wind power generation and also issued new upfront tariff to the Company on 11 August 2015. The new tariff of the Company awarded

by NEPRA is lower than the previously awarded tariff to the Company therefore there would be no adverse impact on the economy and on the end consumer.

b. The new turbines are of international standard and are advanced machines than the previously selected machines. Hence, the technical performance of the Licensee shall improve manifold.

c. The roles, responsibilities and obligations of the Licensee under the Generation License shall not change because of this Modification.

6. Prayer:

It is humbly prayed to the honorable Authority as follows;

a. In light of the aforesaid, it is respectfully prayed that the learned Authority may kindly accept this License Proposed Modification Petition and modify the Generation License as requested in herein above.

b. That the Authority kindly treat the Company's request for the grant of this LPM on a non-discriminatory basis.

c. It is also prayed that any further and better relief that the Honorable Authority may deem appropriate in the circumstances may kindly be granted to the Company as well.

We hope the information/explanation provided above meets the Authority's requirements and remain available to assist the Authority in further queries/clarifications.

Sincerely,

16 March, 2016

Saleem uz Zaman
Company Secretary
Jhimpir Power (Private) Limited

SUMMARY OF PLANT DETAILS

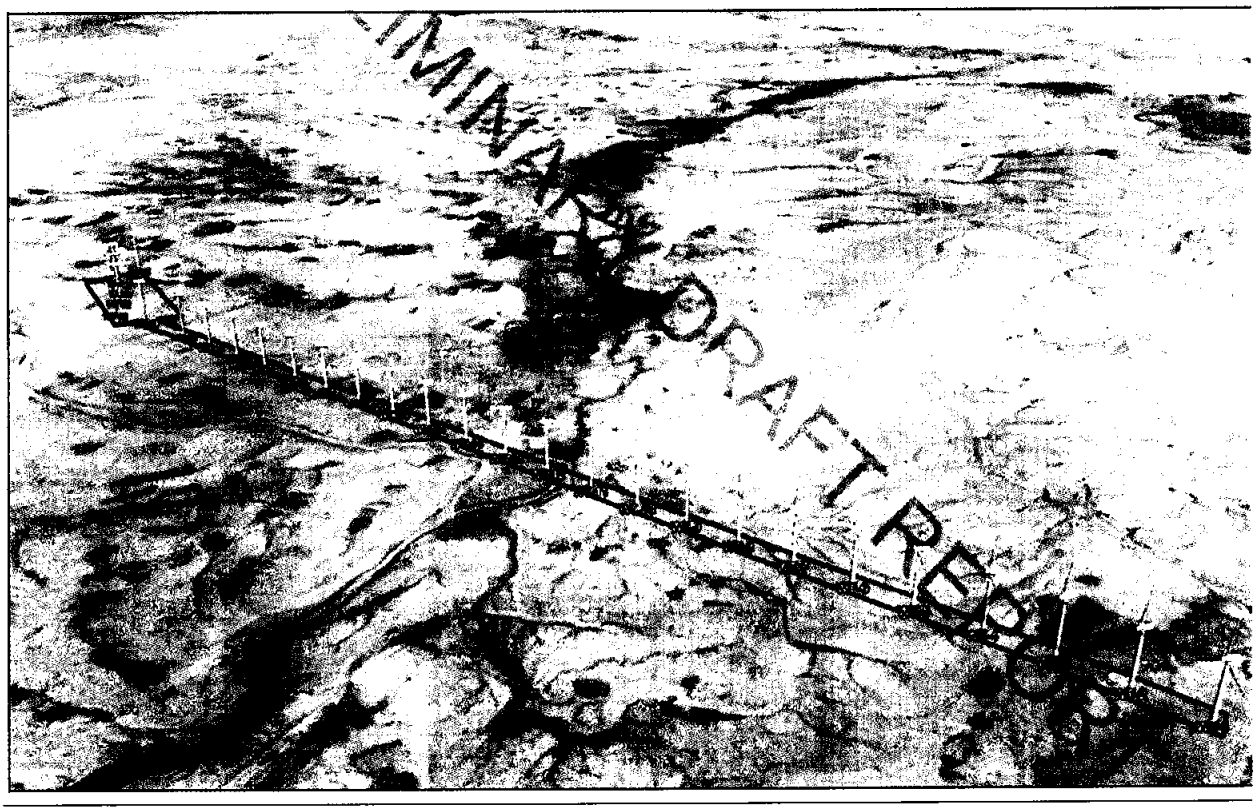
Regulations 3(5), 3(6), and Schedule III of the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999

Name of Applicant:	Jhimpir Power Private Limited
Registered Office	2nd Floor, 36-C Bukhari Commercial Lane no 7 Phase 6 DHA, Karachi, Pakistan
Business Office:	2nd Floor, 36-C Bukhari Commercial Lane no 7 Phase 6 DHA, Karachi, Pakistan
Plants Location:	Jhimpir, District Thatta, Sindh
Type of Facility	Wind
Proposed Buyer	Central Power Purchase Agency
Plant Configuration	
a) Plant Size	49.735 MW
b) De-rated Capacity	EBOP Losses: 1500 KW
c) Auxiliary Consumption	300KW
d) Total Net Capacity	47.935 MW without wake losses
e) Type of Technology	Wind
f) Number of Unit	29
g) Unit Size	1.715 MW each
h) Unit Make and Model	GE-1.7MW/103
i) Commissioning Date	31st December 2017
j) Expected life of the Project from COD	20 years
Plant Characteristics	
a) Generation Voltage	690V at generator terminal and 132kV at the point of interconnection with the grid
b) Power Factor	0.90 lagging/leading at turbine output. 0.95 lagging/ leading at interconnection point.
c) AGC (Automatic Generation Control/ AVR (Automatic Voltage)	Not applicable
d) Ramping Rate	Not applicable
e) Alternate Fuel	Not applicable
f) Auxiliary Consumption	300KW
g) Time to Synchronize	As per NTDC's approved specifications
Proposed Tariff	NEPRA Upfront Levelized Tariff of 10.6048 Rs./kWh (100% foreign financing)

Lay Out of Wind Farm

Pin Points	Coordinates	
1	25° 9'49.88"N	68° 0'26.29"E
2	25°10'2.75"N	68° 0'40.31"E
3	25° 9'12.63"N	68° 0'58.11"E
4	25° 9'21.83"N	68° 1'16.40"E
5	25° 9'15.35"N	68° 1'3.47"E
6	25° 9'18.23"N	68° 1'9.43"E
7	25° 6'33.66"N	68° 5'50.34"E
8	25° 6'27.78"N	68° 5'47.64"E

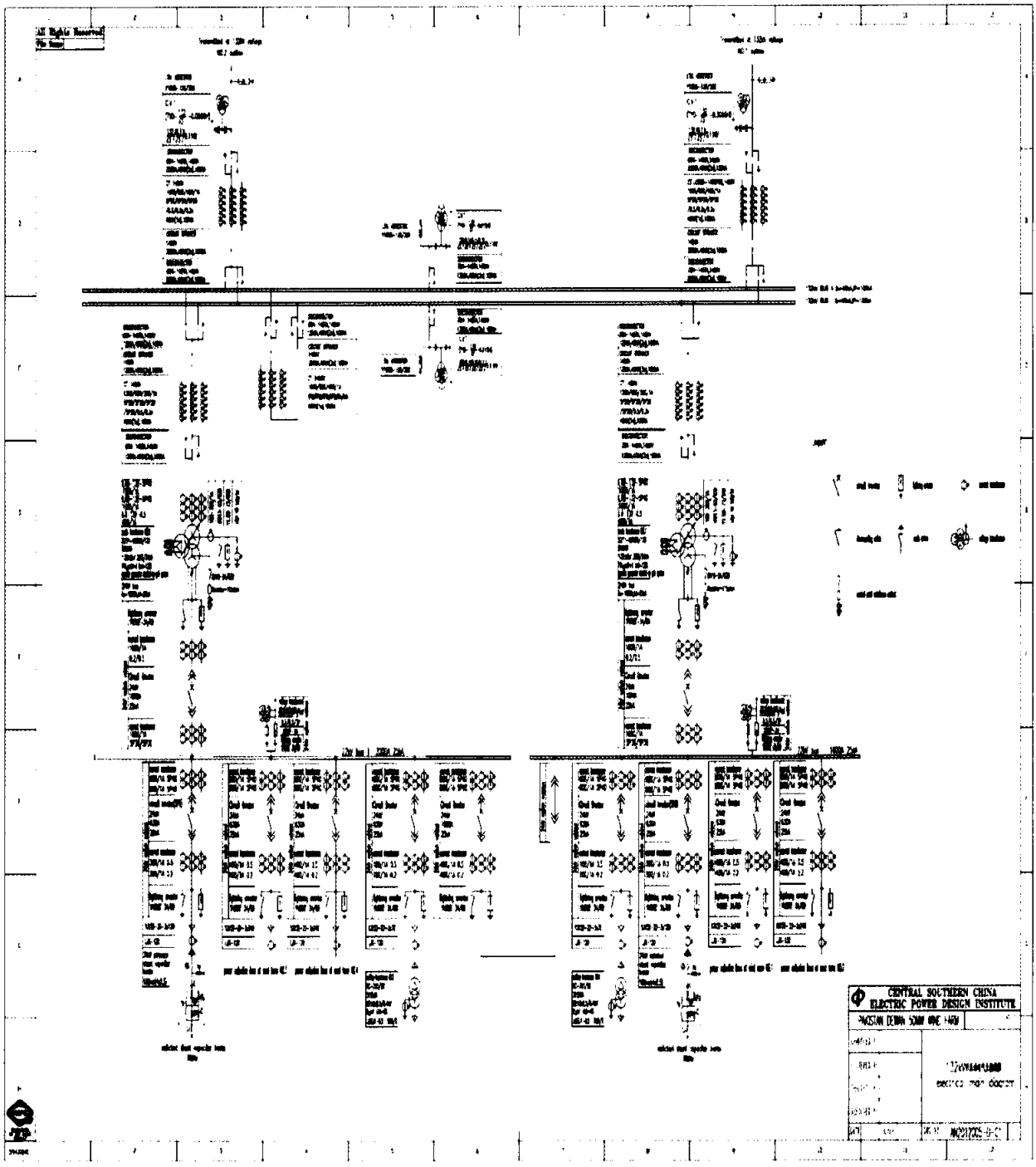
Micro-Sitting of Wind farm



UTM Datum:	**WGS84 T42N**					
Turbine ID	GE turbine model	Ground elevation (m)	Hub Height (m)	Easting (m)	Northing (m)	UTM zone
WT-1	**1.7-103**	**52**	**80.0**	**408890**	**2777255**	**42**
WT-2	**1.7-103**	**56**	**80.0**	**408557**	**2777469**	**42**
WT-3	**1.7-103**	**66**	**80.0**	**408229**	**2777691**	**42**
WT-4	**1.7-103**	**65**	**80.0**	**407901**	**2777909**	**42**
WT-5	**1.7-103**	**57**	**80.0**	**407565**	**2778125**	**42**
WT-6	**1.7-103**	**53**	**80.0**	**407241**	**2778346**	**42**
WT-7	**1.7-103**	**49**	**80.0**	**406907**	**2778561**	**42**
WT-8	**1.7-103**	**47**	**80.0**	**406577**	**2778778**	**42**
WT-9	**1.7-103**	**45**	**80.0**	**406244**	**2778997**	**42**
WT-10	**1.7-103**	**41**	**80.0**	**405914**	**2779214**	**42**
WT-11	**1.7-103**	**41**	**80.0**	**405579**	**2779431**	**42**
WT-12	**1.7-103**	**42**	**80.0**	**405252**	**2779651**	**42**
WT-13	**1.7-103**	**41**	**80.0**	**404919**	**2779868**	**42**
WT-14	**1.7-103**	**45**	**80.0**	**404589**	**2780088**	**42**
WT-15	**1.7-103**	**45**	**80.0**	**404258**	**2780305**	**42**
WT-16	**1.7-103**	**45**	**80.0**	**403927**	**2780525**	**42**
WT-17	**1.7-103**	**45**	**80.0**	**403597**	**2780743**	**42**

WT-18	1.7-103	46	80.0	403261	2780957	42
WT-19	1.7-103	48	80.0	402933	2781173	42
WT-20	1.7-103	49	80.0	402606	2781391	42
WT-21	1.7-103	50	80.0	402270	2781607	42
WT-22	1.7-103	51	80.0	401944	2781828	42
WT-23	1.7-103	55	80.0	401609	2782043	42
WT-24	1.7-103	55	80.0	401108	2782373	42
WT-25	1.7-103	60	80.0	400732	2782537	42
WT-26	1.7-103	57	80.0	400613	2782853	42
WT-27	1.7-103	59	80.0	400481	2783164	42
WT-28	1.7-103	60	80.0	400323	2783462	42
WT-29	1.7-103	59	80.0	400352	2783834	42

Single Line Diagram of Electrical System of Wind Farm



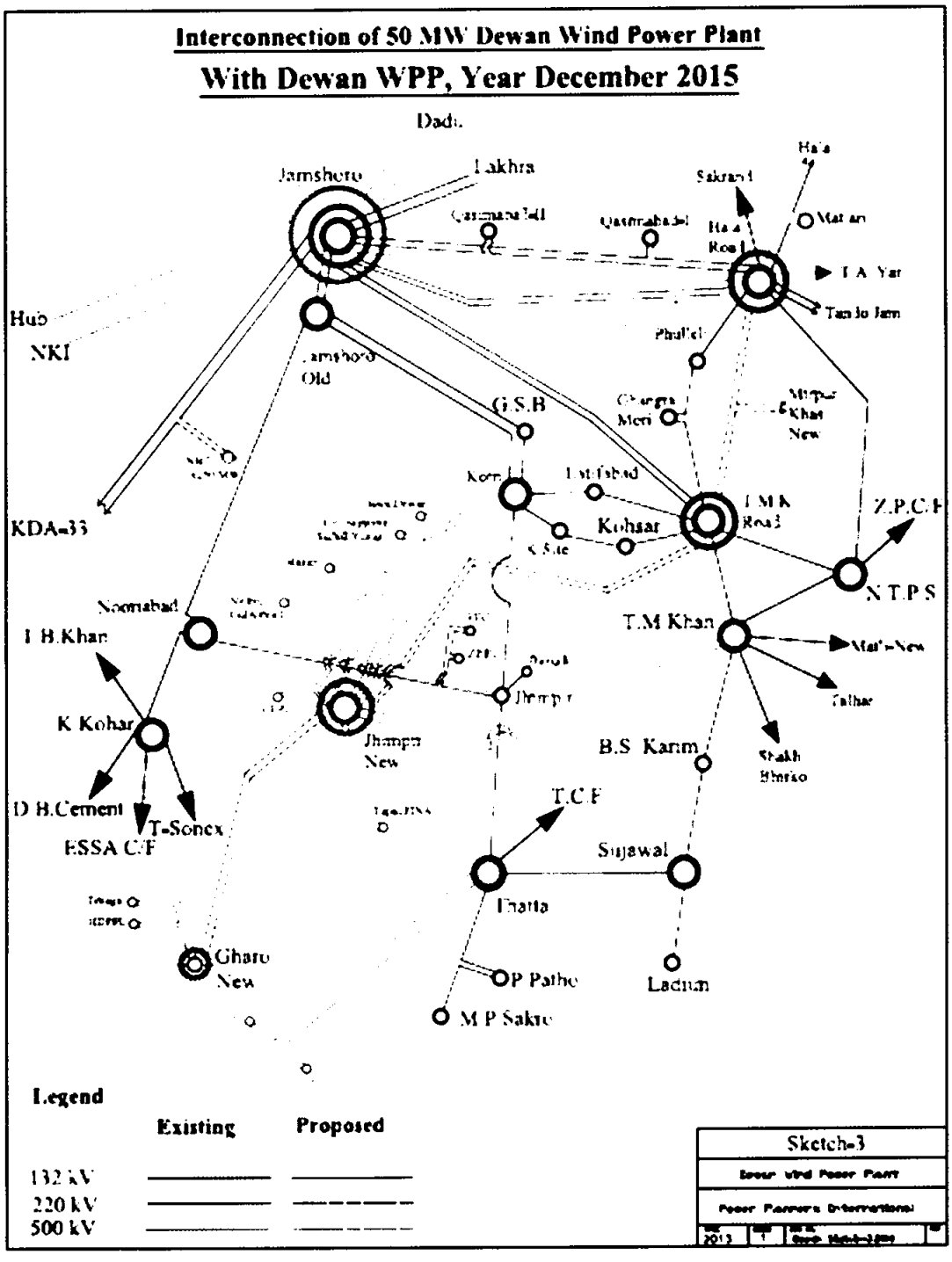
INTERCONNECTION ARRANGEMENT FOR DISPERSAL OF POWER FROM THE WIND FARM

- The power generated from the Wind Farm (WF) shall be dispersed to the Load Center/Ring of NTDC, at 132 KV voltage level.

- Project would be connected by a double circuit of 132kV looping in-out with a sub cluster already connecting 50MW HAWA Wind Power Plant to Jhimpir-New 132kV collector substation.

- Any change in the final Interconnection and Transmission Arrangement(s), for the dispersal of power other than the above, as agreed among Project Company, NTDC and HESCO shall be communicated to NEPRA in due course of time.

Schematic Diagram for Interconnection/Transmission Arrangement for Dispersal of Power from the Project



Detail of Generation Facility/Wind Farm

A. General Information

i.	Name of Applicant Company	Jhimpir Power Private Limited
i.	Registered/Business Office	2nd Floor, 36-C Bukhari Commercial Lane no 7 Phase 6 DHA, Karachi, Pakistan
i.	Plant Location	District Thatta, Sindh
v.	Type of Generation Facility	Wind Power

B. Wind Farm Capacity & Configuration

i.	Wind Turbine Type, Make & Model	GE-1.7MW/103 50Hz
ii.	Installed Capacity of Wind Farm (MW)	49.735 MW
i.	Number of Wind Turbine Units/Size of each Unit (KW)	29 x 1.715 MW

C. Wind Turbine Details

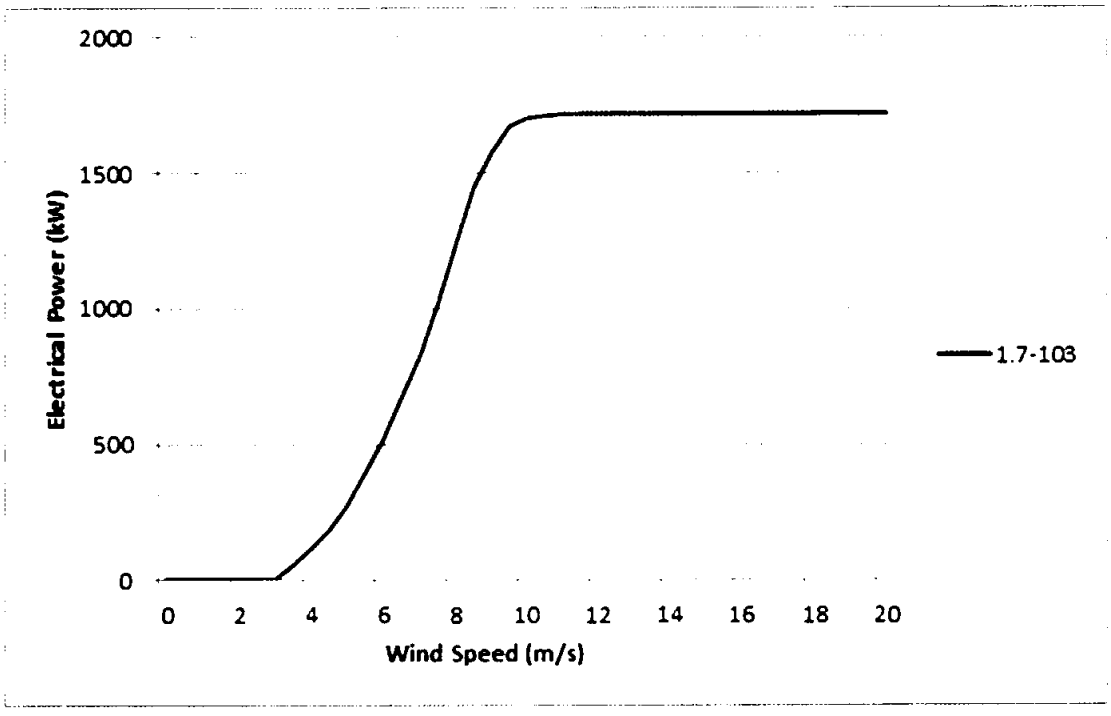
a.	**Rotor**	
i.	Number of Blades	3
i.	Rotor Speed	10 – 17.14 rpm
i.	Rotor Diameter	103m
v.	Swept Area	8332 m^2
v.	Power Regulation	Combination of blade pitch angle adjustment, and generator/converter torque control.
i.	Rated power at	9.45 m/s (air density = 1.225 kg/m^3)
i.	Cut-in Wind Speed	3.0m/s 10minute average
i.	Cut-out Wind Speed	20 m/s 600 sec, 23 m/s 30 sec, 25 m/s 3 sec interval
x.	Survival Wind Speed	37.5m/s 10 minute average & 56m/s 3second average
x.	Pitch Regulation	Electric motor drives a ring gear mounted to the inner race of the blade pitch bearing
b.	**Blades**	
i.	Blade Length	50.2 m
i.	Material	Fiber glass enforced epoxy resin
i.	Weight	9580 Kg
c.	**Gear Box**	
i.	Type	Multi-stage planetary
i.	Gear Ratio	111.54
i.	Weight	16500 Kg
v.	Oil Quantity	300 – 450 litres
v.	Main Shaft Bearing	Roller bearing mounted in a pillow-block housing arrangement
d.	**Generator**	
i.	Power	1737 KW
i.	Voltage	690 V
i.	Type	Doubly-fed induction type

v.	Speed	Range: 1000-2090 rpm; Synchronous Speed: 1500 rpm; Speed at rated power: 1735 rpm
v.	Enclosure Class	IP 54
i.	Coupling	Flexible coupling
i.	Efficiency	≥97%
i.	Weight	8450
x.	Power Factor	±0.95
e.	**Yaw System**	
i.	Yaw Bearing	Roller Bearing
i.	Brake	Planetary yaw drives (with brakes that engage when the drive is disabled)
i.	Yaw Drive	4 planetary yaw drives
v.	Speed	0.5degrees/sec
f.	**Control System**	
i.	Type	Automatic or manually controlled
i.	Grid Connection	Via back-to-back AC-DC-AC power electronics converter connected to rotor winding
i.	Scope of Monitoring	Remote monitoring of more than 300 different parameters, e.g. temperature sensors, pitch parameters, speed, generator torque, wind speed & direction, etc.
v.	Recording	Production data, event list, long & short term trends
g.	**Brake**	
i.	Design	Three independent systems, fail safe (individual pitch)
i.	Operational Brake	Aerodynamic brake achieved by feathering blades
i.	Secondary Brake	Mechanical brake located at the output (high-speed) shaft of the gearbox
h.	**Tower**	
i.	Type	Cylindrical tubular steel tower
i.	Hub Heights	Tubular tower 80 m

D. Other Details

i.	Project Commissioning Date (Anticipated)	December 31 2017
i.	Expected Life of the Project from Commercial Operation Date (COD)	20 years

Power Curve With Graphic Turbine Model



Power Curve of Turbine
(Tabular Form)

Wind Speed at Hub Height [m/s]	Electrical Power [kW]			
	Normal Turbulence Intensities 10% < TI < 15%	Low Turbulence Intensities TI < 10%	High Turbulence Intensities 15% < TI < 20%	Cp,e Normal Turbulence Intensities
3.5	[illegible]	[illegible]	[illegible]	
4.0	[illegible]	[illegible]	[illegible]	[illegible]
4.5	[illegible]	[illegible]	[illegible]	[illegible]
5.0	[illegible]	[illegible]	[illegible]	[illegible]
5.5	[illegible]	[illegible]	[illegible]	[illegible]
6.0	[illegible]	[illegible]	[illegible]	[illegible]
6.5	[illegible]	[illegible]	[illegible]	[illegible]
7.0	[illegible]	[illegible]	[illegible]	[illegible]
7.5	[illegible]	[illegible]	[illegible]	[illegible]
8.0	[illegible]	[illegible]	[illegible]	[illegible]
8.5	[illegible]	[illegible]	[illegible]	[illegible]
9.0	[illegible]	[illegible]	[illegible]	[illegible]
9.5	[illegible]	[illegible]	[illegible]	[illegible]
10.0	[illegible]	[illegible]	[illegible]	[illegible]
10.5	[illegible]	[illegible]	[illegible]	[illegible]
11.0	[illegible]	[illegible]	[illegible]	[illegible]
11.5 to cut-out	[illegible]	[illegible]	[illegible]	

SCHEDULE-II

The Installed/ISO Capacity (MW), De-Rated Capacity at Mean Site Conditions (MW), Auxiliary Consumption (MW) and the Net Capacity at Mean Site Conditions (MW) of the Generation Facilities of Licensee is given in this Schedule

(1).	Total Installed Gross ISO Capacity of the Generation Facility /Wind Farm (MW/GWh)	49.735 MW
(2).	Total Annual Full Load Hours	3391 Hrs
(3).	Average Wind Turbine Generator (WTG) Availability	97.0 %
(4).	Total Gross Generation of the Generation Facility/Wind Farm (in GWh)	241,654 GWh
(5).	Array & Miscellaneous Losses GWh	12.0827 GWh (5%)
(6).	Availability Losses GWh	7.249 GWh (3%)
(7).	Balance of Plant Losses GWh	7,249 GWh (3%)
(8).	Annual Energy Generation (20 year equivalent Net AEP) GWh	168.682 GWh
(9).	Net Capacity Factor	38.71 %

Note
All the above figures are indicative as provided by the Licensee. The Net energy available to NTDC for dispatch shall be determined through procedures contained in the Energy Purchase Agreement.

National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

NEPRA Tower, Ataturk Avenue(East), G-5/1, Islamabad
Ph: +92-51-9206500, Fax: +92-51-2600026
Web: www.nepra.org.pk, E-mail: registrar@nepra.org.pk

No. NEPRA/R/LAG-262/10757-63

September 16, 2014

Mr. Arooj Asghar
Chief Financial Officer & Project Director
Jhimpir Power (Pvt.) Limited
(formerly Dewan Energy (Pvt.) Limited)
Ground Floor, OICCI Building,
Talpur Road, Karachi

Subject: **Generation Licence No. WPGL/25/2014**
Licence Application No. LAG-262
Jhimpir Power (Private) Limited (JPPL)

Reference: Your letter No. nil dated My 08, 2014 (received on 14.05.2014).

Enclosed please find herewith Determination of the Authority in the matter of Generation Licence Application of JPPL along with Generation Licence No. WPGL/25/2014 annexed to this determination granted by the National Electric Power Regulatory Authority to JPPL for its 49.60 MW Wind Power Plant located at Deh Kohistan 7/1, Tappo Jhampir, Taluka and District Thatta, Sindh, pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997).

2. Please quote above mentioned Generation Licence No. for future correspondence.

Enclosure: **Generation Licence (WPGL/25/2014)**

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
REGISTRAR
NEPRA

16/9/14

(Naweed Illahi Sheikh)

Copy to:

1. Chief Executive Officer, Alternative Energy Development Board (AEDB), 2nd Floor, OPF Building, G-5/2, Islamabad.
2. Chief Executive Officer, NTDC, 414-WAPDA House, Lahore
3. Chief Operating Officer, CPPA, 107-WAPDA House, Lahore
4. Chief Executive Officer, Hyderabad Electric Supply Company (HESCO), WAPDA Water Wing Complex, Hussainabad, Hyderabad
5. Director General, Pakistan Environmental Protection Agency, Plot No. 41, Street No. 6, H-8/2, Islamabad.

National Electric Power Regulatory Authority (NEPRA)

Determination of the Authority in the Matter of Generation Licence Application of Jhimpir Power (Private) Limited [Formerly Dewan Energy (Private) Limited]

September 11, 2014
Application No. LAG-262

(A). Background

(i). Government of Pakistan has set up Alternative Energy Development Board (AEDB) for development of Renewable Energy (RE) resources in the Country. AEDB issued Letter of Intent (LoI) to different Private Entrepreneurs including Jhimpir Power (Private) Limited (JPPL) for setting up a 50.00 MW (approximately) Wind Power Project (WPP)/Wind Farm (WF) in District Thatta, in the Province of Sindh.

(ii). The Authority through its Determination No. NEPRA/TRF-WPT/2013/3942-3944 dated April 24, 2013 announced an Upfront Tariff for setting up WPP/WF in the Country. JPPL decided to unconditionally accept the above mentioned Up-Front Tariff on the Terms and Conditions as given in the said Determination for the Up-Front Tariff. Further, JPPL decided approaching the Authority for the grant of Generation Licence.

(B). Filing of Generation Licence Application

(i). In accordance with Section 15 of Regulation of Generation, Transmission and Distribution of Electric Power Act 1997 (the NEPRA Act),

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
REGISTRAR

JPPL filed an application on May 14, 2014, requesting for the grant of Generation Licence.

(ii). The Registrar examined the submitted application to confirm its compliance with the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 (the "Regulations"). The Registrar found some of the information missing and directed JPPL for submitting the same. JPPL completed the submission of the missing information/documentation on June 05, 2014.

(iii). The Authority admitted the application under Regulation 7 of the Regulations on June 26, 2014 for consideration of grant of a Generation Licence and approved the advertisement about the Notice of Admission (NoA) to be published in daily newspapers, seeking comments of the general public as stipulated in Regulation 8 of the Regulations. The Authority also approved the list of interested/affected parties for inviting comments or otherwise assisting the Authority in the matter as stipulated in Regulation 9 of the Regulations.

(iv). Accordingly, Notice of Admission was published in one Urdu and one English National Newspaper on July 03, 2014. Further, separate notices were also sent to Individual Experts/Government Ministries/Representative Organizations etc. on same date for submitting their views/comments in the matter.

(C). Comments of Stakeholders

(i). In reply to the above mentioned NoA in the press, the Authority received comments from six (06) stakeholders. These included Energy & Power Department Government of Khyber Pakhtunkhwa (E&PDKPK), Central Power Purchasing Agency (CPPA) of National Transmission and Despatch

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Company Limited (NTDC), Board of Investment (BoI), Pakistan Council of Renewable Energy Technologies (PCoRET), Ministry of Science and Technology (Most) and Energy Department Government of Balochistan (EDB).

(ii). The salient points of the comments offered by the above stakeholders are summarized in the following paragraphs: -

(a). E&PDKPK in its comments stated that our country is facing a huge problem of power shortage therefore, the project of JPPL will be beneficial for our country;

(b). CPPA in its comments submitted that JPPL selected Wind Turbine Generator (WTG) of 1.6 MW capacity whereas higher capacity WTG (like 2.5 MW) could be installed at the same hub height. Further, JPPL needs to ensure that their proposed plant complies with the provisions of the Grid Code, approved by NEPRA, as amended in April 2010 for Grid Integration of Wind Power Plants, already enforced within the National Grid;

(c). BoI commented that affordable and smooth supply of energy is backbone for industrial growth as well as for attracting FDI in the country. Therefore, the grant of Generation Licence to JPPL is supported;

(d). PCoRET expressed its no reservation to the grant of Generation Licence to JPPL; and

(e). MoST endorsed the comments of PCoRET and supported the grant of Generation Licence to JPPL;

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(f). EDB supported the request of JPPL for the Grant of Generation Licence.

(iii). The Authority considered the above comments of the stakeholders and found the same supportive except to the observations of CPPA about the size of the selected Wind Turbine Generator (WTG) and compliance of the Grid Code. In view of the said, the Authority considered it appropriate seeking the perspective of JPPL on the observations/comments of CPPA through a rejoinder.

(iv). In its rejoinder, JPPL submitted that it carried out energy yield assessments and turbine load analysis before the selection of the WTG. Further, other factors such as suitability of WTG to the site specific conditions and delivery of turbines from production unit to the site were also considered. It was concluded from the energy yield assessments that WTG using a turbine model with higher capacity would end up with less production compared to those composed of units with less capacity. Consequently, based on the results of all these analyses and recommendations from the independent consultant, the proposed GE 1.6 - 82.5 WTG was selected as the most efficient and productive model among a number of candidates. JPPL on compliance of Grid Code submitted that electrical Grid Study was carried out by an independent consultant and Grid Code Compliance was ensured during the completion of the study. Further, JPPL confirmed that all works and equipments to be installed would comply with the technical limits and requirements of Grid Code of NTDC.

(v). The Authority deliberated the comments of the stakeholders and the rejoinder of JPPL on the observations of CPPA. The Authority found the submission of JPPL appropriate and decided to process the Generation

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Licence application of JPPL as stipulated in the Regulations and NEPRA Licensing (Generation) Rules 2000 (the Rules).

(D). Grant of Generation Licence

(i). The sustainable and affordable energy/electricity is a key prerequisite for socio-economic development of any Country. In fact, the Economic Growth of any Country is directly linked with the availability of safe, secure, reliable and cheaper supply of energy/electricity. In view of the said reasons, the Authority is of the considered opinion that for sustainable development, all indigenous power generation resources including RE must be developed on priority basis.

(ii). The existing energy mix of the country is heavily skewed towards the costlier thermal power plants, mainly operating on imported furnace oil. The continuously increasing trend in fuel prices is not only creating pressure on the precious foreign exchange reserves of the country but is also an environmental concern. Therefore, in order to achieve sustainable development it is imperative that indigenous RE resources are given priority for power generation and their development is encouraged. The Energy Security Action Plan 2005 (ESAP) approved by the Government of Pakistan, duly recognizes this very aspect of power generation through RE and envisages that at least 5% of total national power generation capacity (i.e. 9700 MW) to be met through RE resources by 2030. The Authority considers that the proposed project of JPPL is consistent with the provisions of ESAP. The project will help in diversifying the energy portfolio of the country. Further, it will not only enhance the energy security of the country by reducing the dependence on imported furnace oil but will also help reduction in carbon emission by generating clean electricity, thus improving the environment.

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(iii). The term of a Generation Licence under the Rules is to be commensurate with the maximum expected useful life of the units comprised in a generating facility. According to the information provided, the Commercial Operation Date (COD) of the proposed Generation Facility/ WPP/WF of JPPL will be by December 31, 2015 and will have a useful life of about twenty (20) years from its COD. JPPL has also submitted that the Energy Purchase Agreement (EPA) will be based and negotiated in terms of twenty (20) years useful life of the equipment. JPPL has submitted that the term of its Generation Licence may be set accordingly. The Authority considers that the information provided by JPPL on useful life is consistent with other similar cases. In view of this, the Authority fixes the term of the Generation Licence to twenty (20) years from COD.

(iv). Regarding the Tariff, it is hereby clarified that under Section 7(3)(a) of the NEPRA Act, the determining of tariff, rate and charges etc. is the sole responsibility of the Authority. JPPL applied for unconditional acceptance of the Up-Front Tariff in accordance with the Determination of the Authority No. NEPRA/TRF-WPT/2013/3942-3944, dated April 24, 2013. The Authority through its Decision No. NEPRA/TRF-269/JPPL-2013/6682-6684, dated June 20, 2014 has approved the request of JPL for the grant of Up-Front Tariff. The Authority directs JPPL to charge only such tariff from the Power Purchaser which has been determined, approved or specified by the Authority in terms of Rule-6 of the Rules.

(v). The proposed Generation Facility of JPPL will be using RE Resource for Generation of Electric Power. Therefore, the project may qualify for the Carbon Credit under the Kyoto Protocol (for RE projects coming into operation upto 2020). In view of the said, the Authority directs JPPL to initiate the process in this regard at the earliest so that proceeds for the Carbon Credits are materialized. JPPL shall be required to share the proceeds of the

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Carbon Credits with the Power Purchaser as stipulated in Article-14 of its Generation Licence.

(vi). In view of this, the Authority hereby decides to approve the grant of Generation Licence to JPPL on the terms set out in the Generation Licence annexed to this determination. The grant of Generation Licence will be subject to the provisions contained in the NEPRA Act, relevant rules, regulations framed there under and the applicable documents.

Authority

Maj. (R) Haroon Rashid
Member

Khawaja Muhammad Naeem
Member

Habibullah Khilji
Member/Vice Chairman

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National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan

GENERATION LICENCE

No. WPGL/25/2014

In exercise of the Powers conferred upon the National Electric Power Regulatory Authority (NEPRA) under Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, the Authority hereby grants a Generation Licence to:

JHIMPIR POWER (PRIVATE) LIMITED
[FORMERLY DEWAN ENERGY (PRIVATE) LIMITED]

Incorporated Under Section 32 of the Companies Ordinance, 1984 (XLVII of 1984), Company Registration No. 0060498, dated March 27, 2014

for its Generation Facility/Wind Power Plant/Wind Farm Located at Deh Kohistan, 7/1 Tapo Jhimpir, Taluka and District Thatta, in the Province of Sindh

(Installed Capacity: 49.60 MW Gross ISO)

to engage in generation business subject to and in accordance with the Articles of this Licence.

Given under my hand this 16th day of September Two Thousand & Fourteen and expires on 30th day of December Two Thousand & Thirty Five.

Registrar

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Article-1
Definitions

1.1 In this Licence

(a). "Act" means "the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 ";

(b). "Authority" means "the National Electric Power Regulatory Authority constituted under section 3 of the Act";

(c). "Bus Bar" means a system of conductors in the generation facility/Wind Farm of the Licensee on which the electric power of all the Wind Turbine Generators or WTGs is collected for supplying to the Power Purchaser;

(d). "Carbon Credits" mean the amount of carbon dioxide (CO_2) and other greenhouse gases not produced as a result of generation of energy by the generation facility/Wind Farm, and other environmental air quality credits and related emissions reduction credits or benefits (economic or otherwise) related to the generation of energy by the generation facility/Wind Farm, which are available or can be obtained in relation to the generation facility/Wind Farm after the COD;

(e). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility of the Licensee is Commissioned;

(f). "CPPA" means the Central Power Purchasing Agency of NTDC or any other entity created for the like purpose;

(g). "Energy Purchase Agreement" means the energy purchase agreement, entered or to be entered into by and between the Power

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Purchaser and the Licensee, for the purchase and sale of electric energy generated by the generation facility/Wind Farm, as may be amended by the parties thereto from time to time

(h). "Grid Code" means the grid code prepared by NTDC and approved by the Authority, as it may be revised from time to time by NTDC with any necessary approval by the Authority;

(i). "HESCO" means Hyderabad Electric Supply Company Limited and its successors or permitted assigns;

(j). "IEC" means "the International Electrotechnical Commission and its successors or permitted assigns;

(k). "IEEE" means the Institute of Electrical and Electronics Engineers and its successors or permitted assigns;

(l). "Licensee" means **Jhimpir Power (Private) Limited** and its successors or permitted assigns;

(m). "NTDC" means National Transmission and Despatch Company Limited and its successors or permitted assigns;

(n). "Policy" means "the Policy for Development of Renewable Energy for Power Generation, 2006" of Government of Pakistan as amended from time to time;

(o). "Power Purchaser" means NTDC (through CPPA) on behalf of XW-DISCOs which purchases electricity from the Licensee, pursuant to an Energy Purchase Agreement for procurement of electricity;

(p). "Rules" mean "the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000";

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(q). "Wind Farm" means "a cluster of Wind Turbines in the same location used for production of electric power";

(r). "Wind Turbine Generator" or "WTG" means the machines installed at the generation facility/Wind Farm with generators for conversion of wind energy into electric power/energy;

(s). "XW DISCO" means "an Ex-WAPDA distribution company engaged in the distribution of electric power"

1.2 Words and expressions used but not defined herein bear the meaning given thereto in the Act or in the Rules.

Article-2
Application of Rules

This Licence is issued subject to the provisions of the Rules, as amended from time to time.

Article-3
Generation Facilities

3.1 The location, size (capacity in MW), technology, interconnection arrangements, technical limits, technical and functional specifications and other details specific to the generation facility/Wind Farm of the Licensee are set out in Schedule-I of this Licence.

3.2 The net capacity of the generation facility/Wind Farm of the Licensee is set out in Schedule-II hereto.

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3.3 The Licensee shall provide the final arrangement, technical and financial specifications and other specific details pertaining to its generation facility/Wind Farm before its COD.

Article-4
Term of Licence

4.1 The Licence is granted for a term of twenty (20) years after the COD of the generation facility/Wind Farm.

4.2 Unless suspended or revoked earlier, the Licensee may within ninety (90) days prior to the expiry of the term of the Licence, apply for renewal of the Licence under the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time.

Article-5
Licence fee

After the grant of the Generation Licence, the Licensee shall pay to the Authority the Licence fee, in the amount, manner and at the time set out in the National Electric Power Regulatory Authority (Fees) Rules, 2002.

Article-6
Tariff

The Licensee shall charge only such tariff which has been determined, approved or specified by the Authority in terms of Rule-6 of the Rules.

Article-7
Competitive Trading Arrangement

7.1 The Licensee shall participate in such manner as may be directed by the Authority from time to time for development of a Competitive Trading Arrangement. The Licensee shall in good faith work towards implementation and operation of the aforesaid Competitive Trading Arrangement in the manner and time period specified by the Authority. Provided that any such participation shall be subject to any contract

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entered into between the Licensee and another party with the approval of the Authority.

7.2 Any variation or modification in the above-mentioned contracts for allowing the parties thereto to participate wholly or partially in the Competitive Trading Arrangement shall be subject to mutual agreement of the parties thereto and such terms and conditions as may be approved by the Authority.

Article-8
Maintenance of Records

For the purpose of sub-rule (1) of Rule 19 of the Rules, copies of records and data shall be retained in standard and electronic form and all such records and data shall, subject to just claims of confidentiality, be accessible by authorized officers of the Authority.

Article-9
Compliance with Performance Standards

The Licensee shall comply with the relevant provisions of the National Electric Power Regulatory Authority Performance Standards (Generation) Rules 2009 as amended from time to time.

Article-10
Compliance with Environmental Standards

The Licensee shall comply with the environmental standards as may be prescribed by the relevant competent authority from time to time.

Article-11
Power off take Point and Voltage

The Licensee shall deliver electric power to the Power Purchaser at the outgoing Bus Bar of its 132KV grid station. The up-gradation (step up) of generation voltage up to 132KV will be the responsibility of the Licensee.

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Article-12
Performance Data of Wind Farm

The Licensee shall install monitoring mast with properly calibrated automatic computerized wind speed recording meters at the same height as that of the wind turbine generators and a compatible communication/SCADA system both at its Wind Farm and control room of the Power Purchaser for transmission of wind speed and power output data to the control room of the Power Purchaser for record of data.

Article-13
Provision of Information

13.1 The obligation of the Licensee to provide information to the Authority shall be in accordance with Section 44 of the Act.

13.2 The Licensee shall in addition to 13.1 above, supply information to the Power Purchaser regarding the wind data specific to the site of the Licensee and other related information on a regular basis and in a manner required by it.

13.3 The Licensee shall be subject to such penalties as may be specified in the relevant rules made by the Authority for failure to furnish such information as may be required from time to time by the Authority and which is or ought to be or has been in the control or possession of the Licensee.

Article-14
Carbon Credits

The Licensee shall process and obtain Carbon Credits expeditiously and credit the proceeds to the Power Purchaser as per the Policy.

Article-15
Design & Manufacturing Standards

15.1 The Wind Turbine Generator or WTG and other associated equipments of the generation facility/Wind Farm shall be designed, manufactured and tested according to the latest IEC, IEEE standards or other equivalent standards in the matter.

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15.2 All the plant and equipment of the generation facility/Wind Farm shall be unused and brand new.

Article-16
Power Curve

The power curve for the individual Wind Turbine Generator or WTG provided by the manufacturer and as mentioned in Schedule-I of this Generation Licence, shall form the basis in determining the cumulative Power Curve of the generation facility/Wind Farm.

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SCHEDULE-I

The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule.

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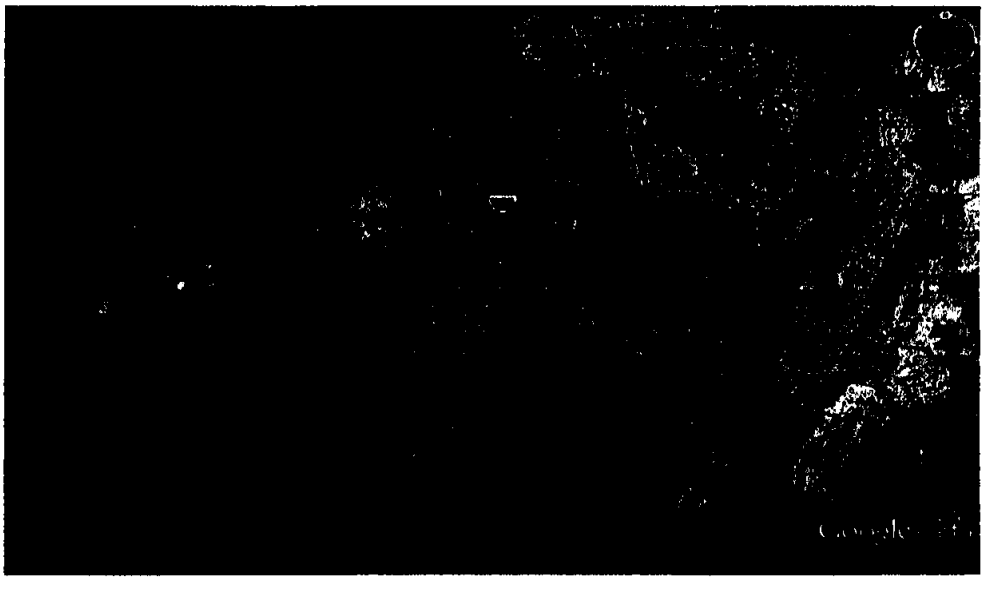
Location of the Generation Facility/Wind Farm



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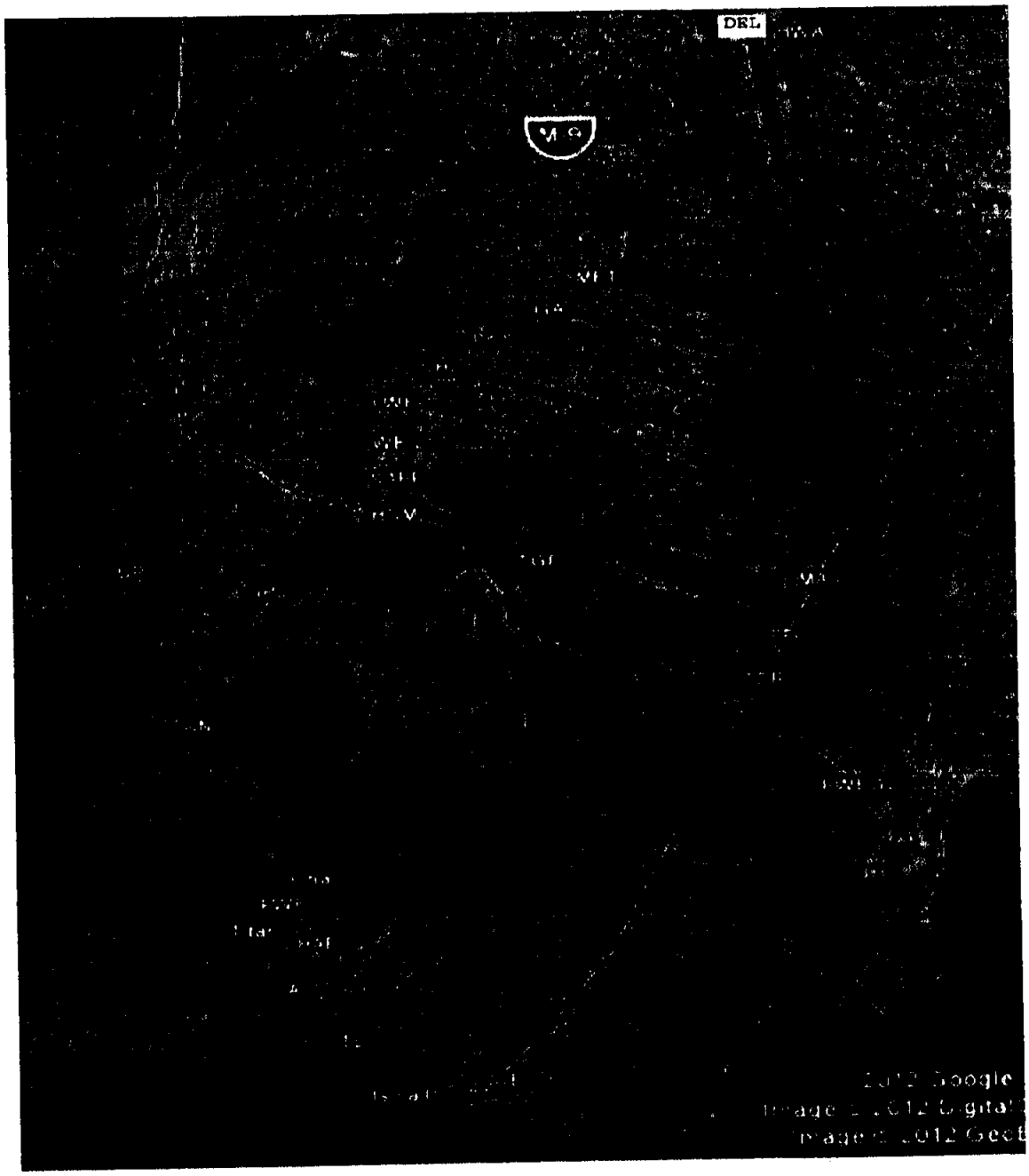
Layout of the Generation Facility/Wind Farm



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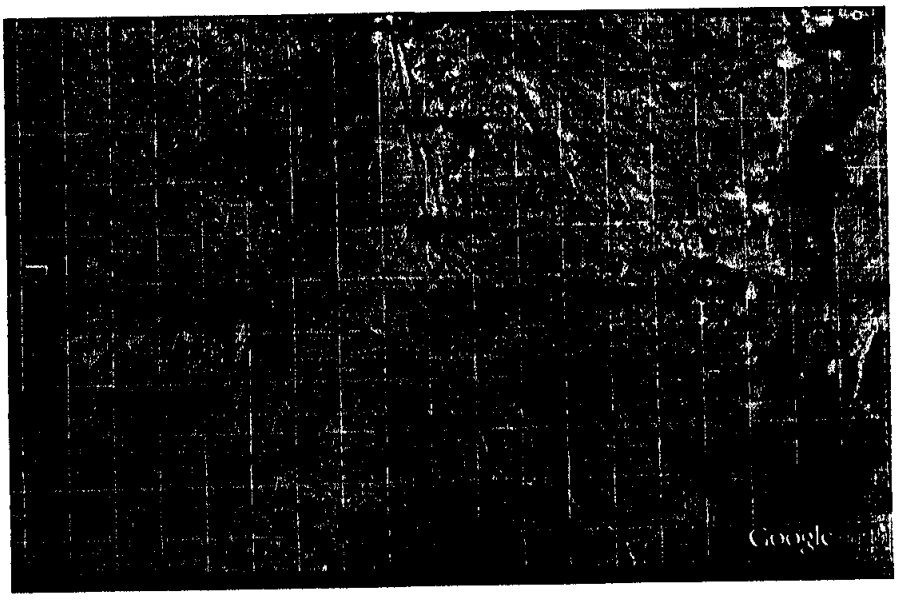
Coordinates of the Generation Facility/Wind Farm

2788383	396698
2782569	401326
2782271	400803
2788213	396321
2792730	395586
2792786	395773



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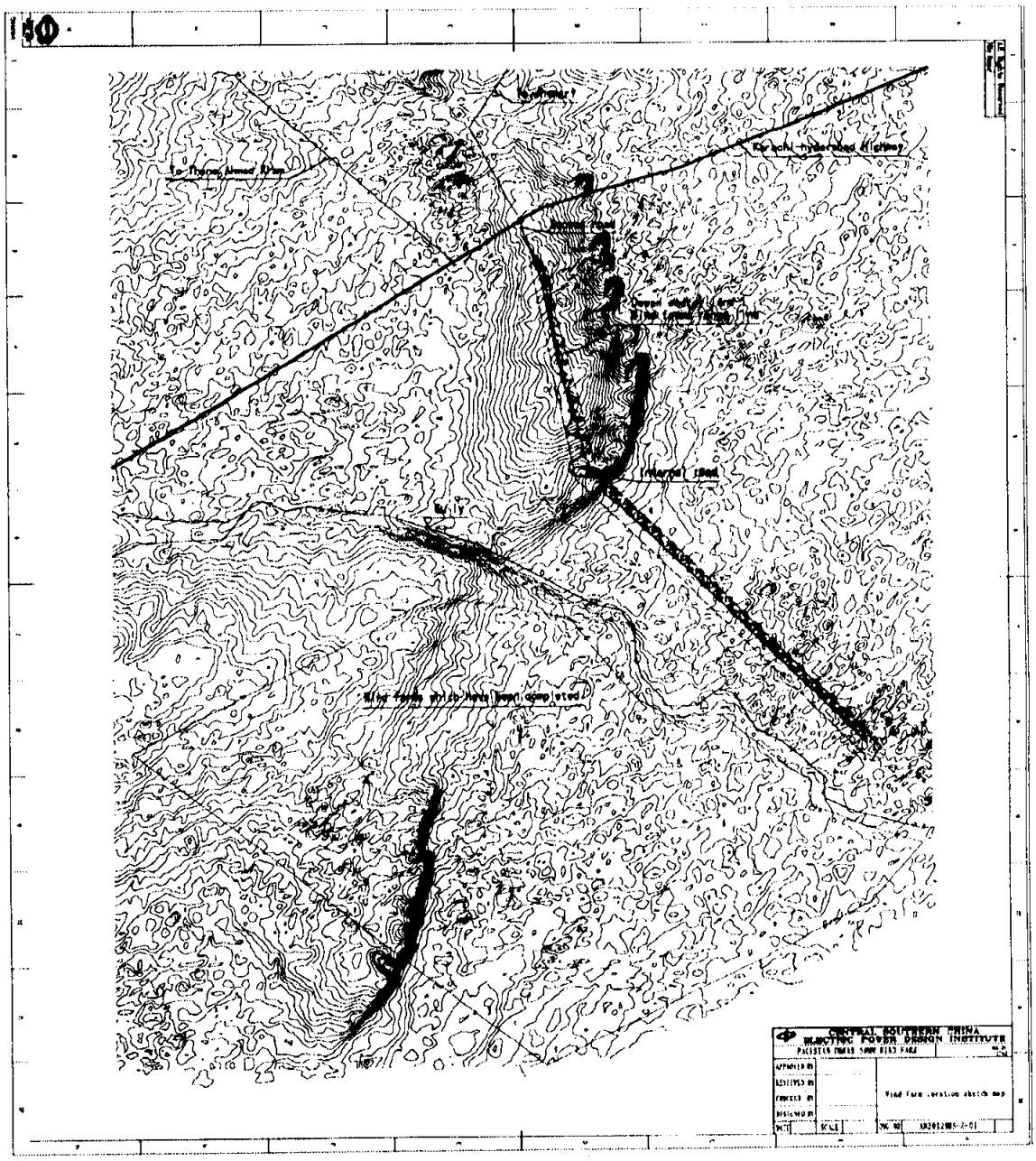
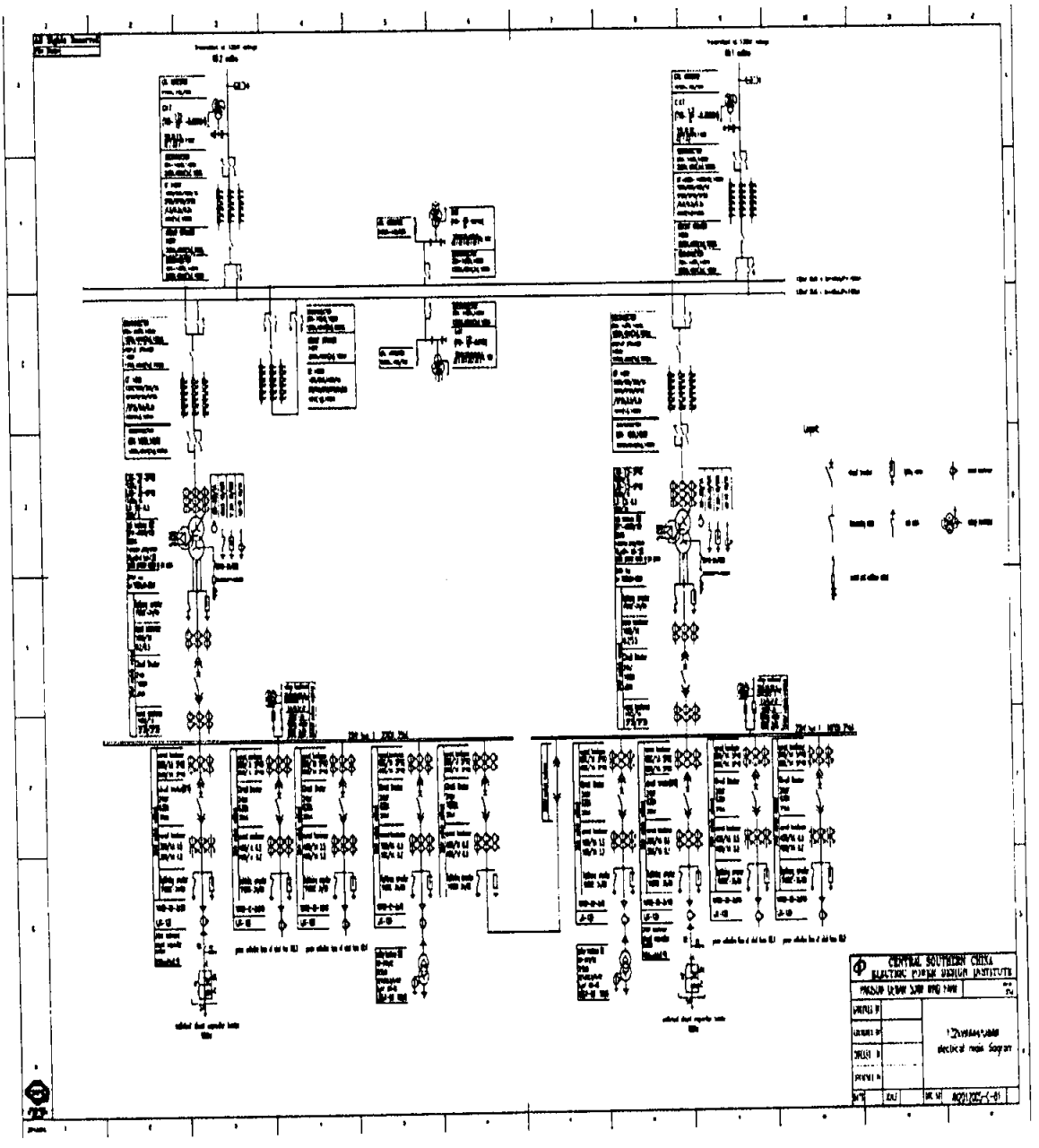
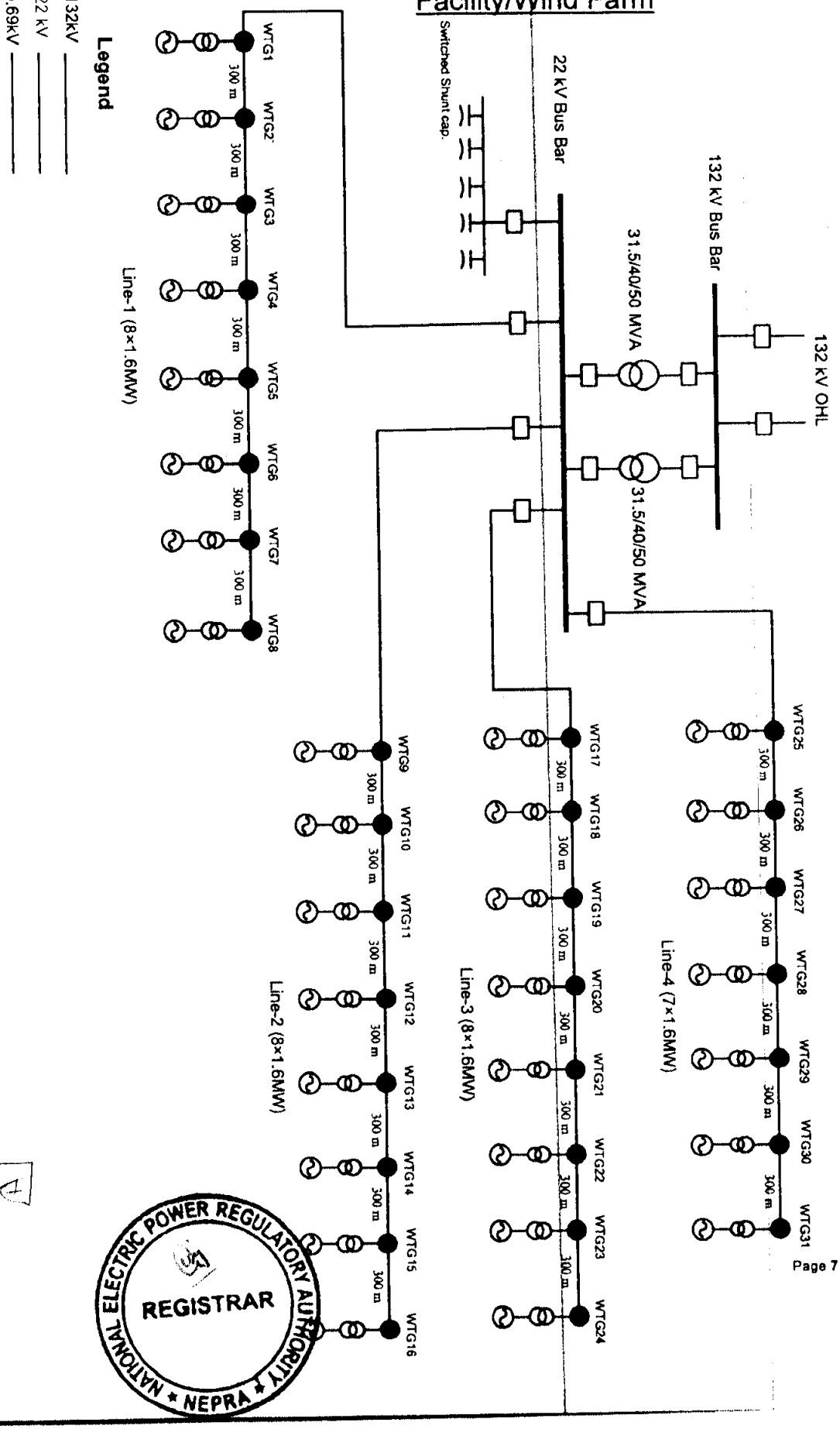
Micro-Sitting of the Generation Facility/Wind Farm



Single Line Diagram (of Electrical System) of the Generation Facility/Wind Farm



Single Line Diagram (of Electrical System) of the Generation Facility/Wind Farm



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Interconnection Arrangement/Transmission Facilities for Dispersal of Power from the Generation Facility/Wind Power Plant/Wind Farm of Jhimpir Power (Private) Limited (JPPL)

The power generated from the Generation Facility/Wind Power Plant/Wind Farm of JPPL shall be dispersed to the load center of HESCO.

(2). The proposed Interconnection Arrangement/Transmission Facilities for dispersal of will consist of the following:-

(a). A 132 KV D/C (Double Circuit) Transmission Line for Making an In-Out with a sub cluster already connecting another 50 MW Wind Power Plant/Wind Farm of Hawa Energy (Private) Limited to Jhimpir-New 220/132 kV collector substation;

(3). The scheme of Interconnection Arrangement/Transmission Facilities also proposes the following reinforcement already in place in Jhimpir cluster by 2015:

(a). 220/132 kV Jhimpir-New substation at suitable location in Jhimpir cluster;

(b). 220/132 kV Gharo-New substation at suitable location in Gharo cluster;

(c). 65 km long 220 kV double circuit from Gharo-New 220 kV Substation to Jhimpir-New 220 kV Substation;

(d). Extend/retrofit 132 kV double circuit in a ring form starting and ending at Jhimpir-New 220/132 kV grid station connecting 12 Wind Farms;

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(e). Loop in-out Gharo–Thatta 132 kV D/C at Gharo-New 220/132 kV substation connecting 7 wind Farms;

(f). 75 km long double circuit from T.M. Khan 132 kV substation to Jhimpir-New 220/132 kV substation;

(g). Re-Conductoring Jhimpir-Kotri, Jamshoro-Jamshoro Old and Jamshoro-

(h). Qasimabad-I line using Greeley conductor. Also a direct circuit from Jamshoro to Hala Road using Greeley conductor is to be used.

(4). Any change in the above mentioned Interconnection Arrangement/Transmission Facilities duly agreed by JPPL, NTDC and HESCO, shall be communicated to the Authority in due course of time.

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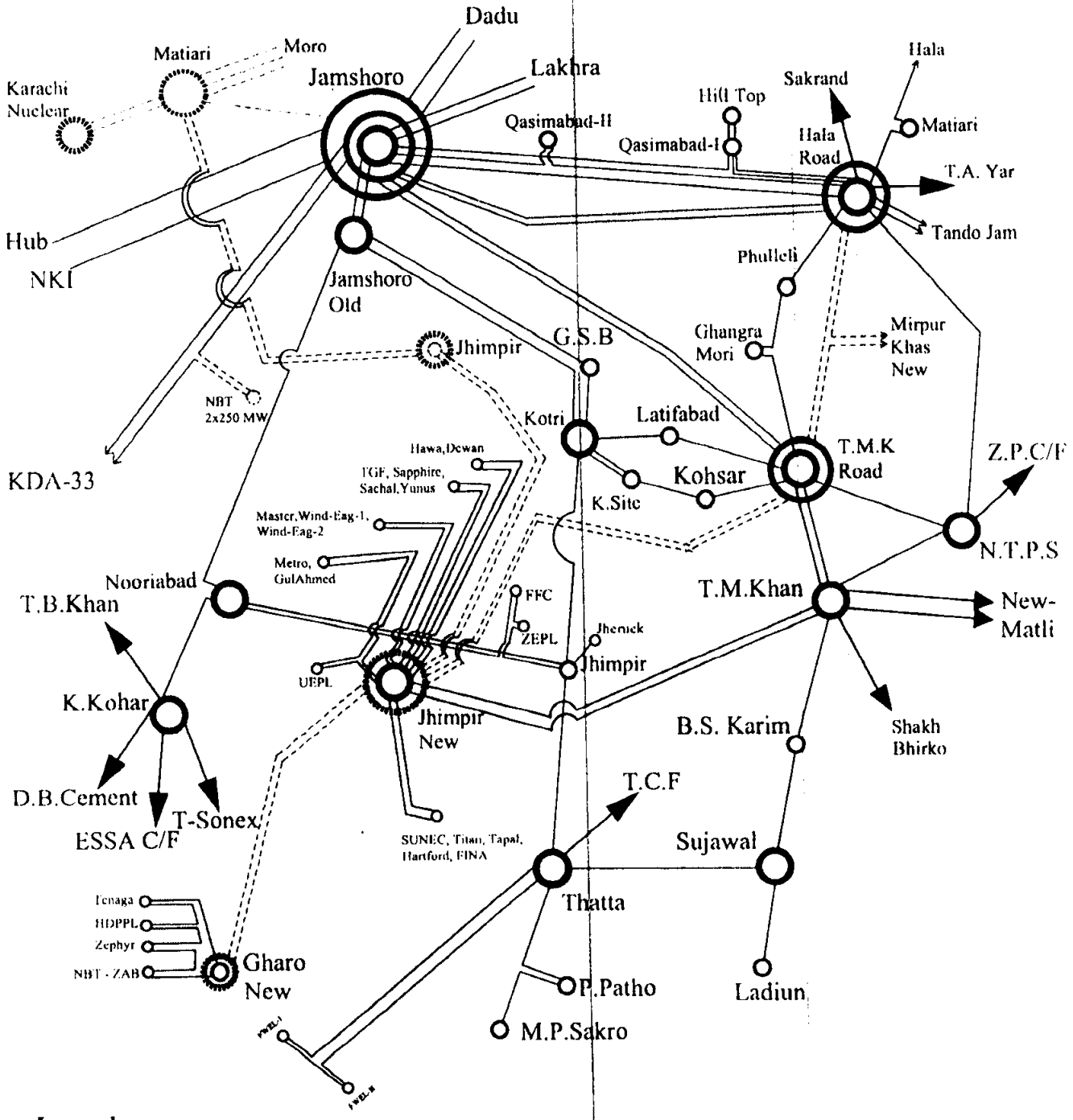
Schematic Diagram
for Interconnection Arrangement/Transmission Facilities
for Dispersal of Power from JPPL



Legend

	Existing	Proposed
132 kV	———	———
220 kV	———	- - - - -
500 kV	———	- - - - -

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Detail of Generation Facility/Wind Power Plant/ Wind Farm

(A). General Information

(i).	Name of Company/Licensee	Jhimpir Power (Private) Limited
(ii).	Registered/Business Office	Ground Floor, OICCI Building, Talpur Road, Karachi
(iii).	Plant Location	Deh Kohistan, 7/1 Tapo Jhimpir, Taluka and District Thatta, in the Province of Sindh
(iv).	Type of Generation Facility	Wind Power

(B). Wind Farm Capacity & Configuration

(i).	Wind Turbine Type, Make & Model	General Electric (G.E.) 1.6 – 82.5m-50Hz
(ii).	Installed Capacity of Wind Farm (MW)	49.6 MW
(iii).	Number of Wind Turbine Units/Size of each Unit (KW)	31 x 1.60 MW

(C). Wind Turbine Details

(a).	**Rotor**	
(i).	Number of blades	3
(ii).	Rotor speed	9 – 18 r.p.m.
(iii).	Rotor diameter	82.5 m
(iv).	Swept area	5346 m^2
(v).	Power regulation	Combination of blade pitch angle adjustment, and generator/converter torque control.
(vi).	Rated power at	12 m/s (air density = 1.225 kg/m^3)

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(vii).	Cut-in wind speed	3.5m/s 10 minute average
(viii).	Cut-out wind speed	25 m/s 10 minute average
(ix).	Survival wind speed	40m/s 10 minute average & 56m/s 3 second average
(x).	Pitch regulation	Electric motor drives a ring gear mounted to the inner race of the blade pitch bearing.
(b).	**Blades**	
(i).	Blade length	40.3 m
(ii).	Material	Fiberglass polyester resin
(iii).	Weight	6100 kg
(c).	**Gearbox**	
(i).	Type	Multi-stage planetary
(ii).	Gear ratio	1:107.368
(iii).	Weight	15,800 kg
(iv).	Oil Quantity	300 – 450 litres
(v).	Main shaft bearing	Roller bearing mounted in a pillow-block housing arrangement.
(d).	**Generator**	
(i).	Power	1,600 kW
(ii).	Voltage	690 V
(iii).	Type	Doubly-fed induction type
(iv).	Speed	Range: 1000-2090 rpm; Synchronous Speed: 1500 rpm; Speed at rated power: 1800 rpm
(v).	Enclosure class	IP 54
(vi).	Coupling	Flexible coupling
(vii).	Efficiency	≥97%
(viii).	Weight	8,450 kg
(ix).	Power factor	±0.9

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(e).	**Yaw System**	
(i).	Yaw bearing	Roller bearing
(ii).	Brake	Planetary yaw drives (with brakes that engage when the drive is disabled)
(iii).	Yaw drive	4 planetary yaw drives.
(iv).	Speed	0.5 degree/s
(f).	**Control System**	
(i).	Type	Automatic or manually controlled.
(ii).	Scope of monitoring	Remote monitoring of different parameters, e.g. temperature sensors, pitch parameters, speed, generator torque, wind speed and direction, etc.
(iii).	Recording	Production data, event list, long and short-term trends
(g).	**Brake**	
(i).	Design	Three independent systems, fail safe (individual pitch)
(ii).	Operational brake	Aerodynamic brake achieved by feathering blades.
(iii).	Secondary brake	Mechanical brake on (high speed) shaft of gearbox.
(h).	**Tower**	
(i).	Type	Cylindrical tubular steel tower
(ii).	Hub height	80 m

(D). Other Details

(i).	Project Commissioning date (Anticipated)	December 31, 2015
(ii).	Expected Life of the Project from Commercial Operation date (COD)	20 Years

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Power Curve (Tabular) of Wind Turbine Generator (GE 1.6-82.5)

Standard Atmospheric Conditions (Air Density of 1.225 kg/m³)

Rotor Diameter: 82.5 m

(Cut-out wind speed based on 10 minute average)

Wind Speed at Hub Height (m/s)	Normal Turbulence Intensities 10% < TI < 15%	Low Turbulence Intensities TI < 10%	High Turbulence Intensities 15% < TI < 20%	Cp,e Normal Turbulence Intensities
3.0	0	0	0	-
3.5	20	18	24	0.14
4.0	63	61	69	0.30
4.5	116	114	123	0.39
5.0	178	175	186	0.43
5.5	248	244	259	0.46
6.0	331	326	344	0.47
6.5	428	422	446	0.48
7.0	540	532	562	0.48
7.5	667	657	692	0.48
8.0	812	801	840	0.48
8.5	971	960	990	0.48
9.0	1136	1132	1140	0.48
9.5	1289	1296	1274	0.46
10.0	1431	1447	1400	0.44
10.5	1530	1553	1488	0.40
11.0	1590	1607	1552	0.36
11.5	1615	1620	1593	0.32
12.0	1620	1620	1615	0.29
12.5 - cutout	1620	1620	1620	-

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SCHEDULE-II

The Total Installed/Gross ISO Capacity (MW), Total Annual Full Load Hours, Average Wind Turbine Generator (WTG) Availability, Total Gross Generation of the Generation Facility/Wind Farm (in GWh), Array & Miscellaneous Losses (GWh), Availability Losses (GWh), Balance of Plant Losses (GWh) and Annual Energy Generation (GWh) of the Generation Facility /Wind Farm of Licensee is given in this Schedule

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SCHEDULE-II

(1).	Total Installed Gross ISO Capacity of the Generation Facility /Wind Farm (MW/GWh)	49.6 MW
(2).	Total Annual Full Load Hours	3214 Hrs
(3).	Average Wind Turbine Generator (WTG) Availability	95.0 %
(4).	Total Gross Generation of the Generation Facility/Wind Farm (in GWh)	183.0 GWh
(5).	Array & Miscellaneous Losses GWh	12.3 GWh
(6).	Availability Losses GWh	10.6 GWh
(7).	Balance of Plant Losses GWh	5.9 GWh
(8).	Annual Energy Generation (20 year equivalent Net AEP) GWh	159.4 GWh
(9).	Net Capacity Factor	36.7 %

Note

All the above figures are indicative as provided by the Licensee. The Net energy available to Power Purchaser for dispatch will be determined through procedures contained in the Energy Purchase Agreement.

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Government of Pakistan
Alternative Energy Development Board (AEDB)
Ministry of Water & Power
2nd Floor, OPF Building, Sector G-5/2, Islamabad
Tel: 051- 9238629, Fax: 051- 9222364

B/3/1/Dewan/11 December 23, 2014

Mr. Arooj Asghar
Project Director
M/s Jhimpir Power (Pvt.) Limited
(formerly Dewan Energy (Pvt.) Limited)
Ground Floor, OICCI Building, Talpur Road
Off. I.I. Chundrigar Road, Karachi.

Subject: **LETTER OF SUPPORT FOR THE ESTABLISHMENT OF A WIND POWER GENERATION FACILITY HAVING INSTALLED CAPACITY OF 49.6 MW (ISO GROSS) LOCATED AT JHAMPIR, DISTRICT THATTA, PROVINCE OF SINDH, PAKISTAN**

Dear Sir,

A. REFERENCE

M/s Jhimpir Power Private Limited (JPPL) (formerly Dewan Energy Private Limited), a company incorporated under the Companies Ordinance, 1984, under certificate of incorporation no. 0060498 dated March 27, 2014 (the "**Project Company**"):

(i) having caused the successful completion of a feasibility study under a Letter of Intent dated November 13, 2013 issued by AEDB; and

(ii) having applied to and received from the National Electric Power Regulatory Authority ("**NEPRA**") a tariff determination No NEPRA/TRF-269/JPPL-2013 dated June 20, 2014 on the terms and conditions set out therein as amended from time to time (the "**Tariff Determination**"); and

(iii) having received from NEPRA a electricity generation licence no. WPGL/25/2014, dated September 16, 2014 (the "**Generation Licence**") for the generation of electric power on the terms and conditions set out therein,

is now issued this Letter of Support (the "**LOS**"), on the terms and conditions set out herein, by AEDB for the development, design, engineering, manufacture, procurement, financing, construction, completion, testing and commissioning, insurance, ownership, operation and maintenance of 49.6 MW (ISO gross installed capacity) power generation facility (the "**Complex**") to be located near Jhampir, District Thatta, Province of Sindh, Pakistan and all activities incidental thereto (the "**Project**").

The Complex shall be a renewable electricity generation facility utilising wind as the renewable energy resource for generation of electricity.

The Project Company has posted in favour of AEDB an irrevocable, unconditional, on demand, without recourse bank guarantee on terms acceptable to AEDB dated August 25, 2014 July 22, 2014 issued by Bank Islami Pakistan Limited, Karachi (the "**Performance Guarantee**") in the amount of US Dollars One Hundred Twenty Four Thousand Only. The Performance Guarantee secures the Project Company's obligations to execute the Project Agreements (*reference paragraph B(1)*), to achieve Financial Closing (*reference paragraph B(2)*) and to pay the Termination Amount (*reference paragraph B(6)*) under and in accordance with the terms of this LOS. The Performance Guarantee shall remain valid and in full force till the expiry of three (3) months beyond the Required Financial Closing Date (*as specified in paragraph B(2)*) provided however, in the event the Financial Closing is achieved on or prior to the Required Financial Closing Date, the Performance Guarantee shall be returned to the Project Company on the date of its achievement of Financial Closing.

The Performance Guarantee shall be encashable in accordance with the terms of this LOS at any time prior to Financial Closing, on call at any time during the period of its validity by AEDB.

The Project Company hereby agrees that it shall have no claim against AEDB, the Government of Pakistan (the "**GOP**"), the Government of Sindh (the "**GOS**") or any agency or instrumentality thereof on any grounds whatsoever if AEDB acting in its sole discretion shall make any call upon or encash the Performance Guarantee provided that such call or encashment is made in accordance with the terms of this LOS, and the Project Company hereby waives, to the fullest extent permissible by law, any such claim. It is agreed that the amounts encashed under the Performance Guarantee in accordance with the terms of this LOS are reasonable and constitute liquidated damages to the GOP and AEDB for the Project Company's failure to (as applicable) (a) execute the Project Agreements (*reference paragraph B(1)*), (b) timely achieve Financial Closing (*reference paragraph B(2)*) and (c) pay the Termination Amount (*reference paragraph B(6)*), in each case, in accordance with the terms of this LOS, and it is understood and agreed that the encashment in full of the Performance Guarantee by AEDB is in lieu of actual damages for such occurrence and the collection of such sums pursuant to such Performance Guarantee pursuant to this LOS is the sole remedy of the GOP and AEDB for such events.

Until Financial Closing (as defined hereinafter), this LOS and the provisions of the Project Agreements (as defined hereunder) that become effective immediately upon signing of the Project Agreements shall govern the implementation of the Project and shall supersede all other documents and agreements. In the event of any conflict between this LOS and the provisions of the Project Agreements that become effective upon signing, this LOS shall govern and prevail. Effective on the date Financial Closing is achieved by the Project Company, the Project Agreements shall supersede the LOS. AEDB shall cancel and return the Performance Guarantee to the Project Company on the date Financial Closing is achieved.

B. AUTHORIZATION

AEDB hereby conveys its permission to the Project Company to implement the Project in accordance with the terms of this LOS and, when the Project Agreements become effective, in accordance with the Project Agreements. Electricity produced by the Complex shall be sold to the National Transmission and Despatch Company Limited (through its Central Power Purchasing Agency) on behalf of ex-WAPDA distribution companies (the "**Purchaser**") in accordance with the Generation Licence, Tariff Determination and the provisions of the Energy Purchase Agreement ("**EPA**") to be entered into between the Project Company and the Purchaser. The Project Company shall be responsible for performing and causing the performance of all activities necessary and incidental to its obligations under this LOS, including the following:

1. The Project Company shall, on or prior to the Required Financial Closing Date or (if applicable in terms of this LOS) the Extended Required Financial Closing Date, negotiate and sign an Implementation Agreement ("**IA**") with the President of the Islamic Republic of Pakistan, a EPA with the Purchaser and, if the land for the Complex is allocated by AEDB to the Project Company, a deed of sub-lease with AEDB ("**Site Sub-lease**"), failing which the Performance Guarantee shall be encashed for the full amount thereof by AEDB provided that if the delay is caused by the actions of the GOP, AEDB or the Purchaser, then the Project Company shall not be penalized.

   The IA, EPA and, if applicable, the Site Sub-lease are collectively referred to in this LOS as the "**Project Agreements**".

2. Unless Financial Closing is delayed or not achieved on account of any Consents (as defined in the IA) not being issued to the Project Company despite its compliance with its obligations under the IA relating thereto by the Required Financial Closing Date or the Extended Financial Closing Date, the Project Company shall achieve Financial Closing no later than the date stipulated in this regard in the Tariff Determination, being March 31, 2015 (the "**Required Financial Closing Date**"), failing which the Performance Guarantee shall be encashed in the full amount thereof by AEDB, provided that if the delay is caused by actions of the GOP, AEDB or the Purchaser, then the Project Company shall not be penalized. In addition to any other consequences set out in the Project Agreements, if AEDB determines that any delay by the Project Company in achieving Financial Closing by the Required Financial Closing Date is due to events beyond the reasonable control of the Project Company or that Financial Closing can be achieved shortly, AEDB shall be entitled (acting on an application in writing made to it by the Project Company at least thirty (30) days before the Required Financial Closing Date) to grant in writing to the Project Company a one-time extension of up to a maximum period of six (6) months beyond the Required Financial Closing Date (such extended date being hereinafter referred to as the "**Extended Required Financial Closing Date**") and this LOS shall stand correspondingly extended on the same terms and conditions for such additional period. No claim for an extension to the Required Financial Closing Date and the

period of validity of this LOS shall be accommodated or considered by AEDB unless the following actions are taken by the Project Company to the satisfaction of AEDB (i) the Project Company extends the period of validity of the Performance Guarantee so that the Performance Guarantee is valid on the same terms and conditions up till three (3) months beyond the Extended Required Financial Closing Date; (ii) the maximum amount in which the Performance Guarantee can be called is doubled; and (iii) if the Tariff Determination stipulates the Financial Closing to be achieved by the Required Financial Closing Date, the consent in writing of NEPRA to extension in the Required Financial Closing Date is obtained by the Project Company and is delivered to AEDB. Following any extension as aforesaid, the Project Company shall submit monthly reports that set out in adequate detail the additional efforts made by the Project Company to achieve Financial Closing no later than the Extended Required Financial Closing Date and the progress achieved in that regard. In the event the Performance Guarantee is extended in accordance with the terms of this LOS up till three (3) months beyond the Extended Required Financial Closing Date, then, unless the Performance Guarantee (as extended and doubled in amount) is encashed earlier by AEDB in terms provided in this LOS, the Performance Guarantee shall expire and shall be returned to the Project Company on the date on which Financial Closing is achieved by the Project Company on or before the Extended Required Financial Closing Date. For the avoidance of doubt, all references in this LOS and the Project Agreements to the Performance Guarantee and the circumstances in which it may be encashed by AEDB or when it is to be returned by AEDB mean and include the Performance Guarantee as extended and doubled in its amount for the purposes of extension to the Required Financial Closing Date.

For the purposes of this LOS, "Financial Closing" bears the meaning given thereto in the draft IA approved by the Economic Coordination Committee of the Federal Cabinet in its meeting on January 16th, 2014. The Lenders (or their Agent) will certify the achievement of Financial Closing in writing to AEDB, and simultaneously the Initial Shareholders including the Main Sponsor shall furnish to AEDB evidence (certified as to accuracy and authenticity) of commitment of equity funding for the project furnished to the Lenders and accepted by them for the purposes of their certification to AEDB of achievement of Financial Closing.

In no event shall Financial Closing be deemed to have occurred unless the Project Company has paid all amounts then due and owing to AEDB under this LOS.

3. The Project Company shall pay AEDB the processing fee of US $ 50,000/- (United States Dollars Fifty Thousand) within one (01) month of issuance of this LOS.

4. Where land for the Complex is allocated to the Project Company by AEDB, the Project Company shall forthwith upon execution of the Site Sub-lease deposit the tenancy and/or other charges therein mentioned and shall take and keep possession of the Site at its own expense and cost. Where the Complex is to be built on land not allocated by AEDB, the Project Company shall demonstrate title

to the land satisfactory to AEDB for a term not less than the initial term of the EPA.

5. The Project Company shall also be responsible for performing and causing any and all other activities necessary and incidental to its obligations under this LOS.

6. The Project Company will have the option (to be exercised in writing only) to terminate this LOS and all (and only all) of the Project Agreements executed by the counterparties thereto at any time before the Required Financial Closing Date. Such termination option may only be exercised upon payment by the Project Company to AEDB of an amount ("**Termination Amount**") equal to (i) the maximum amount in which the Performance Guarantee can be encashed multiplied by the number of months from the date of issuance of this LOS to the date of receipt by AEDB of the Termination Amount (rounded up to the next whole number) divided by the total number of months from the date of issuance of the LOS to the Required Financial Closing Date, and (ii) the receipt by AEDB in full of any legal fees as well as ancillary charges incurred through the date of the termination notice payable under paragraph B(3), or the balance of such legal fees and ancillary charges as applicable, which balance amounts shall, notwithstanding anything to the contrary in this LOS, become automatically due and payable as of the date of the termination notice by the Project Company. In the event of termination of this LOS and/or the Project Agreements by the Project Company without payment of the Termination Amount, AEDB shall be entitled to encash the Performance Guarantee. For the avoidance of any doubt, in the event that the Project Company exercises the termination option during the additional period provided for achieving Financial Closing, the entire doubled amount of the Performance Guarantee shall be encashable on call by AEDB and the "Termination Amount" shall be construed accordingly.

C. PROJECT COMPANY

The rights and obligations of the Project Company hereunder shall be performed by the Project Company, provided always that, the Main Sponsor (*as defined in paragraph D*) shall remain primarily responsible for all acts and omissions of the Project Company.

D. EQUITY CONTRIBUTION

Messrs Burj Capital Singapore Private Limited, a company incorporated in the Republic of Singapore under The Companies Act, Cap.50, with its registered office at 8 Robinson Road # 13-00 ASO Building Singapore 048544 (the "**Main Sponsor**") will be required to hold at least twenty (20) percent of the equity (being the issued and subscribed share capital from time to time) in the Project Company during the "lock-in period" which will be from the date this LOS becomes effective until the sixth (6th) anniversary of the Commercial Operations Date (as defined in the EPA). The Initial Shareholders (as defined in the IA) shall together hold not less than fifty one (51) percent of the equity (being the issued and subscribed share capital from time to time) in the Project Company

from the date this LOS becomes effective until the sixth (6th) anniversary of the Commercial Operations Date (as defined in the EPA).

E. TERMINATION OF THE LETTER OF SUPPORT

This LOS will automatically terminate, without notice on the earlier of (i) Financial Closing, and (ii) the *date* which is seven (7) days after the Required Financial Closing Date or the Extended Required Financial Closing Date, unless terminated earlier as provided herein above or unless extended in writing by AEDB in accordance with the terms hereof. Neither of the Main Sponsor, the Initial Shareholders or the Project Company shall have any claim against AEDB, the GOP, the GOS or any of their components, organizations, institutions, agencies or instrumentalities on any ground(s) whatsoever arising from the expiration or termination of this LOS as aforesaid. In the event of termination of this LOS for failure of the Project Company to achieve Financial Closing by the Required Financial Closing Date or Extended Required Financial Closing Date, each of the Project Agreements will automatically terminate. If the land for the Complex is allocated by AEDB, the Project Company shall, on termination as aforesaid, subject to a firm and binding undertaking of AEDB for refund of the tenancy and other charges already paid under the Site Sub-lease less deductions provided in the Site Sub-lease, vacate the Site and hand over its possession to AEDB free from all encumbrances, liens or claims.

F. GENERAL

1. The Project Company shall be responsible for the performance of its obligations hereunder jointly and severally with the Main Sponsor.

2. Any notice or communication by or to the Project Company under this LOS shall be deemed a notice or communication to or by the Main Sponsor and the Initial Shareholders.

3. The Project Company represents and warrants to AEDB that it is duly authorised to accept, agree, enter into, deliver and perform this LOS in accordance with its terms on behalf of itself, the Main Sponsor and the Initial Shareholders.

4. This LOS shall be governed by and construed in accordance with the laws of Pakistan and the Courts of Pakistan at Islamabad shall have exclusive jurisdiction in relation to any dispute or matter arising out of or in connection herewith.

5. This LOS shall become effective on the later to occur of (i) submission of the Performance Guarantee, or (ii) the date on which a copy of this LOS signed by the Project Company is received by AEDB.

6. This LOS and the rights and obligations hereunder of the Project Company, the Main Sponsor and the Initial Shareholders shall not be assigned, transferred, sold, mortgaged or encumbered without the prior consent in writing of AEDB.

7. Capitalized terms (i) shall bear the meanings ascribed to them in the pertinent paragraphs of this LOS, and (ii) where used but not defined in this LOS, shall bear the meanings ascribed to them in the draft IA and EPA approved by the Economic Coordination Committee of the Federal Cabinet in its meeting on January 16th, 2014 (copies whereof have been delivered against receipt to the Project Company).

Kindly sign the attached copy of this LOS at the place indicated and return the same to us.

With regards,

Yours sincerely,

23/12/2014

(Asjad Imtiaz Ali)
Chief Executive officer
Alternative Energy Development Board

Received, Agreed and Accepted by

Name AROOJ ASGHAR
Title: PROJECT DIRECTOR.
Main Sponsor Being duly authorised for and on behalf of all Sponsors/ the Project Company, the Main Sponsor and the Initial Shareholders

On (23.12.2014)

Cc:

a. The Secretary, Ministry of Water & Power, Islamabad
b. Managing Director, NTDCL, Lahore
c. General Manager, CPPA, Lahore