TRF-28

Zorlu Enerji Pakistan Ltd.

C-15, Block-2, Clifton, Karachi.
Mobile No. 0090-532-3374287
E-mail: yagmur.ozdemir@zorlu.com

October 5, 2007

Mr. Mahjoob Ahmad Mirza
Registrar
National Electric Power Regulatory Authority
2nd Floor, OPF Building,
Islamabad.

Subject: **Tariff Petition**

Dear Mr. Mirza,

Please find enclosed Zorlu Enerji Pakistan Ltd. tariff petition for a 49.5 MW Wind Farm. Also enclosed please find Demand Draft No. 07190710040539 dated 04.10.2007 for Rs.1,616,700/- and Cheque No. 5095082 dated 05.10.2007 for Rs.269,450/- (Tariff Petition fee Rs.1,077,800/- and Generation Licence Application fee Rs.808,350/-). This petition is based on the recent guidelines issued by the Ministry of Water & Power for Wind Power Tariffs and on the Renewable Energy Policy 2006. We are pleased to inform that we have purchased Vensys Wind Turbines for this project. The Generation Licence Application has been submitted separately.

2. The Wind Farm site is located at Jhimpir, District Thatta, Sindh. The levelized tariff for this project is 10.4647 US Cents/kWh.

3. We hope you find all in order. If you have any question or comments, kindly contact me at your convenience.

Yours sincerely,

(Yagmur Ozdemir)
Finance Manager

Registrar
Dy. No. 2662
Dated 8.10.07

Demand draft no. DD07190710040539 dt. 4.10.07 (Rs. 1616,700/-) on account of Tariff petition fee (Rs. 1077800) and lic application fee (Rs. 808350) is forwarded for n.a. &

Dir (F).

5.10.07.

cc 1. A.Chairman.
2. M (T).

ANNEXURE –III

BANK DRAFT/ PAY ORDER

PKR 1285449

NOT TO EXCEED PKR 1,616,700.00**
REF : DD07190710040539

Pay

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

Or Order

04-10-2007

A/C PAYEE ONLY

PAKISTAN RUPEE ONE MILLION SIX HUNDRED SIXTEEN THOUSAND SEVEN HUNDRED ONLY.

For Standard Chartered Bank (Pakistan) Limited

PKR 1,616,700.00**

A/C # 09-9016422-72
BILLS PAY SCB CONSUMER

Authorised Signatory

Authorised Signatory

PAYABLE AT ANY BRANCH IN PAKISTAN.

⑈1285449⑈038007⑈ ⑈020⑈

KASB BANK

Payee A/C only

90, West Razia Sharif Plaza, Jinnah Avenue,
Blue Area, Islamabad-Pakistan.

Cheque No. 5095082

Date 05.10.2007

Pay NEPRA or Bearer

Rupees Two Lac Sixty nine thousand four hundred and Fifty.

Rs. 269,450/=

Account No. 0008.0[illegible]

⑈5095082⑈06500081⑆ ⑈000⑈

Government of Pakistan
Alternative Energy Development Board (AEDB)
344, B Prime Minister's Secretariat, Islamabad
Ph: 051-9223427 / Fax: 051-9205790

B/3/1/ZE/07

5th October 2007

Mr. Mahjoob Ahmad Mirza
Registrar
NEPRA
2nd Floor, OPF Building
Islamabad.

Subject: **FEASIBILITY STUDY FOR 49.5 MW WIND POWER GENERATION PROJECT BY M/S ZORLU ENERJI**

Enclosed, please find the Feasibility Study for the 50 MW Wind Power Generation Project at Gharo~Keti Bandar corridor by M/s Zorlu Enerji Ltd. This Feasibility Study is hereby approved by AEDB for further necessary action. Please note that the production numbers would also be verified by AEDB's international consultant.

2. Regards.

Government of Pakistan Alternative Energy Dev. Board Prime Minister Islamabad

(Brig. Dr. Nasim A Khan)
Secretary / Member Technical

ZORLU ENERJI PAKISTAN LIMITED
MANDVWALLA CHAMBERS, C-15, BLOCK-2
CLIFTON, KARACHI, PAKISTAN

Mr. Mahjoob Ahmad Mirza
Registrar NEPRA
OPF Building, 2nd Floor
Shahrah-e-Jamhuriat
G-5/2, Islamabad

Subject: Tariff Petition Pursuant to "NERPA (Tariff Standards & Procedure) Rules, 1998" for 49.5 MW Wind Power Project at Jhampir, Distt. Thata

Dear Sir,

In the light of the decision of the Economic Coordination Committee (ECC) dated 22 May 2007, we furnish the following certificate regarding Cost of the project.

"It is hereby re-affirmed that the Cost of the Project as quoted in the Petition for Tariff Determination is Firm and Final Cost and We will not ask to re-open the case of cost of the project at any later stage."

Yours Sincerely,

(Yagmur Dezdemir)
Finance Manger
05.10.2007

49.5 MW Wind Power Project
JHAMPIR - Pakistan

Prepared By:

IPEK energy GmbH
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Email: oi@ipek-energy.com
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Prepared For:

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Web: http://www.zorlu.com

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1 PRELIMINARY

1.1 Petitioner's Name And Address

Zorlu Enerji Pakistan Limited ("ZORLU" or "Company")
Mandviwalla Chambers, C-15, Block 2
Clifton, Karachi - Pakistan
Web: http://www.zorlu.com

1.2 Petitioner's Representative

Mr. Yagmur ÖZDEMIR, Finance Manager
Telephone No: +90.212.456 21 99
Fax No: +90.212. 422 00 99
E-Mail: yagmur.oezdemir@zorlu.com

1.3 Background

Zorlu Holding has been active in the energy sector through the nine companies of the Zorlu Energy Group since 1993. ZORLU ENERJI Electricity Production Inc. is supplying uninterrupted, high-quality, low-cost electricity to nearly 300 industrial and commercial companies with a total capacity of 420 MW provided by six power plants.
Zorlu Enerji will also get involved with power plant projects abroad. Two power plants in Moscow with a total capacity of 360 MW (with an option of expanding the capacity to 900 MW) and two power plants in Israel with a total capacity of 900 MW will be accomplished by Zorlu Energy Group. Zorlu Enerji is committed to contributing to national development, maintaining the highest level of customer satisfaction with a professional approach focused on a dynamic and flexible structure, and continuously providing high-quality service. Zorlu Enerji's goal is to be a sought-after name in the energy sector through effective operations in the sector's highly competitive global market.

Awarded a TS/EN ISO 9001:2000 quality certificate in 2001, Zorlu Enerji received both its OHSAS 18001:1999 Work Health and Safety Certificate and its ISO 14001 Environmental Management System Certificate on 12 October 2004. Ranked among Europe's 100 fastest-growing companies, with its Energy everywhere: from source to outlet vision, Zorlu Enerji adheres to a strategy of pursuing growth by adapting state-of-the-art technologies to its needs as it proactively diversifies its activities.

Zorlu Enerji enjoys a superior position in its sector thanks to its advanced maintenance and operations techniques, to its control system and remote performance monitoring systems, and to its high-efficiency power station designs. Its primary goal is to develop a self sufficient engineering infrastructure fully capable of designing, installing, and maintaining power stations without the need for any external resources. The group has also been making significant progress in the direction of exploiting alternative energy resources.

In 2006 ZORLU decided to enter into wind energy and began to develop a 50 MW project near Karachi at the Arabian Sea and received the development license by the Alternative Energy Development Board of Pakistan (AEDB, www.aedb.org).
The target of ZORLU is to install 300MW wind farm in Pakistan, whereas this decision will be confirmed after the installation of first phase of 50MW.

ZORLU therefore formed a new company "Zorlu Enerji Pakistan Limited", registered under the Companies Ordinance 1984 in September 2007. One of the 'Objects' for which

the company is established, as given in the Memorandum of Association, is "...To carry on business of power generation by installing wind turbines, allied equipment and power houses to feed electricity into the national grid...." To that end, the company acquired a Letter of Interest from the Alternative Energy Development Board for putting up a wind farm of 50MW capacity. Further, the company also acquired land in the wind corridor identified by AEDB in Jhampir near Nooriabad, District Thatta in the province of Sindh.

Realising the urgency of situation, the Company decided to carry out the project on a turn key basis. And since no expertise or experience existed within country, ZORLU decided to the job on own by hiring IPEK energy GmbH ("IPEK") as experienced wind energy consultant for technical support.

IPEK carried out the Feasibility for the project, which was completed and submitted to AEDB in September 2007. The same was scrutinized and approved by AEDB. Copy of approval letter, reference No B/3/1/ZE/07 dated 5th October 2007 is enclosed as Annexure I.

Much other ground work has since then been completed, which includes but is not limited to:

1. Soil survey and analysis of the allocated land
2. ESSA study for the wind farm project
3. Signed delivery Agreement for wind turbines (ready to shipment)
4. Survey of international market for availability of necessary equipment
5. Negotiation and selection of the debt provider

1.4 Petitioners Licensee

ZORLU has already applied for the Generation License for this wind farm by NEPRA on 5th October 2007.

2 BRIEF FACTS FORMING BASIS OF PETITION

2.1 Pakistan's Power Scenario.

With fast track development in almost all sectors of economy, and an even more ambitious plan for the coming years, the country is faced with acute power shortages starting with 2007 unless some remedial measures are adopted.
The power demand and supply projected for the next four years is as follows:

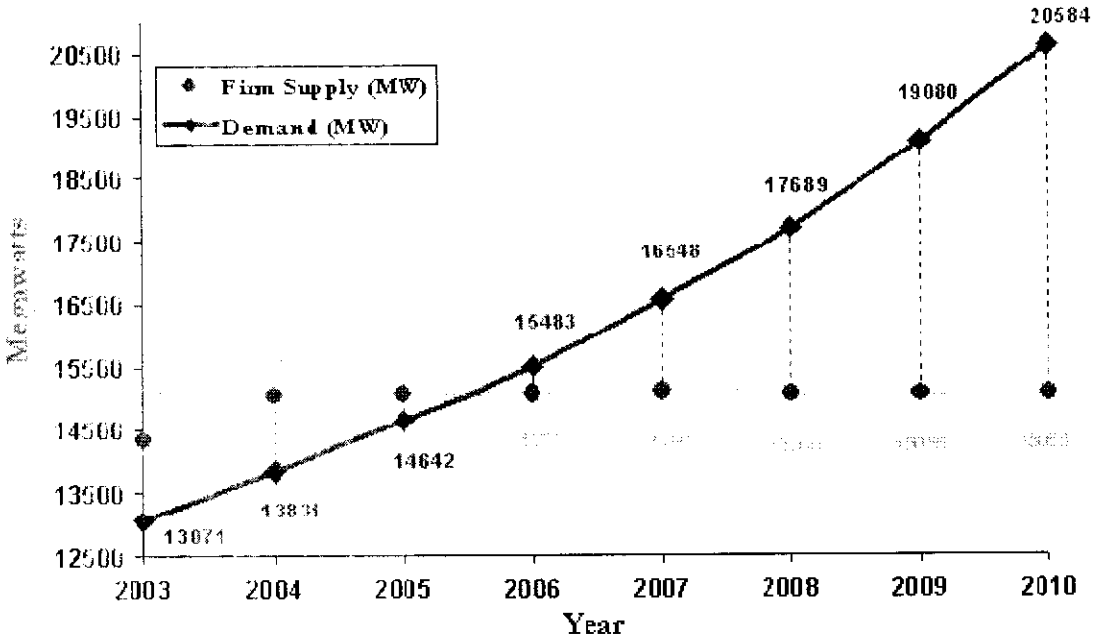

Figure 1: Power Supply and Demand; Source: PPIB

By the year 2010, the power shortage exceeds 5,000 MW. Hence requirement of new and additional power sources is established beyond question.

2.2 Why Wind Power

The next question is what options are available. Historically, Pakistan has had power from hydel projects and some nuclear power, to which was added thermal power from IPPs in the nineties. Ground reality is that the only major hydel project in hand is expected to be operational after 2016. Some run of the river projects are in hand. No thermal power plant has been put up in the last ten years, though some are currently under construction. No new nuclear power plant is in hand today. Briefly stated the sum total of approved projects expected to come on line by the year 2010 is 1,769 MW; a figure roughly 30% of the shortfall by that year. Furthermore, thermal power uses imported fossil fuels and hence burdens Pakistan's import bills, as well as is not environment friendly. Every increase in the international fuel prices, automatically means a "flow through" increase in the power cost.

GOP therefore decided to encourage application of Renewable Energy especially to the power sector. The fastest growing renewable energy today around the world is wind energy, because it's clean, it's green, and it is comparatively less expensive. Its biggest advantages in Pakistan would of course be freedom from dependence on imported oil, relief to the national exchequer on import bills, shortest commissioning time and last but not the least, that, it is *green* power.

2.3 Project Status.

Although ZORLU got the LOI from the AEDB as 54th investor, ZORLU is the only one company who has signed delivery agreements for wind turbines with an installed capacity of 49.5MW whereas the first 6MW will be installed in October 2007.

ZORLU is in a position to have commercial operation for the first 6MW within 3 months of signing the Power Purchase Agreement/Implementation Agreement.

Briefly stated the project is based on BOO basis and planned for an operational life of twenty years, extendable to twenty five years. Equipment selected for this project are 29x VENSYS77 machines rated at 1.5MW each and 5 x VENSYS62 machines rated at 1.2MW each; in total the installed nominal capacity comes to 49.5MW.

Land allocated by AEDB is in Jhampir, located about 100 km east of Karachi. The next settlements are Jhampir (5km southeast) and Nooriabad (22km north-west). The geographical situation is shown in Figure 2.

The site is located in a strong and partly rocky area at 35m to 45m above see level. One hill is passing the site from SSW direction to NNE with a height of about 60m asl. The size is of the whole WF area with its almost 1,148 acres (~4,64km²) area is big enough for the installation of a 50 MW wind farm.

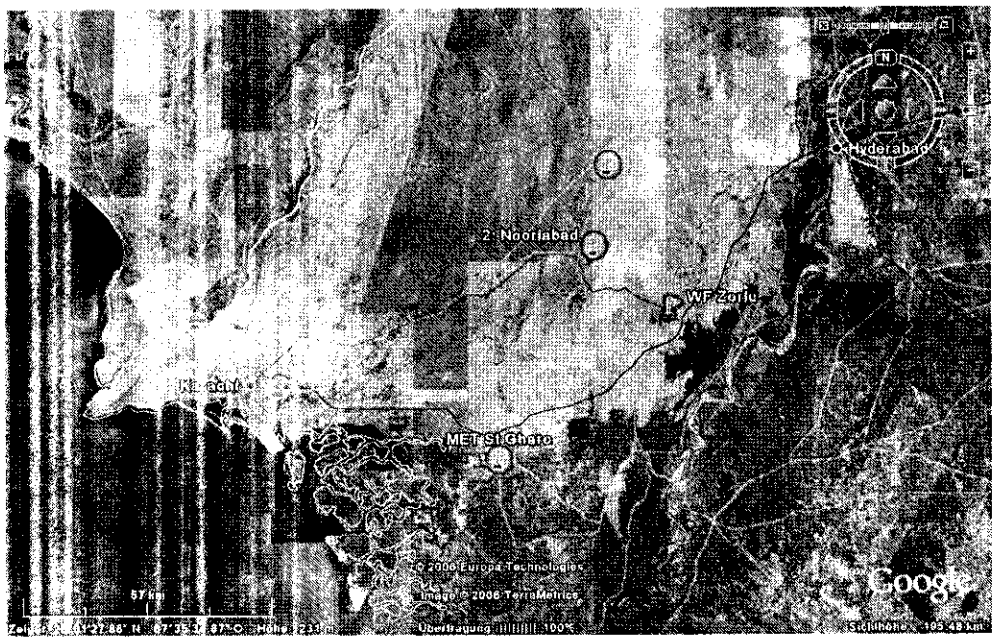

Figure 2: Location of WF Zorlu Land; Source of Map: Google Earth

Financial structuring has been done at a debt/equity ratio of 80/20 to minimize the financial costs.

Standard Chartered Bank UK is arranging the debt.

The feasibility is completed, land acquired, debt arranged, equity in place, technical expertise on side and a willing power purchaser available, ZORLU sees no delay in project completion once the formalities are completed namely tariff approval and signatures on the PPA/IA.

2.4 Selected Wind Turbines and Estimated Output.

Selection criteria of the wind turbines included latest technology, high efficiency and reliability, low maintenance cost, conforming to latest IEC standards and the fastest delivery dates.
After a consummate search and due diligence, our wind expert recommended the turbines for the wind farm given in Table 1:

WF Jhampir	Vensys 62	Vensys 77
Type of Turbine	Vensys62	Vensys77
Turbine Capacity [kW]	1,200	1,500
Number of WTG [-]	5	29
Installed wind farm capacity [kW]	49,500	
Hub Height [m]	69	85
Rotor Diameter [m]	62	77
Rotor Area [m²]	3,019	4,657
Wind farm array losses [%]	4.7	
Gross energy production [MWh/a]	168,493*	
Losses [%]	7	
warranted technical availability of 97 %,	163,438	
scheduled maintenance which accounts for 2% extra losses	3,370	
2% total for electrical losses [MWh/a]	3,370	
Losses in Total [MWh/a]	11,795	
Net Output [MWh/a]	156,699	
Full load hours [h/a]	3.244	
Capacity Factor [%] gross	38.86	
Capacity Factor [%] net	36.14	

Table 1: Summary of main estimation result for the planned Vensys WTG for WF Jhimpir

**) These values are under considering the wake effects besides the two planned wind farms north of Zorlu ("FFC" and "Masterwind") also several potential wind farms north-west of Zorlu site, which may could come in the next years.*

To estimate output, wind data provided by AEDB from the Nooriabad Mast was used. The data has minute wise wind velocities for each twenty four hour period. Micrositing of turbines was done in the available land area so as to minimize the wake affect. The annual production figures are shown in Table 1.

2.5 Project Cost and Annual O&M Cost

As is well known, wind energy is capital intensive but has the advantage of no fuel cost pass troughs. So has it turned out in our case; Equipment cost alone makes up for almost 68% of the total cost.
The figures in Million US Dollars are:

		USD in 000
Total Project Cost		**114,159**
Farm Size [MW]	49.5	
Cost / MW		2.306
Funded by:		
Equity	20%	22.832

Debt	80%	91,327
	100%	**114,159**
O & M cost:		
Fixed O & M		0.8909 Rs/kWh
Insurance (pass through)		0.286 Rs/kWh
Variable O & M		0.0096 Rs/kWh
Total O & M per year		1.1191 Rs/kWh

Table 2: Project and Annual O&M Cost

2.6 Indexation

While wind energy has the advantage of not having fuel as a pass through item in its cost breakdown, there are certain minor costs that are market driven and hence cannot be fixed. We are therefore asking for indexation and/or pass through to the off taker for following heads:

- Cost of Debt
- Variation during construction
- Return on Equity
- Dollar Rupee Parity
- Dollar Euro Parity
- Income Tax
- Withholding Tax
- O & M
- LIBOR Variation
- Local Inflation and US CPI
- Insurance Premium

These are presented in full details in Chapter 4.

2.7 Carbon Credits.

Carbon Credits to be earned and disbursed as per Guidelines for Determination of Wind Power Tariff Year 2006" and the GOP Policy on the subject as issued by the Ministry of Environment. It may however be added that Article III Section 3.2 of the draft PPA prepared by AEDB proposes Purchaser to work on grant of carbon credits and the credits to be shared between the Seller and the Purchaser. We accept this, subject to final negotiations with NTDC to fix the sharing ratio at 50:50.
However we are of the opinion that we will be a better position to manage realization of Carbon Credits and so would prefer that 100% be allocated to the Company.

3 TARIFF STRUCTURE

3.1 Introduction

The tariff has been structured to cater for the project costs covering:

- Pre operating costs
- development costs
- EPC costs
- Financing costs
- Debt service costs
- O&M costs, Foreign and Local
- Admin and Management costs
- ROE
- Insurance
- Other Soft Costs, and
- Contingencies

It may be emphasized that this working of tariff will hold good for sixty days from the date of submission. Beyond that date, a 2% increase per month must be added till financial close. This is to cater for local and foreign inflation as well as euro/dollar and rupee/dollar parity etc.
The present working is based on Rs 60.00 = US$ 1.00 and US$ 1.42 = Euro 1.00

The proposed tariff consists of appropriate escalable components and the actual cost structures of the Project. The escalable portion takes care of the local and foreign inflation, and rupee/dollar and dollar/euro parity. Broadly the tariff may be divided into:

- Non-escalable Energy Component
  - Debt service

- Escalable Energy Component
  - Local O&M costs
  - Foreign O&M costs
  - Return on equity

3.2 Non-Escalable Energy Component

3.2.1 Debt Servicing

The only non escalable energy component is the debt service cost. It covers repayment of the principal amount and payment of interest charges. The debt is planned to be financed in foreign currency (USD), with a tenor of 10 year plus 12 months grace period which is based on estimated time required for the project to achieve Commercial Operation. Hence, the debt service cost is in the first ten years of the Project's operation. For the remaining ten years the debt service cost component would be zero.

As presented in the Tariff Table in Chapter 5, the debt service component will be fully indexed to the foreign exchange rate (PKR/USD), due to the foreign financing of the Project. The interest charge portion will be indexed against variations in the LIBOR.

Additionally, a one- time adjustment in the EPC price will also be required at the time of the financial closing of the Project, which will result in an update to the debt service cost and return on equity components as of the closing date. Such concessions are already provided by NEPRA in Upfront Tariff of other power projects Details of debt financing are discussed in section 4.4.2.

3.4 Tariff Assumptions

The following assumptions, which form the basis of the tariff may change between now and the financial close. The tariff will therefore have to be recalculated to account for these adjustments at financial close:

- Financing terms are as yet based on initial discussions with the financial institutions and hence are subject to final negotiations once tariff has been determined by NEPRA and the PPA/IA are signed. This will include mainly the debt-equity ratio, grace period and loan repayment term, base currency of the loan, benchmark index (LIBOR/KIBOR) and the spread margin for the financial institutions.
- 100% equity investment has been assumed in US dollars. However, final currency of the equity investment (or portions thereof) will be decided among the shareholders at the time of financial close.
- Insurance cost has been assumed at 0.5% based on the indicative rates received from foreign insurance companies. Currency for the premium payment has been assumed as Euro. Premium rate and base currency for the insurance arrangements will be finalized at the time of financial close.
- Base currency for operations and maintenance costs (excluding administrative costs and land lease rental which have been denominated in Pak Rupees) has been assumed as USD. This, however, may be finalized when contracts will be signed with the O&M operator.

Any changes in the above terms will require automatic adjustment in the tariff without referring back to NEPRA.

4 RATIONALE FOR PROPOSED TARIFFS

4.1 Introduction

The Tariff presented in Chapter 5, and for which ZORLU is seeking determination, is based on the following components:

- Term of the Power Purchase Agreement (PPA);
- Capital cost for equipment and construction;
- Cost of Debt and Equity;
- O&M Costs;
- Variable cost (which may vary over the term of the PPA, based on inflation, foreign exchange rate and interest rate variations)

Each of these components is discussed in detail in this Chapter.
Major contributing costs to the Tariff may be summarized as shown in the table below.

Item	Average annual cost Years 1-10 (Rs/kWh)	Average annual cost Years 11-20 (Rs/kWh)
Debt service cost	5.197	-
Return on equity	1.405	1.405
O & M costs	0.900	0.900
Insurance costs	0.218	0.218
Total Cost	**7.722**	**2.531**

Table 3 Major contributing costs to the Tariff

This is based on a 20-year asset life and an annual estimated production of 156,699GWh.

4.2 Term of the Project /Tariff control period

The proposed tariff is sensitive to the term of the project i.e. length of the PPA. As in recent determinations made by NEPRA, typical power generation projects in Pakistan require long-term PPA's. This is driven both by the needs of debt providers/lenders, and in recognition of NTDC's role as the purchaser of the Project's electricity output.

The debt provider/lender's willingness to provide financing for power projects is often conditional on repayment of the loan within 10 years. As this project has a lenders commitment for 80% debt financing over a ten year loan repayment term, this implies a higher fixed charge in the first 10 years of the project, as compared to the remaining ten years (11-20) after the loan has been repaid.

NTDC may face higher tariffs in the earlier years due to debt servicing (1-10), while in the latter years (11-20), the fixed tariff will be reduced to reflect lower associated costs.

A 20-year PPA is therefore proposed for this project. The tariff during this period would specify different rates for the first 10 years and the remaining 10 years, in accordance with Rule 6 of the NEPRA Licensing (Generation) Rules, 2000.

4.3 Project Cost

4.3.1 Breakdown of the total project cost

Following Table 4 reflects a breakdown of the total project cost of US $ 114.158 Million:

Project Costs	Million US $
EPC contract	106.971

Project Development	1.741
Operating Fixed assetes	0.084
Financing	4.498
Other Project Cost	0.864
Total EPC Cost	**114.159**

Table 4 Cost breakdown

In the above project cost, amounting to USD$ 114.159 million we have carried cost of the mentioned wind turbines. Vendor/Equipment selection process and criteria is discussed in the next section. The main increase in cost has been attributed to increased prices of the equipment in particular the WTG due to increase in production cost and world-wide demand for WTGs, local inflation of 8% and variation in Euro/Dollar parity.

As this project is the first of its kind in Pakistan, no local wind generation cost information is available for comparison and, wind generation costs are not directly comparable with any other type of generation in use in Pakistan.

4.3.2 Equipment Selection for the Wind Farm

Together with IPEK, who had the requisite experience, ZORLU sought proposals from wind generation equipment manufacturers based on the following defined criteria:

- Equipment to be latest technology, Megawatt class and high efficiency
- Compliance of proposed wind turbine with local wind conditions in Pakistan
- Relation between final investment costs and operation cost to the estimated energy yield
- Cost of Equipment to be competitive
- Commitment to the market: Willingness to commit to the Pakistan market with regard to set-up or support in setting up a local service organization
- Energy output: Warranted power curve, performance warranty
- Grid compatibility: WTG must comply with the latest grid condition requirements
- Suitability of O&M concept for the size and location of projects, availability of spare parts, consumables and main components

Since this project is the first of its kind in Pakistan, and equipment and expertise is not available in the local market, it would be feasible for ZORLU to seek a turnkey contract.

For example, the cranes required for the erection of the turbines are not available in Pakistan and will need to be brought in from overseas. Based on these criteria, and extensive evaluation of various manufacturers, the VENSYS wind turbines has been selected for this project.
The decision to use the VENSYS 62 and VENSYS77 for the project was influenced mainly by the following reasons:

- Vensys shows a great interest in the Pakistan market and has - compared to the other manufactures - prepared itself best to supply to the Pakistan market.
- Vensys can deliver the Vensys 62 in the end of 2007 and the Vensys 77 within the year 2008
- The Vensys 62 is a proven technology and the Vensys 77 shows the same qualifications as the Vensys 62
- Both the Vensys 77 and Vensys 62 are gearless WTG. Gearboxes are noisy which necessitates expensive noise insulation measures. Gearless units do not require gear oil servicing nor do they produce leaks. Furthermore, there are no gear losses which is a great advantage particularly at partial load. As such, these advantages will result in higher energy output, lower insurance costs, increased turbine lifetime, and lower overall operating and maintenance costs.

- Vensys has a Synchronous generator with permanent magnet excitation which high efficiency. It has no energy losses because of an external excitation and no slip rings for external excitation needed and can generate electricity also in case of power shortage in the grid.
- No additional fans or control units are needed because of the passive air-cooling system. The cool air flow which drives the rotor is guided directly over the warm generator parts by specially formed cooling ducts. It is highly efficient cooling without any additional energy. Especially in Pakistan with extremely hot weather conditions, this is a big advantage
- The pitch control of the turbines do not need any oil, hence it is saving O&M costs
- The total production of the total wind power plant (sum of all turbines) is higher than for any other WTG type
- The Vensys provided the lowest cost per kWh due to its superior production numbers at the same wind speed.

4.3.3 EPC Costs

The EPC cost under the Zorlu Endüstriyel proposal is USD 106.971 million and is valid till December 31, 2007. Besides the cost of wind turbines, towers, electrical equipment, spare parts and civil works which are integrated in the proposal, transportation cost specifically includes C&F to wind farm site.

4.3.4 Project Development Costs

Details of the project development costs (costs other than EPC) are exhibited in Table 5:

Project Development Costs	M US $
Project Development	1.741
Other fix Assets	0.084
Financing	4.498
Other Project Cost	0.864
Total EPC Cost	**7.187**

Table 5: Project Development Costs

The project development cost is based (other than consultants' fees and financial expenses) the following items:

- Project Development
  - This is cost of developing the projects since the on set of obtaining the initial LOI in June 2006.
- Project Management
  - This is cost of administering and managing the company and project contracts.
- Other Fees
  - This includes the initial cost for setting up the company and its operations.
- Operating Capital
  - While estimating this cost component, we have taken into consideration the average working capital ZORLU would require for the first few months of operations.
- Financing

- This consists of the interim financing required for the construction period of the project. In addition, the lenders structuring fees are included in the figure.

4.3.5 Euro-Dollar Conversion

The cost of the EPC contract quoted above has been converted to US$ figures, based on an exchange rate of 1.42 Dollar to 1.00 Euro. The actual EPC cost is subject to possible fluctuations in the exchange rate between the Euro (being the currency of EPC price) and the Dollar (being the currency for the funding of the EPC contract) at the time of the Project's financial closing.

4.4 Debt and Equity

The total project cost is approximately USD 114.158million. The capital structure of the company has been envisaged at a Debt-Equity ratio of 80-20. Given this capital structure and the reference project cost detailed in the prior section, the Table 6 details the amount of equity contributed and the debt to be raised from the capital markets.

Debt & Equity Structure	Percentage	Million US $
Debt	80	91.327
Equity	20	22.832
Total EPC Cost		114.159

Table 6: Dept and Equity

4.4.1 Equity Structure

Based on the ownership structure of the company, the principal sponsors will be committing up to 20% of the equity.
The projected total equity required as per the capital structure is approximately USD 22.832 million to be shared equally between the tree shareholders of Zorlu Enerji Pakistan Ltd.

Rationale for Return on Equity for Wind Power Projects
Guidelines for the Determination of Tariffs for Wind Power Projects ("IPP") requires that the tariff should be determined after allowing for reasonable Internal Rate of Return ("IRR") on equity investment while taking into account the carbon credit which the IPP may get. At present, the mechanism for pricing of carbon credits is uncertain. Far the sake of clarity, we have presented the formula below for claiming IRR on equity investment, which equity investors would require. Any incremental income from carbon credits will be shared with the Purchaser separately.

Equity Investment in Foreign Currency [USD]
In line with recent determinations by NEPRA, we are proposing return on invested equity of 15.00% net of 7.5% withholding tax on dividends. This is based on the premise that the Project will be implemented on a Built Own and Operate Basis ("BOO") over a 20 year term for the Power Purchase Agreement ("PPA").

Withholding Tax on Dividends
According to the Income Tax Ordinance, 2001 income from dividends is subject to withholding tax (7.5% for power generation projects).

4.4.2 Debt Structure

The commercial loan of approximately USD 91.327 million, at the reference project cost detailed in the prior section, will be raised from the debt capital markets. The commercial loan facility will have 10-year repayment period including 1-year grace, foreign currency term facilities, and will be payable quarterly.
An annual interest rate of LIBOR plus our lender's spread of 300 basis points, which covers their risk assessment of the project, therefore equating to around 7.25% to 8.25% based on current LIBOR rate of 5.38%) has been assumed for our initial working purposes.

4.5 Operating Cost

4.5.1 Insurance

The fixed annual insurance expense during the operational phase is estimated at USD 0428 million. We have taken approximately 0.5% of the Plant & Machinery Cost each year, which is to an extent based on indicative quotes of international insurance brokers. This expense is expected to be denominated in foreign currency since the underlying costs are also based in foreign currency. The rationale for the assumed cost is as under:

- Local insurance companies would not be in a position to adequately provide cover for this kind of project given the total cost (in foreign currency) and the lack of precedents for wind power projects in Pakistan.
- The lender/financial institutions will require insurance of the Project's assets on a replacement cost basis, which will inevitably be in foreign currency.

4.5.2 Operation & Maintenance (O&M)

The operation and maintenance functions for this Project will be handled by Zorlu O&M Turkey through an O&M contract.
Most of the personnel and other O&M costs for wind power projects are fixed component.

The following Table will be provided on Monday; 08th October 2007 to NEPRA.

O & M Costs	Million US $
Operations & Maintenance	
Administrative & Mgt Contract	
Insurance	
Subtotal Fixed O & M costs	
Variable Operating Costs	
Total O&M Cost	

4.6 Indexation, Escalations And Cost Adjustment

The purpose of indexation is to remove any exposure of an investor to cost escalations, over the life of a project, over which they have no direct control. With that principle in mind, the following sections discuss the proposed indexation for various components of the tariff. Indexation formulae have been prepared taking into account the guidelines presented in the Ministry of Water and Power/Alternative Energy Development Boards, "Guidelines for Determination of Tariff for Wind Power Generation 2006."

4.6.1 Foreign Exchange

A foreign exchange indexation should be applied to those cost elements that are denominated in foreign currency (US$ or €). For these items, the investor will have no control over cost changes caused by exchange rate fluctuations, and these should

therefore be passed through to the purchaser. The proposed tariff structure for ZORLU implies that the following components should be indexed to variations in foreign exchange rate (Rs/US$ and or Rs/€):

- Portions of the O&M components that are denominated in foreign currency;
- The debt service component. The Project debt is intended to be entirely foreign funded;
- The insurance component as discussed previously will provide cover on a replacement cost basis, which will be incurred in Euros. Premiums will therefore be constructed on that basis, and insurance costs will therefore fluctuate with exchange rate movements; and
- The portion of the ROE component that reflects the equity investments in foreign currency (US$ or €)

Indexation for these components should be applied quarterly, on-January 1, April I, July 1 and October 1 on the basis of the TT & OD selling rate as notified by the National Bank of Pakistan (in Rs/US$ or Rs/€).

4.6.2 LIBOR

The wind farm investor will have no direct control over changes in interest rates. Appropriate indexation should therefore be applied so that the interest charge portion of the debt service component of the tariff reflects changes in the London Interbank Offered Rate (LIBOR). This portion should thus be adjusted quarterly for variations in the 6-month Dollar LIBOR as published by the British Bankers Association.

4.6.3 Local Inflation

As with currency exchange rates and interest rates, a wind farm investor will not be able to influence local inflation. Appropriate indexation should therefore be applied to reflect the portion of the tariff that is subject to local inflation. For the proposed tariff structure, the following components should be indexed to the local CPI:

- Portions of the O&M component that are denominated in local currency (Rs);
- The portion of the ROE component that reflects the equity investments in local currency (Rs).

Indexation for these components should be applied quarterly, on the basis of CPI as notified by the Federal Bureau of Statistics (FBS) for the month of February, May, August and November.

4.6.4 Eurozone Harmonized Index Of Consumer Prices

The O&M and insurance costs are partially denominated in Euros. These are recurrent costs whose amount will be affected by the home country inflation. It is thus proposed that these costs should be adjusted for Eurozone inflation per Harmonized Index of Consumer Prices (HICP) as published by the European Central Bank (ECB). The index is published on monthly basis by ECB.

4.6.5 Us Inflation

The equity investment is denominated in US Dollars. As with currency exchange rates and interest rates, a wind farm investor will not be able to influence US inflation. Appropriate indexation should therefore be applied to reflect the portion of the tariff. It is thus proposed that these costs should be adjusted for US inflation per United States Consumer Prices Index (USCPI) as published monthly by the Department of Labor, United States Government

5 DETERMINATION SOUGHT

5.1 Introduction

Determination is sought from NEPRA in respect of the following:
A) Grant of Tariff, as presented in para 5.2 below, to remain effective for a period of 20 years from the date of Commercial Operations; and
B) Approval of proposed escalations in the Tariff, as set out in the subsequent para 5.3.

5.2 Reference Tariff

The proposed Reference Tariff comprising the non-escalable cost component, as described in section 3.2, and the escalable cost component, as described in section 3.3 is presented in the Table below:

		PKR	US Cents
Average Tariff		5.1281	8.69
Discount Rate	10%		
Net Present Value		53.4551	89.0919
Levelized Tariff		6.2788	10.4647
The **tariff shown above is subject to indexation** as given in Annexure V			
This tariff is **valid for 30 days** from date of submission (05-10-2007)			
Beyond that date a 2% increase per month will be required to account for Local and foreign inflation and euro/dollar and dollar/rupee parity			

Details of the Reference Tariff are shown in Table placed at Annexure__ and Assumption for Tariff Table at Annexure__.
The Project's financial projections on the basis of this tariff are shown in Annexure__
The specified tariff, along with the indexation, when approved, would set the maximum rate at which ZORLU will sell power to the off taker.

5.3 Tariff Indexation

Indexation of cost of components of a tariff provides an investor certainty with regard to return on investment by removing exposure to such cost escalations over which investor has no control. This approach is efficient and hence minimizes total cost. Commonly, indexation protects investors against risks arising from exchange rate fluctuations, and local inflation.
Tariff indexation for the ZORLU tariff has been requested in relation to known and accepted consumer price indices (CPI), LIBOR/KIBOR, on a quarterly basis and the Euro/Dollar and Dollar/Rupee parity as discussed in detail in section 4.6. These adjustments are consistent with those that have been provided in other upfront tariffs or to other IPPs by NEPRA and are also the norm around the world.
Summary of proposed indexations requested is placed at Annexure__.

Annexures

AEDB Letter approving ZORLU Feasibility
Summary of Tariff Indexations Requested
Reference Tariff Table
Tariff Assumptions
Financial Projections
Project Summary

ANNEXURE-I

ASSUMPTIONS

The following are the only changes to the approved Upfront Tariff for Wind Power Plants issued by NEPRA on January 17th 2007.

Pursuant to Rule 6 of the NEPRA Licensing (Generation) Rules 2000, NEPRA hereby approves the following Upfront Tariff for Wind Power Generation for delivery of electricity to CPPA of NTDC for procurement on behalf of Ex-WAPDA Distribution Companies:

Tariff Components	**Reference Tariff**	
	Year 1-10	**Year 11-20**
	Rs./kWh	
Fixed Charges		
Fixed O&M Foreign	0.7537	0.7537
Fixed O&M Local	0.1372	0.1445
Insurance	0.2186	0.2186
Debt Service	4.9331	-
Return on Equity	1.299	1.299
Variable O&M	0.0096	0.0096
Levelized Tariff	**10.46 UC Cents/kWh**	

i) The reference tariff has been calculated on the basis of 36.14% Net Capacity Factor
ii) The above charges have been assessed on the basis of annual generation of 156,699 MWh/a
iii) Any annual generation in excess of benchmark generation would be charged on 10% of the above sale rate
iv) The above tariff is applicable for a period of 20 years commencing from the date of Commercial Operation

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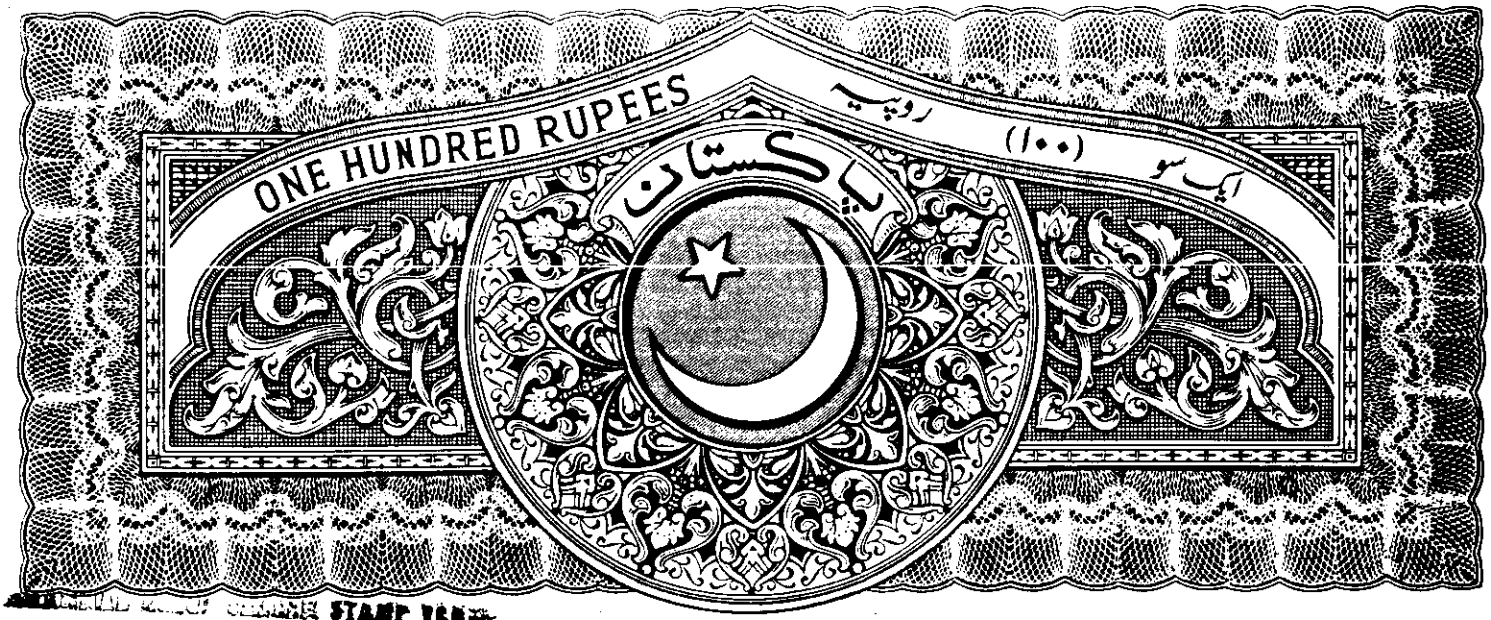

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29 SEP 2007

TAJUDDIN QURESHI Advocate Notary Public

Affidavit

I, **Yağmur ÖZDEMİR s/o Mehmet**, adult, resident of Pehlivanyanı Sokak Hakan Apartmanı 3/13 Gayrettepe/İstanbul, TURKEY, holding passport number TR-U 043090, Finance Manager of Zorlu Enerji Elektrik Uretim A. S. and authorised representative of Zorlu Enerji Pakistan Limited, do hereby solemnly affirm on oath that:

1. I have been authorised by the Board of Diretors of Zorlu Energy Pakistan Limited ("**Company**") pursuant to their Board Resolution dated October 1, 2007, to file the accompanying "**Acceptance of Upfront Tariff for Wind Power Plants and Generation License Application**" ("**Tariff Application**") at the National Electric Power Regulatory Authority ("**NEPRA**") in Islamabad;

2. I am well conversant with the affairs of the Company and the contents of the Tariff Application;

3. The contents of the Tariff Application and the statements made therein are true and correct, to the best of my knowledge and belief; and

4. Whatever is stated above is correct and true to the best of my knowledge and belief.

Name: Yağmur ÖZDEMİR

Date:

ATTESTED
PRESENTED FOR ATTESTATION
02 OCT 2007
NOTARY PUBLIC
TAJUDDIN QURESHI
ADVOCATE
KARACHI-PAKISTAN

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MANDVIWALLA & ZAFAR

29 SEP 2007

Affidavit

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KARACHI-PAKISTAN

TAJUDDIN QURESHI Advocate Notary Public