

F/A

12/08/2011

Wah Industries Limited

(ISO 9001 CERTIFIED)



Reg. No. 4456
Dy. No. 17-08-11
Dated 17-08-11

No. WIL/Accrs/SPG/01

11-8-2011

The Registrar,
National Electric Power Regulatory Authority
2nd Floor, OPE Building,
Shahrah-e-Jamhuriat, G-5/2
Islamabad

Dear Sir,

Subject: Tariff Petition for 1 MW Solar Power Plant at Sanjwal

For information & w/o H.

- SA (Tariff)

- AD (MP) - Pl. discuss for w/o

12/8

cc: Chairman
M(T)

Receive of along with Extra
Check of Rs. 82,662/-
(2) First Copy of

Though this petition, submitted in one original and two copies, we wish to present our case for approval of tariff for our proposed 1 MW solar power project at Sanjwal. We reaffirm that this petition has been prepared as per NEPRA Tariff Standards and Procedure Rules, 1998. Care has been taken to provide all information required by the rules accurately and in a methodical fashion. As such we bring to your kind attention the following

- Sanjwal Solar Power Private Limited, is an independent company formed jointly by Wah Industries limited (WIL) and IIB Kiyoto Compliance Sources International Co., Ltd (IBKCS)
- A demand draft No. BBB 10274601 dated Aug, 10, 2011 in the sum of Rs. 82,662/- being non refundable tariff petition fee is attached herewith
- Other formalities like the affidavit and board resolution etc are also attached with this petition

In light of the above, and considering the impending power shortages, may we request that the petition be determined expeditiously.

Kindly acknowledge receipt

Yours sincerely,

Khalid Pervaiz
Managing Director
Wah Industries Limited

Encl: As Stated

OK P. ... before Sir
Auth
For mla H
17/8
16/8
12/8

Registrar 4379
Dy. No. 12-08-2011
Dated 12-08-2011

Quaid Avenue Wah Cantt (Pakistan)

Tel: (051) 9314283, 9314101-21 Ext. 21003, 23, 06, 23202, 23281, 23204

Fax: (051) 9271400, 9314281, 9314100 E-mail: ilwah@micro.net.pk



0403

NOT OVER PKR ***82,662.00***

Payees: A/C Only

Date: 10 AUG 2011

NEPRA ISLAMABAD

OR ORDER

EIGHTY TWO THOUSAND SIX HUNDRED AND SIX

2

***82,662.00

FOR ALLIED BANK LIMITED

any branch in Pakistan

it Account No. PKR1757400010403

of branch 0403

Authorized Signatory

IBS No. 3487

~~Authorized Signatory~~

7041

DO NOT WRITE BELOW THIS LINE

11 10274601 01400001:000175740001000011 0101

Sanjwal Solar Power (Pvt.) Limited (SSPPL)

Tariff Petition

For 1 MW Solar Power Plant

At Sanjwal

**Prepared and Filed as per
NEPRA Tariff Standards and Procedure Rules, 1998**

11th, August, 2011

**Filed By:
Wah Industries Limited
Quaid Avenue, Wah Cantt
051-9314283**

Wah

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1. Preliminary

1.1 Petitioner's Name and Address

Sanjwal Solar Power (Private) Limited ("SSPPL" or "The Company")
Quaid Avenue, Wah Cantt

Fax: 051-9314281, 9314100
Email: wilwah@micro.net.pk

1.2 Petitioner's Representatives

Mr. Khalid Pervaiz,
Managing Director
Wah Industries Limited, J.V. Partner
Contact Number: 0300-5551016

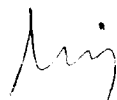
Gen. Shujaat Zamir Dar
Chairman,
Pakistan Ordnance Factories
Contact Number: 051-905521017

Mr. Shahid Ahmed Khan
Managing Partner,
Anjum Asim Shahid Rahman, Financial Advisors
Contact Number: 0300-8551376

1.3 Grounds for Petition

Under the "Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997, (hereinafter referred to as the "NEPRA Act"), the National Electric Power Regulatory Authority ("NEPRA") is responsible inter alia, for determining tariffs and other terms and conditions for the supply of electricity by the generation, transmission and distribution companies and to recommend these to the Federal Government, subject to the need to comply with guidelines, not inconsistent with the provisions of the NEPRA Act, laid down by the Federal Government. NEPRA is also responsible for determining the process and procedures for reviewing tariff and recommending tariff adjustments.

Sanjwal Solar Power (Private) Limited (SSPPL) is a private limited company registered under the Companies Ordinance 1984. SSPPL has been setup as a special purpose company to setup and operate power projects. The Company is seeking to develop, own and operate a 1 MW Solar power generation project ("the Project") as an Independent Power Producer (IPP) in the province of Punjab. The



Alternative Energy Development Board ("AEDB") has issued a Letter of Intent (LOI) to the Company in this regard and the project is proposed to be located at POF Sanjwal.

Feasibility study for the project was carried out with the help of technical and financial consultants of international repute. The Study has already been completed and submitted to the AEDB for its approval.

In accordance with the requirements of the NEPRA Act and Rules and Regulations made thereunder, SSPPL hereby submits this petition, in accordance with the NEPRA Tariff Standards and Procedures Rules 1998 for tariff determination for its facility located at POF Sanjwal, District Attock.

1.4 Compliance with Tariff Standards and Procedure

This petition is being filed under Rule 6 of NEPRA Generation Licensing Rules, 2000. Due to the non-existence of any rules and regulations relating to solar power generation in Pakistan, Tariffs have been prepared on the basis of the Guidelines presented in the Ministry of Water and Power / AEDB's Guidelines for Determination of Tariff for Wind Power Generation 2006".

Information required to be filed under Rule 3 of the Tariff Standards and Procedures Rules 1998 is included in and /or with this petition.



2. Facts and Grounds for the Petition

2.1 Rationale for Solar Power

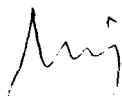
With the rising prices of oil and gas across the globe, generating energy through conventional thermal sources is becoming very expensive and almost beyond the reach of developing nations. The fluctuations in oil prices which reached up to a maximum of US\$ 140.73 per barrel on July 3, 2008; underlines the necessity to rollout a strategic plan aimed at curtailing dependence on imported fuel. The price of hydrocarbon fuels is linked to political events and in the long run remains unpredictable and unstable. This instability may compromise the economic growth especially in emerging markets.

Pakistan has increased its reliance on the electricity generated through thermal sources (fuel oil and natural gas) over the last decade. This, coupled with fluctuating oil prices, has adversely affected Pakistan's oil import bill. This is not only an economic threat but is also a political issue since we heavily rely on imported fuel, and any shortfall in fuel supply can further deteriorate power crisis presently prevalent in Pakistan.

The solution is to generate energy through renewable sources such as water, wind, and sunlight. Renewable sources of energy are currently unevenly and insufficiently exploited in Pakistan. Although many of them are abundantly available with considerable economic potential, renewable sources of energy make a disappointingly small contribution to the Country's overall gross energy consumption. At present, total Renewable Energy produced in the country accounts at 40MW which is about 0.21% of total installed generation capacity of all sorts (which is predicted to grow steadily in the future). The table below shows the total energy potential in terms of MW from different renewable sources:

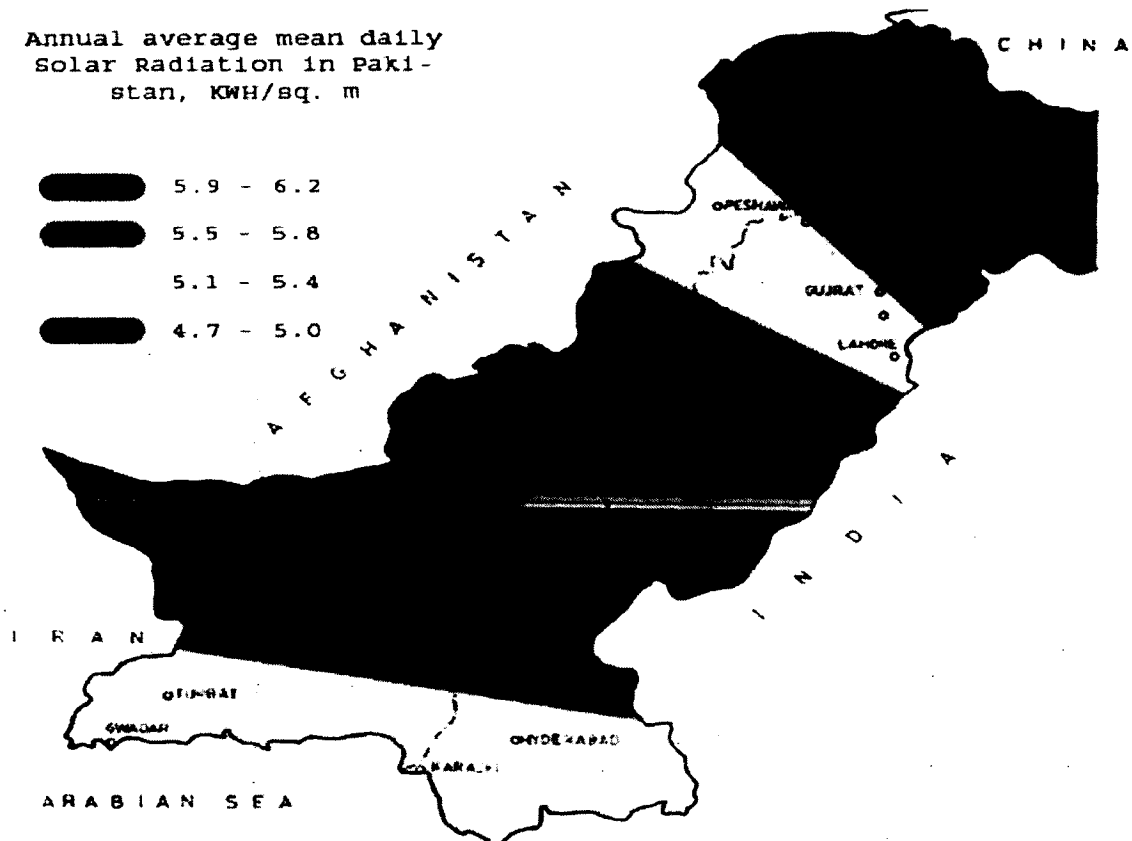
Wind	0. 346 Million MW
Solar	2.9 Million MW
Biomass power/ cogeneration	1,800 MW
Waste to Power	500 MW
Mini and Small Hydel	2,000 MW

With massive renewable energy potential in the country, Renewable Energy Sources (RES) will turn out to be one of the most important and crucial element of Pakistan's power policy. Certain forms of renewable energy sources (such as solar, wind energy, small-hydro and biomass) have already taken off and strong private participation is seen in sectors like wind power, which is further expected to grow. Keeping this in view, the Government of Pakistan ("GOP") aims to generate 5% of electricity through renewable sources by 2030 which translates into a target generation of 9,700 MW.



The development of Solar Power generation projects in Pakistan shall not only supports the overall objectives of GOP to reduce the exorbitant deficit by reducing Pakistan's dependence on fuels for thermal power generation and to increase diversity in Pakistan's electricity generation mix, but also supports environmental objectives of GOP as use of solar energy shall result in reduction in greenhouse gas (GHG) emissions through the avoidance of thermal power generation.

Pakistan being in the sunny belt is ideally located to take advantage of the solar energy technologies. This energy source is widely distributed and abundantly available in the country with about 2500-3000 sun shine hours and 1.9 - 2.3 MWh per m² per year. It has an average daily global insulation of 19 - 20 MJ/m² per day with annual mean sunshine duration of 8 to 8.5 hours a day. These values are among the highest in the world. For daily global radiation up to 23MJ/m², 24 (80%) consecutive days are available in this area. The following illustration shows the annual average daily mean solar radiation in Pakistan.



Summarizing the sunshine of 250 to 300 days per year in Pakistan presents a huge potential for electricity generation which is effectively out to use can be utilized to mitigate the electricity deficiency in Pakistan. Solar energy is still at a nascent stage and no commercial on-grid project has been installed to date. Although set-up cost of a solar project remains significantly higher than other alternatives, it remains the most attractive proposition from an O&M perspective in the long term.

2.2 Project Brief

The project envisages establishment of a 1 MW Solar Power Plant at the Sanjwal premises of the Pakistan Ordnance Factories (POF). The project is expected to be undertaken in joint collaboration between the sponsors i.e. HB Kiyoto Compliant Sources International Co., Ltd (HBKCS) and Wah Industries Limited


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(WIL), on equal equity sharing basis while its implementation is to be carried out through creation of a Special Purpose Company (SPC) by the name of "Sanjwal Solar Power (Pvt) Limited". The project sponsors will procure the machinery required for the establishment of power plant while all technical guidance during the installation phase will be under direct supervision of the experts of HBKCS stationed at Wah. The electricity generated will be sold to the Central Power Purchasing Agent (CPPA) at the National Transmission and Distribution Company (NTDC).

The site selected for the project is located within the premises of POF at Sanjwal Cantonment, which is approximately 100 Kilometers from the Federal Capital of the country, Islamabad. The land with a total area of 39,200m² has been leased from POF Sanjwal on a monthly rental basis and adapted internally into a Solar Power Plant.

2.3 Production Estimate

This section presents the preliminary Production Estimates for the project. The estimated net annual electricity generation of the Project has been calculated using software PVsyst; a software used for the study and the simulation of photovoltaic systems which was designed in the University of Geneva, Switzerland. A simulation study was prepared on July 16, 2011 to determine the power generation capability of the power plant which identified that the plant shall generate 1,607,095 KWh of electricity during the first year of operations. Based on the available information, the following main results have been derived:

	
Power Output of each Panel	230 Watt
Total Installed Capacity	1 MW
Estimated Gross Annual output	1,607,095 kWh

Detail working and description of the production estimate is available in Feasibility Study already submitted.

2.4 Setup and Operation Cost Estimate

Unlike the generation technologies, considerable part of the costs of solar power generation is fixed. These include upfront capital costs and ongoing cost of debt and operations and maintenance ("O&M") costs. Solar power generation, per unit output cost is determined by these costs, together with plant capacity and plant lifetime. Moreover, unlike thermal energy, solar energy is capital intensive but there is no fuel component in the energy cost and hence the variable cost is minimal.

Project cost is PKR 336.976 million. Debt servicing will be PKR 47.598 million per year for loan term duration. Average O&M costs will be PKR 2.440 million per year over the 25 year life of the project.

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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 services costs
- O&M costs, Foreign and Local
- Admin and Management costs
- ROE
- Insurance, and
- Other soft costs

It may be emphasized that this working of tariff will hold good for 60 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 rupee/dollar parity etc.

The present working is on same basis as determined by NEPRA i.e. based on Rs. 84.40 = US\$ 1.00 for the purpose of better comparison.

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 parity. Broadly the tariff may be divided into:

Non-escalable Energy Component

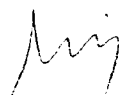
- Debt Service
- Return on Equity
- Withholding Tax
- Insurance

Escalable Energy Component

- Operational Costs (Local)
- Maintenance Costs (Local)

3.2 Non-Escalable Energy Components

Debt Servicing: It covers repayment of the principal amount and the payment of interest charges. The debt is planned to be financed in local currency (PKR), with a tenor of 10 years and does not include any



grace period. Hence, the debt service cost applies only in the first 10 years of the project's operation. For the remaining 15 years the debt service cost component would be zero.

As presented in the Tariff Table in Annexure A, the debt service is expected to be in local currency funding, hence the interest charge portion will be indexed against variation in the KIBOR.

Additionally, a one-time adjustment in the EPC price will also be required at the time of 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 dates. Such concessions are already provided by NEPRA in Upfront Tariff of other power projects.

Details of debt financing are discussed in Section 4.6

Return on Equity: The Return on Equity (ROE) component includes return on invested equity giving an IRR of 18% net of withholding tax on the basis of maximum dividends payout possible to the shareholders during each particular year and for the whole of the 25 years period.

The final portion of equity investment in (i) local currency (PKR) and (ii) foreign currency (USD) will be submitted at the financial close. A minimum of 50% equity will be in USD however for this project indexation shall be allowed at PKR/US\$ parity.

Withholding Tax: is charged at 7.5% of dividends.

Insurance Cost: It consists of all risk insurance / re-insurance for the project, as well as business-interruption insurance, which is the lender's stipulated requirement. As per practice in Pakistan, such large projects are re-insured with foreign specialist companies. However, we are hopeful and in negotiations with local insurance companies whereby 100% risk retention will be insured locally. Hence, we have taken insurance cost as 0.5% of the total cost of Solar Power Generation Equipment (US\$ 3.668 million or PKR 309.549 million). The insurance will cover against machinery breakdown, natural calamities (like earthquake), and business interruption. It is imperative that all aspects of the risks are covered adequately and no compromise is made in this respect. This cost would be a direct pass through to the purchaser.

3.3 Escalable Energy Components

The non-debt, escalable components covers the following items:

- Local O&M costs

Local O&M Costs: This represents the fixed costs of all the staff for O&M including the employees' pay and allowances, administrative costs including rent, utilities and local taxes. It also includes costs such as NEPRA annual fees and bank's commissions, audit fee, legal and consultancy fees, environmental monitoring and reporting fees etc. this component is therefore subject to local CPI indexation /adjustment.

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 re-calculated to account for these adjustments at the financial close:

- Financing terms are as yet based on the initial discussions with the financial institutions and hence are subject to final negotiations once tariff has been determined by NEPRA and the

PPA/IA is signed. This will include mainly the debt-equity ratio, grace period and loan repayment term, base currency of the loan, benchmark index (KIBOR) and the spread margin for the financial institutions over KIBOR, depending upon the mix of the funding.

- Insurance cost has been assumed at 0.5% based on the indicative rates received from insurance companies. Currency for the premium payment has been assumed as Pakistani Rupee. Premium rate and base currency for the insurance arrangements will be finalized at the time of financial close.
- Base currency for the operations and maintenance costs (administrative costs and land lease rental which have been denominated in Pak Rupees. This, however, may be finalized when contracts will be signed with O&M operator

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



4. Rational for Proposed Tariff

4.1 Introduction

The tariff presented in Annexure A, and for which DPPL is now seeking determination, is based on the following components:

- Terms of the Power Purchase Agreement (EPA)
- Capital costs for equipment & construction
- Cost of debt and equity
- O&M costs
- Variable costs (which may vary over the term of the PPA, based on inflation, foreign exchange rate and interest variations)

Each of these is discussed in detail in this chapter:

4.2 Terms 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 PPAs. This is driven both by the needs of debt providers/lenders, and in recognition of NTDCs role as the purchaser of the project's electricity output.

The debt provider/lender's willingness to provide financing for power project 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 15 years after the loan has been repaid.

NTDC may face higher tariffs in the earlier years due to debt servicing (1-10), while the latter years (11-25), the fixed tariff will be reduced to reflect lower associated costs.

A 25-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 15 years, in accordance with rule 6 of the NEPRA Licensing (Generation) Rules, 2000

4.3 Project Cost

The following table reflects a breakdown of the total project cost:

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Engineering, Procurement, Construction (EPC) Costs	319,419,604	3,782,465
Non - EPC Cost	225,000	2,666

Pre-operational cost	5,650,000	66,949
Financial fees and charges	6,065,576	71,874
Interest During Construction	5,616,274	66,550
Total project cost	336,976,454	3,990,505

In the above project cost we have carried US\$ 3.990 Million as cost of 1.6 GWh 1.0 MW Solar PV.

4.4 EPC Costs

The EPC costs are US\$ 3.782 million and are valid till 1st October, 2011. Besides the cost of the Solar PVs, grid inverters, AC panels, Monitoring System, spare parts and civil works which are integrated in the proposal, transportation cost specifically includes CIF to solar farm site. The major portion of the cost is attributed to plant and equipment, which constitutes approximately 96.97% of the current amount.

EPC Cost

Solar Power Generation Equipment	309,549,856	3,668,000
In-land Insurance	1,742,630	20,174
In-land Freight	1,452,000	16,500
Transformer	1,798,000	20,000
Civil works	3,817,118	45,231
Project Management costs	1,060,000	12,560
	319,419,604	3,782,465

4.5 Non- EPC Costs and Other Costs

Details of the Non EPC and Other Costs are as follows

Air Conditioning of Control Room [1.5 Ton]	150,000	1,777
Electrification of container	25,000	296
Furniture for control Room	50,000	592
Interest During Construction	5,616,274	66,550
Total	5,841,274	69,215

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The	Consultancy charges	2,300,000	27,254	other Costs shown above include:
	Company Registration Fee	2,300,000	27,254	
	Grid Study Fee	350,000	4,147	
	IEE Study Fee	100,000	1,185	
	Other Statutory and Legal Fees	600,000	7,110	
		5,650,000	66,949	
	Upfront Bank Fee	2,695,812	31,944	
	Financing Charges	2,021,859	23,958	
	Commitment Fee	1,347,906	15,972	
		6,065,576	71,874	

- **Preoperational Costs** - This is the cost incurred to carry out the initial feasibility of the project as well as the fee paid to environmental consultants for the IEE report and to the technical consultants for carrying out the Grid Connectivity Study.
- **Company Registration Fee** - This is the cost incurred for registering the company with the SECP.
- **Upfront Bank Charges** - This includes charges of the bank for structuring the debt for the project.
- **Commitment Fee** - represents the costs in case the lending amount is not drawn in full.
- **Financing Charges** - This consists of the costs to be charged by the financial advisors for assistance in debt raising including negotiations with the lending institute.
- **Interest During Construction** - Self Explanatory

4.6 Debt and Equity

The total project cost is approximately USD 3.99 million. The capital structure of the company has been envisaged at a Debt-Equity ratio of 80-20. Given this capital structure and the project cost, the table below details the amount of equity contributed and the debt to be raised from the capital markets.

		M USD
Debt	80%	3.192
Equity	20%	0.798
Total Project Cost		3.990

The debt amounting to US\$ 3.192 million or PKR 269.581 million will be taken for a period of 10 years where the drawdown as well as the debt servicing will be as follows

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	269,581,163	-	5,616,274		269,581,163	
1	269,581,163	3,475,138	8,424,411	11,899,549	266,106,025	
2	266,106,025	3,583,736	8,315,813	11,899,549	262,522,289	
3	262,522,289	3,695,728	8,203,822	11,899,549	258,826,562	
4	258,826,562	3,811,219	8,088,330	11,899,549	255,015,342	47,598,197
5	255,015,342	3,930,320	7,969,229	11,899,549	251,085,022	
6	251,085,022	4,053,142	7,846,407	11,899,549	247,031,880	
7	247,031,880	4,179,803	7,719,746	11,899,549	242,852,077	
8	242,852,077	4,310,422	7,589,127	11,899,549	238,541,655	47,598,197
9	238,541,655	4,445,123	7,454,427	11,899,549	234,096,532	
10	234,096,532	4,584,033	7,315,517	11,899,549	229,512,500	
11	229,512,500	4,727,284	7,172,266	11,899,549	224,785,216	
12	224,785,216	4,875,011	7,024,538	11,899,549	219,910,205	47,598,197
13	219,910,205	5,027,355	6,872,194	11,899,549	214,882,849	
14	214,882,849	5,184,460	6,715,089	11,899,549	209,698,389	
15	209,698,389	5,346,475	6,553,075	11,899,549	204,351,914	
16	204,351,914	5,513,552	6,385,997	11,899,549	198,838,362	47,598,197
17	198,838,362	5,685,850	6,213,699	11,899,549	193,152,512	
18	193,152,512	5,863,533	6,036,016	11,899,549	187,288,979	
19	187,288,979	6,046,769	5,852,781	11,899,549	181,242,210	
20	181,242,210	6,235,730	5,663,819	11,899,549	175,006,480	47,598,197
21	175,006,480	6,430,597	5,468,952	11,899,549	168,575,883	
22	168,575,883	6,631,553	5,267,996	11,899,549	161,944,330	
23	161,944,330	6,838,789	5,060,760	11,899,549	155,105,541	
24	155,105,541	7,052,501	4,847,048	11,899,549	148,053,040	47,598,197
25	148,053,040	7,272,892	4,626,657	11,899,549	140,780,148	
26	140,780,148	7,500,170	4,399,380	11,899,549	133,279,978	
27	133,279,978	7,734,550	4,164,999	11,899,549	125,545,428	
28	125,545,428	7,976,255	3,923,295	11,899,549	117,569,173	47,598,197
29	117,569,173	8,225,513	3,674,037	11,899,549	109,343,661	
30	109,343,661	8,482,560	3,416,989	11,899,549	100,861,101	
31	100,861,101	8,747,640	3,151,909	11,899,549	92,113,461	
32	92,113,461	9,021,004	2,878,546	11,899,549	83,092,457	47,598,197
33	83,092,457	9,302,910	2,596,639	11,899,549	73,789,547	
34	73,789,547	9,593,626	2,305,923	11,899,549	64,195,921	
35	64,195,921	9,893,427	2,006,123	11,899,549	54,302,494	
36	54,302,494	10,202,596	1,696,953	11,899,549	44,099,898	47,598,197
37	44,099,898	10,521,428	1,378,122	11,899,549	33,578,471	
38	33,578,471	10,850,222	1,049,327	11,899,549	22,728,248	
39	22,728,248	11,189,292	710,258	11,899,549	11,538,957	
40	11,538,957	11,538,957	360,592	11,899,549	0	47,598,197

4.7 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 0.798 million to be shared equally between WIL and HBKCS, giving a share of USD 0.399 million each to the sponsor.

4.8 Rationale for Return on Equity for Solar Power Projects

Guidelines for the Determination of Tariffs for Solar Power Projects ("IPP") are not defined by the regulatory authorities however under the Medium Term Policy of the Alternate and Renewable Energy (ARE), a Return on Equity at 18% is allowable for Energy Projects based on Solar PV Technology. However, we have determined the return on equity for this project based on an ROE of 10% which is considered acceptable to the Sponsors keeping in view the higher levelised tariff with an 18% ROE.

4.9 Equity Investment in Foreign Currency (USD)

In line with recent determinations by NEPRA, we are proposing return on invested equity of 10.00% 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 25 year term for the Power Purchase Agreement ("PPA"). The ROE (foreign) shall be indexed as per section 4.12.1.

4.10 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).

4.11 Operating Cost

Insurance: at 0.5% of the Solar Power Generation Equipment has been charged as the operating cost to the project. This expenditure will be incurred in local currency as we remain confident that local insurance companies would be in a position to adequately provide cover for this kind of project given the total cost even in absence of precedents for solar power projects in Pakistan.

Operation & Maintenance (O&M): The operation and maintenance functions for this Project will be handled by the manufacturer (HBKCS) during the warranty period. Thereafter, O&M responsibility shall rest with the project company. Most of the personnel and other O&M costs for solar power projects are fixed component.

The following table shows a breakdown of O&M costs:

	M USD	M USD
Fixed Foreign Cost	-	-
Fixed Local Cost	-	-
Total Fixed Cost	-	-

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Insurance Cost	1.597	1.597
Variable Foreign Cost	-	-
Variable Local Cost	1.031	2.792
Total Variable Cost	1.031	2.792
Total O&M Costs	2.628	4.389

The following table reflects a comparison of annual average O&M costs:

M USD	
Fixed O&M Costs	-
Insurance Cost	1,597,098
Variable Operating Costs	2,439,823
Total O&M Costs	4,036,921

Major contributing costs to the tariff may be summarized as shown in the table below:

Item	Average Years 1-10 (M US \$)	Average Years 11-25 (M US \$)
Debt service cost	47.598	-
Return on equity	6.740	6.740
With-holding	0.505	0.505
O&M Costs	1.252	3.231
Insurance costs	1.597	1.597
Total Cost	57.692	12.073

This is based on a 25-year asset life and an annual estimated production of 1.6 GWh.

4.12 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

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prepared taking into account the guidelines presented in the Ministry of Water and Power/Alternative Energy Development Board's, "Guidelines for Determination of Tariff for Wind Power Generation 2006" as there is no presence of Guidelines for determination of Tariff for Solar Power Generation.

4.12.1 Foreign Exchange

A foreign exchange indexation should be applied to those cost elements that are denominated in foreign currency (US\$). 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 SSPPL implies that the following components should be indexed to variations in foreign exchange rate (Rs/US\$):

- The portion of the ROE component that reflects the equity investments in foreign currency (US\$)

Indexation for these components should be applied quarterly, on-January 1, April 1, July 1 and October 1 on the basis of the TT & 00 selling rate as notified by the National Bank of Pakistan (in Rs/US\$)

4.12.2 KIBOR

The solar 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 Karachi Interbank Offered Rate (KIBOR). KIBOR is defined as the Average rate, Ask Side, for the relevant tenor, as published on Reuters page KIBOR or as published by the Financial Markets Association of Pakistan in case Reuter's page is unavailable.

4.12.3 Local Inflation

As with currency exchange rates and interest rates, a solar 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 components 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.



4.13 Carbon Credits

Carbon credits are to be earned and disbursed at per guidelines for determination of solar power tariff and the GOP policy on the subject as issued by Ministry of Environment. However we are of the opinion that we will be in a better position to manage realization of carbon credits and so would prefer that 100% be allocated to the company.

A handwritten signature in black ink, appearing to be 'Ajay', is written below the text.

5. Determination Sought

5.1 Introduction

Determination is sought from NEPRA in respect of the following:

- Grant of Tariff, as presented in Section 5.2 below, to remain effective for a period of 25 years from the date of Commercial Operations; and
- Approval of proposed indexation in the tariff, as set out in the subsequent Section 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 Cent
Average Tariff	18.87	22.36
Discount Rate		10%
Levelised Tariff	26.62	31.54

The tariff shown above is subject to Indexation. This tariff is valid for sixty days from date of submission beyond which a 2% increase per month will be required to account for Local and foreign inflation.

Details of the Reference Tariff are shown in Annexure A and
Assumption for Tariff Table at Section 3.4

The Project's Cash Flow on the basis of this tariff is shown in Annexure B

The specified tariff, along with the indexation, when approved, would set the maximum rate at which SSPPL will sell power to the off taker.



5.3 Tariff Indexation

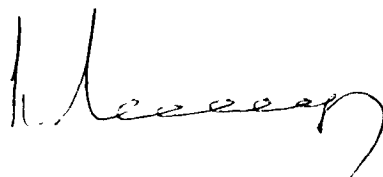
Indexation of cost of components of a tariff provides an investor certainty with regard to return on investment by removing exposure to such cost escalations over which investor has no control. This approach is efficient and hence minimizes total cost. Commonly, indexation protects investors against risks arising from exchange rate fluctuations, and local inflation.

Tariff indexation for the SSPPL tariff has been requested in relation to known and accepted consumer price indices (CPI), KIBOR, on a quarterly basis and the dollar/rupee parity as discussed in detail in earlier. 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.

5.4 Generation Degradation

The power generation capability of the PV panels, as the case world over, will be subject to annual degradation. Hence, we seek annual degradation of power generation as per the table below.

1	1,000	5.18	365		85.00%	1,607,095.00
2	1,000	5.18	365	0.65%	84.35%	1,594,805.45
3	1,000	5.18	365	0.65%	83.70%	1,582,515.90
4	1,000	5.18	365	0.65%	83.05%	1,570,226.35
5	1,000	5.18	365	0.65%	82.40%	1,557,936.80
6	1,000	5.18	365	0.65%	81.75%	1,545,647.25
7	1,000	5.18	365	0.65%	81.10%	1,533,357.70
8	1,000	5.18	365	0.65%	80.45%	1,521,068.15
9	1,000	5.18	365	0.65%	79.80%	1,508,778.60
10	1,000	5.18	365	0.65%	79.15%	1,496,489.05
11	1,000	5.18	365	0.65%	78.50%	1,484,199.50
12	1,000	5.18	365	0.65%	77.85%	1,471,909.95
13	1,000	5.18	365	0.65%	77.20%	1,459,620.40
14	1,000	5.18	365	0.65%	76.55%	1,447,330.85
15	1,000	5.18	365	0.65%	75.90%	1,435,041.30
16	1,000	5.18	365	0.65%	75.25%	1,422,751.75
17	1,000	5.18	365	0.65%	74.60%	1,410,462.20
18	1,000	5.18	365	0.65%	73.95%	1,398,172.65
19	1,000	5.18	365	0.65%	73.30%	1,385,883.10
20	1,000	5.18	365	0.65%	72.65%	1,373,593.55
21	1,000	5.18	365	0.65%	72.00%	1,361,304.00
22	1,000	5.18	365	0.65%	71.35%	1,349,014.45
23	1,000	5.18	365	0.65%	70.70%	1,336,724.90
24	1,000	5.18	365	0.65%	70.05%	1,324,435.35
25	1,000	5.18	365	0.65%	69.40%	1,312,145.80
Total						36,490,510.00



Annexure A – Reference Generation Tariff

Sl. No.	Annual Energy Output (KWh)	Annual Depreciation			Annual Insurance (PKR)	Reference Tariffs Component		Annual Profit	Total Tariff (PKR)	Total Tariff (US Cents)	
		Annual Depreciation	Annual Interest	Annual Maintenance		Annual Insurance					
1	1,607,095	9.06	20.55	4.19	0.31	0.99	35.12	0.05	0.50	0.55	35.67
2	1,607,095	10.25	19.37	4.19	0.31	0.99	35.12	0.05	0.54	0.59	35.71
3	1,607,095	11.59	18.02	4.19	0.31	0.99	35.12	0.05	0.58	0.64	35.76
4	1,607,095	13.11	16.51	4.19	0.31	0.99	35.12	0.05	0.63	0.68	35.80
5	1,607,095	14.83	14.79	4.19	0.31	0.99	35.12	0.05	0.68	0.74	35.85
6	1,607,095	16.77	12.85	4.19	0.31	0.99	35.12	0.05	0.74	0.79	35.91
7	1,607,095	18.97	10.65	4.19	0.31	0.99	35.12	0.05	0.79	0.85	35.97
8	1,607,095	21.45	8.16	4.19	0.31	0.99	35.12	0.05	0.86	0.91	36.03
9	1,607,095	24.26	5.35	4.19	0.31	0.99	35.12	0.05	0.93	0.98	36.10
10	1,607,095	27.44	2.18	4.19	0.31	0.99	35.12	0.05	1.00	1.05	36.17
11	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	1.08	1.13	6.64
12	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	1.17	1.22	6.72
13	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	1.26	1.31	6.82
14	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	1.36	1.42	6.92
15	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	1.47	1.52	7.03
16	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	1.59	1.64	7.14
17	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	1.72	1.77	7.27
18	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	1.85	1.91	7.41
19	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	2.00	2.05	7.56
20	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	2.16	2.21	7.72
21	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	2.33	2.39	7.89
22	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	2.52	2.57	8.08
23	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	2.72	2.78	8.28
24	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	2.94	2.99	8.50
25	1,607,095	-	-	4.19	0.31	0.99	5.50	0.05	3.18	3.23	8.73
Levelised Tariff										26.62	31.54

Levelized Tariff (1-25 year) discounted at 10% per annum= US cents 31.54/kWh or PKR 26.62 / kWh

The above tariff calculations are based on an annual energy output of 1,607,095, KWh which is expected to degrade at 0.76% every year, which in turn shall increase the levelized tariff.

Exchange rate used: USD 1 = PKR 84.4

Efficiency Factor = 77.8%

1 MW Solar Power Plant Project, Sanjwal

Annexure B - Projects Cash Flow

Figures in Millions

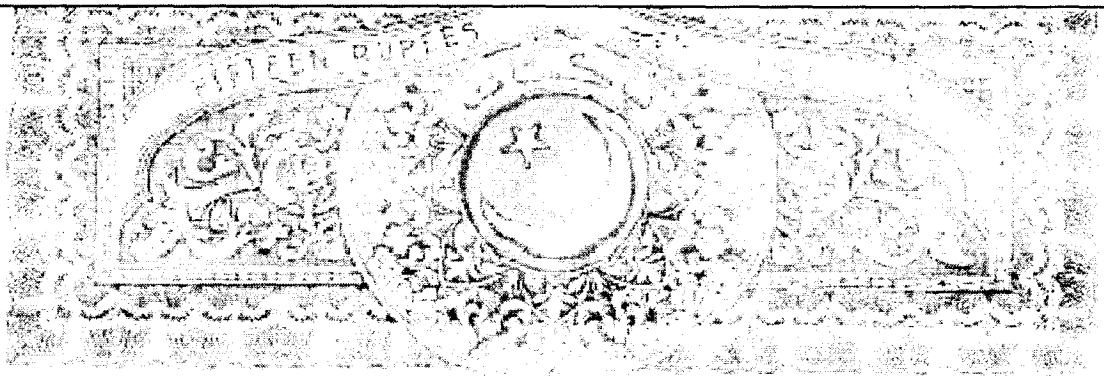
Cash flow from operating activities	-	7.02	10.70	12.78	(14.32)	17.83	20.86	24.30	28.19	32.59	37.58	40.95	40.81
Cash flow from investing activities	(313.59)	-	-	-	-	-	-	-	-	-	-	-	-
Cash flow from financing activities	336.98	(14.57)	(16.47)	(18.63)	(21.07)	(26.28)	(30.80)	(35.92)	(41.71)	(48.27)	(55.68)	(13.14)	(13.08)

Figures in Millions

Cash flow from operating activities	40.66	40.49	40.32	40.13	39.92	39.70	39.46	39.20	38.92	38.62	38.30	37.94	37.56
Cash flow from investing activities	-	-	-	-	-	-	-	-	-	-	-	-	-
Cash flow from financing activities	(13.01)	(12.93)	(12.85)	(12.76)	(12.67)	(12.57)	(12.46)	(12.34)	(12.21)	(12.07)	(11.92)	(11.76)	(11.58)

Min

2. Affidavit under Rule 3, sub-rule 8 of Tariff Standards and Procedures Rules 1998



AFFIDAVIT

BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

Affidavit of Mr. Bashir Uddin S/o Mr. M. M. Zaheer Uddin, CNIC No. 34464-16014, 15, residence of Mangalw No. 11, Katchhar Road, Dabh District, Tehsil Lodhi Dist. Bawana, District of the Federal Republic of Pakistan, Managing Director of Sindh Solar Power (Pvt) Limited (hereinafter)

the above named defendant, appearing, solemnly swears and declares that

1. I am the authorized representative of the company, whose CNIC No. 01 dated 07-09-2017
2. The contents of the accompanying "Affidavit dated" 07-09-2017 including all supporting documents are true and correct to the best of my knowledge and belief and nothing material has been concealed or withheld
3. I also affirm the further documents and information provided by me in connection with the aforesaid "Affidavit" shall be true and correct to the best of my knowledge and belief

Dated: 07-09-2017

Verdict

It is hereby solemnly sworn and affirmed on oath by the defendant that the contents of the above Affidavit are true and correct to the best of my knowledge and belief and that nothing material or relevant has been concealed or withheld

ATTESTED

3. Authorization through Board Resolution

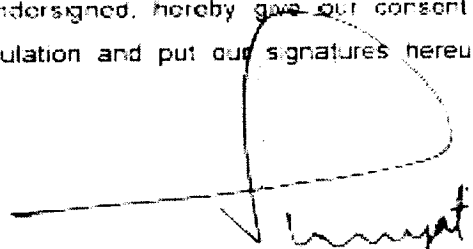
SANJWAL SOLAR POWER (PVT) LIMITED
SANJWA

RESOLUTION NO. 01

DATED 07-09-2011

RESOLVED that Mr Tashbir Uddin, Managing Director Sanjwal Solar Power (Pvt) Limited is hereby authorized to produce Affidavit on stamp paper to the National Electric Power Regulatory Authority on behalf of the company.


We, the undersigned, hereby give our consent to the passing of the above Resolution by circulation and put our signatures hereunder in token of the approval thereto.


LT GEN
(SHUJAAT ZAMIR DURRANI)
CHAIRMAN


ZEESHAN MULLAH KHATTAK
DIRECTOR


(MUHAMMAD ASIF)
DIRECTOR


(RIAZ AHMADI)
DIRECTOR


(KHALID PERVAIZ)
DIRECTOR

SANJWAL SOLAR POWER (Ltd) Limited
(SANJWAL)

No.Admin/24

Date: 19-09-2011

The Registrar,
National Electric Power Regulatory Authority,
2nd Floor, OPF Building,
Shahrah-e-Jamhooriyat, G-5/2,
Islamabad.

Subject:- **AUTHORIZATION OF MANAGING DIRECTOR**

Mr. Khalid Pervaiz Managing Director Wah Industries Ltd is hereby
authorized by board of Sanjwal Solar Power (Pvt) Ltd to look after the duties of
Managing director Sanjwal Solar Power (Pvt) Ltd, in absence of Mr. Tashir Uddin
Managing Director till further order, as he is in Karachi for NIPA course.

Best Regards,


(Zoobia Saleem)
Company Secretary

4. Feasibility Study – Provisionally Approved by AEDB

Government of Pakistan
Alternative Energy Development Board (AEDB)
3, Street No. 8, F-8/3, Islamabad
Tel: 92 51 9282947-50, Fax: 92 51 9282977



9/3/2/SPV/W4/11

30 August 2011

Mr. Khalid Pervaz
Managing Director
Wah Industries Ltd
Wah

G.M/Sales-B
11/1/2011
5/5

Subject: **PROVISIONAL APPROVAL OF FEASIBILITY STUDY FOR SUBMISSION OF TARIFF TO NEPRA**

This refers to your letter No. WIL/Accts/SPG/01 dated August 18, 2011 on the subject cited above.

2. Alternative Energy Development Board (AEDB) acknowledge the receipt of Feasibility Study of 1 MW Solar PV Power Project at PDF Sanjwal, which is currently under review. The approval of Feasibility study is linked with the following milestones.

- Third party verification of Power Production Estimates from International Institution
- Approval of Grid Interconnection studies from NTDC
- Approval of EIA/EE Study from EPA, Punjab

3. AEDB acknowledges that the IPP has already acquired the necessary approvals of the Grid Interconnection study and has submitted the IEE study to EPA Punjab for approval. However, to verify certain parameters affecting the production number estimates, AEDB requires equipment certification and standards which may be provided.

4. AEDB has initiated the process of third party verification of production estimates through international institute and as it proceeds, AEDB hereby provisionally accepts the feasibility study. The final approval of the feasibility study shall be accorded after verification of power production estimates by International Institute, approval of EE by EPA Punjab. M/s WIL may however proceed ahead with the application of generation license and tariff to NEPRA.

1349
10/5/2011


(Imran Ahmed)
Director REP

5. Letter of Intent



Government of Pakistan
Alternative Energy Development Board (AEDB)
H # 3 Street # 8 F 8/3 Islamabad
Tel: +92 51 922947-50, Fax: +92 51 9262977



B/3/2/SPV/LOI-006

19th February 2011

Mr. Shujaat Zamir Dar
Chairman
Wah Industries Limited
Caud Avenue
Wah Cantt

Subject: **LETTER OF INTENT FOR 01 MW SOLAR PV POWER GENERATION PROJECT AT WAH, PUNJAB PROVINCE**

Reference: Your Proposal # WIL/Accts/SPG/01 dated: 3rd February, 2011.

In terms of the Policy for Development of Renewable Energy for Power Generation 2005 ("Policy"), the Alternative Energy Development Board ("AEDB") hereby confirms its interest in your proposal for establishing an approximately 01 MW solar PV power generation project at Wah, Punjab province. The Sponsor(s) has proposed to develop the project on its own land. AEDB has no obligation to provide land to the Sponsor(s) for the project. AEDB acknowledges receipt of the bank guarantee furnished by the Sponsor(s) dated 15th February 2011 in the sum of US dollars Five Hundred (US\$ 500).

2. The Sponsor(s) is required to complete the feasibility study and achieve the milestones listed at the Annex to this LOI ("LOI Milestones") for the subject project, at no risk and at no cost to, and without any obligation on the part of the AEDB, the Government of Pakistan, any Provincial Government or their respective agencies, within a period of Eighteen (18) months from the date of issuance of this Letter of Intent ("LOI").

3. The Sponsor(s) is required to carry out and complete the feasibility study at internationally acceptable standards and in accordance with the terms and conditions stipulated in the Policy and this LOI. The feasibility study must include, inter alia, Solar PV Plant equipment siting details, detailed power production estimates based on solar irradiance data of project site, soil tests reports, technical details pertaining to solar PV panels and other allied equipment to be used in the Solar PV Plant, grid tied solar PV project, electrical studies (including but not limited to short-circuit study, power quality study, load flow study and stability study), environmental study, project costing, financing plan, carbon credits, financing terms, tariff calculations and assumptions for financial calculations including economic/financial analysis. The Sponsor is also advised to liaise with the power purchaser while determining the site, project layout, sub-station design and layout, the transmission line, interconnection arrangements and other related matters.

4. The validity of this LOI is not more than 18 months from the date of its issue, where after it will automatically lapse immediately (unless extended pursuant to clauses 5 or 6) being the 16th August 2012 (the "Expiry Date"). Issuance of this LOI or the lapsing of its validity, or your conducting a feasibility study there under, cannot form the basis of any claim for compensation or damages by the Sponsor(s), or the project company or any party claiming through or under them against the Government of Pakistan, the Provincial Government, AEDB or any of their agencies, employees or consultants on any grounds whatsoever, during or after the expiry of the validity of the LOI.

5. The Sponsor(s) is therefore required to complete the feasibility study and achieve the LOI Milestones for the subject project within the validity of this LOI. The Sponsor(s) is also required to submit quarterly progress reports. Provided the Sponsor(s) meets the LOI Milestones on the stated dates, the Expiry Date of this LOI shall be extended on a day-for-day basis for the number of days of delay by which the approval or review by the relevant public sector entity listed in the LOI Milestones is delayed beyond the corresponding period stated in the LOI Milestones. In case there is a delay in completion of the feasibility study within the validity of this LOI for reasons not attributable to a public sector entity, a one-time extension may be granted up to a maximum period of one hundred eighty (180) days if AEDB is satisfied that the feasibility study is being conducted in a satisfactory manner and is likely to be completed shortly and provided the Sponsor(s) enhance the amount of the bank guarantee to twice its original amount and extend its validity for a period six (6) months beyond the extended Expiry Date. Furthermore, if the said feasibility study is technically approved by the Panel of Experts and later the tariff awarded by NEPRA is not agreed by the Sponsor(s) (such decision to be made within thirty (30) days of the award of the tariff, and in any event within the validity of the LOI), the bank guarantee less 10% deduction for administrative and ancillary charges, would be returned to the Sponsor(s).

6. The Sponsor(s) shall apply to NEPRA for award of tariff within the period of validity of this LOI. Upon tariff being given, the Sponsor(s) shall forthwith submit a new Performance Guarantee in the sum of US Dollars Two Thousand Five Hundred (USD 2500) and obtain the Letter of Support (LOS) from AEDB within the validity period of this LOI, provided, if the award of the tariff is delayed beyond the initial validity of the LOI, the Sponsor(s) shall extend the bank guarantee for a further period of six (6) months and the Expiry Date shall be extended ipso facto for a further period of six (6) months, and the Sponsor(s) shall obtain the LOS and submit the Performance Guarantee within the extended period afore-said. For the avoidance of doubt, the afore-said extension process may be repeated if the tariff is not announced (including on any review petition filed by the Sponsor(s), such review if any, to be filed within the period prescribed in the NEPRA (Tariff Procedures and Standards) Rules) up to fifteen (15) days before the then prevailing Expiry Date.

7. In case the Sponsor(s) fails to meet the LOI Milestones or perform any other obligations set forth in the Policy and this LOI, including the extension of the date of expiry of bank guarantee as provided herein, AEDB will terminate this LOI and encash the bank guarantee.

8. (A) Pending the nomination of the Main Sponsor per sub-clause (B), the M/s Wah Industries Limited is liable for all obligations and liabilities of and on behalf of all other shareholders/ Sponsor(s) (without relieving the other shareholders/Sponsor(s) of their obligations and liabilities under this LOI). Accordingly, M/s Wah Industries Limited shall not transfer or assign its shareholding (or other participatory interest, if the project company is not formed by the date of issue of the LOI) in the project or the project company without the prior written approval of AEDB, which approval may be declined by AEDB in its discretion if the proposed transferee's financial and other relevant credentials are found unsatisfactory.

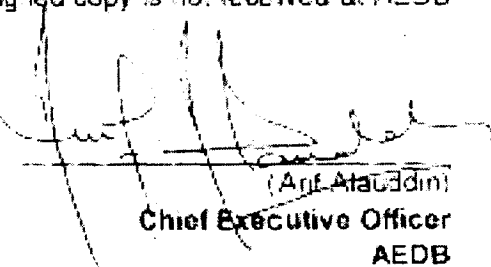
(B) The Sponsor(s) is advised to nominate the Main Sponsor (*being the individual or group holding at least 20% equity or participatory interest in the IPP project*) no later than the Expiry Date of the LOI. In default of nomination as aforesaid, the M/s Wah Industries Limited will be deemed the Main Sponsor for all intents and purposes. The Main Sponsor, together with other initial project shareholders/Sponsor(s) (which shall, subject in each case to sub-clause (A) above, be firmly settled and announced to AEDB by the Expiry Date of the LOI) must hold 51% of the project equity for a period up to the project's Commercial Operations Date (COD).

(C) Any actual or purported transfer or assignment of the shares or other participatory interests by the Sponsor(s) / shareholders in contravention of the foregoing restrictions without prior written consent of the AEDB shall render this LOI void and the bank guarantee will be encashed in such case by AEDB.

9. This LOI is not assignable and non-transferable. This LOI shall be void upon any actual or purported assignment or transfer hereof without the prior written consent of AEDB.

10. This LOI is issued in duplicate on the date hereof, and it shall come into effect when one copy is received by AEDB after being duly countersigned by you. Nevertheless, this LOI shall lapse if the countersigned copy is not received at AEDB within 15 days of its issuance.

(Mr. Shujaat Zamir Dar)
Chairman
Wah Industries Limited


(Arif Atauluddin)
Chief Executive Officer
AEDB

Milestones for the Letter of Intent (LOI)

Sr No	Milestones	Time Frame (in Months)
1	Issuance of Letter of Intent (LOI)	T0
2	Completion of feasibility study	No later than 120 days prior to the expiry date of the LOI
	(i) Technical Study along with project description	
	(ii) Plant outline and equipment details	
	(iii) System design and plant installation	
	(iv) Study for integration of project into grid	
	(v) Financial feasibility study	
3	Initial environmental examination (IEE) / Environmental Impact Assessment Study (EIA)	No later than completion of the feasibility study
4	Submission of IEE / EIA to AEDB for review	No later than completion of the feasibility study
5	Submission of IEE / EIA to concerned EPA	No later than the submission of same to AEDB
6	Approval of IEE / EIA from concerned EPA	60 days after submission of the IEE/EIA study
7	Conducting Electrical & Grid Studies:	No later than completion of the feasibility study
	(i) Grid Interconnection Study	
	(ii) Load Flow Study	
	(iii) Power Quality Study	
	(iv) Stability & Short Circuit Study	
8	Submission of Grid Interconnection Studies to NTDC	No later than completion of the feasibility study
9	Acknowledgement of feasibility study by AEDB	15 days after submission of feasibility study
10	Verification fee	To be submitted within 10 days of written request by AEDB
11		60 days after submission of the Electrical and Grid Studies
12	Approval of Electrical and Grid Studies by NTDC	Within 60 days after acknowledgment by AEDB provided any requisite modifications are timely made by the Sponsor(s) and the modified feasibility study is resubmitted within 15 days

		of a letter by AEDB requiring the modifications
13.	Submission of approved IEE / EIA and Grid Interconnection studies to AEDB	Within 7 days of approval by AEDB
14.	Award of Tariff and Generation License by NEPRA	Within the validity of the LOI (as may be extended under clause 6)
15.	Acceptance of Tariff by IPP	Within 15 days of final approval of the feasibility study by AEDB
16.	Award of Tariff and Generation License by NEPRA	At least 15 days before expiry of LOI
17.	Acceptance of Tariff by IPP	at least 7 days before expiry of LOI
18.	Posting of Performance Guarantee for Issuance of Letter of Support (LOS)	At least 15 days before expiry of LOI
19.	Issuance of Letter of Support (LOS) by AEDB	at least 7 days before expiry of LOI

No. Solar/Engg/2010/11

Date: 7-09-2011

To:

Mr. Khadim Hussain Ezzat
Chief Engineer
UTRA 402, Solar Division
Lahore

Phone No: 342-99072617

Subject: **CONSENT/MDU COMMITMENT REGARDING PURCHASE OF ELECTRICITY FROM 01 MW SANJWAL SOLAR POWER PLANT**

Dear Sir,

We intend to install a solar power plant of 01 MW capacity at 1007 Sanjwal for which AFDB Pakistan issued LOI on 13-02-2011 and have also accorded approval of its feasibility study (2007 and 2008).

It is added that in this regard Grid Study was conducted by M/s FFI Lahore, which was also done by IESCO authorities Islamabad.

Standing Committee of IESCO constituted vide IESCO office order No 1522/2009/IESCO/CE (P&MT-1086, Dated 11-06-2011 comprised of the following officers, visited the proposed site of the solar power plant on 11-07-2011:

- | | | |
|------|------------------------|--------------------------------------|
| i. | Mr. Saifulah Jan | Chief Engineer (I&G) IESCO Islamabad |
| ii. | Mr. Anjum Zaman | Additional Executive Director (L&I) |
| iii. | Mr. Munawar Khan | S.E. (E) Attock Circle |
| iv. | Syed Razi Qader Buzdar | Manager Customer Services |
| v. | Mr. Muhammad Zahir | Regional Manager (M&T) |
| vi. | Mr. Asim Ijaz | Dy. Manager (P&E) |

4. Aforesaid standing committee of IESCO conveyed their approval regarding grid study vide letter No 3521/2009/IESCO/CE (P&E) dt 11-07-2011 (copy enclosed).

5. As per provisioned in provision of AFDB Pakistan, consent by NTD for purchase of electricity is mandatory, which will further shape up into a Power Purchase Agreement (PPA) at any later stage when the PPA project attains its maturity.

Kindly convey your consent / MDU commitment regarding purchase of electricity from the aforesaid Solar Power Plant on top priority basis.

Respectfully,

(Khalid Razaiz)
MD - WIE

N.C.C.

Copy to:-

Dr. Services

For information please

File No
PA-11-11-11-11-11

No. Solar Project/2010/11:

Date: 8-04-2011

To

Mr. Faizullah Jan
C.E.F & E
IESCO
St: #40, Sector 3-7/4
Islamabad

Phone No: 051-9262097

c/c

Chief Executive Officer IESCO,
Islamabad

Subject: **CONSENT/MOU/COMMITMENT REGARDING PURCHASE OF
ELECTRICITY FROM 01 MW SANJWAL SOLAR POWER PLANT.**

Dear Sir

We intend to install a solar power plant of 01 MW capacity at POF Sanjwal for which AEDB Pakistan issued LOI on 19-02-2011 and have also accorded approval of its feasibility provisionally (copy enclosed).

2. It is added that in this regard Grid Study was conducted by M/s PPI Lahore which was also looked into by IESCO authorities Islamabad.

3. Standing Committee of IESCO constituted vide IESCO office order No 3522-32/CE/IESCO/ICE (PEHT-1068), Dated 17-08-2011 comprised of the following officers, visited the proposed site of the solar power plant on 11-07-2011:-

i.	Mr. Saifullah Jan	Chief Engineer (T&G) IESCO Islamabad.
ii.	Mr. Amjad Zaman	Additional Executive Director (L&U)
iii.	Mr. Munawar Khan	S.E. (E) Attack Circle
iv.	Syed Riaz Qadeer Bukhar	Manager Customer Services
v.	Mr. Muhammad Zahid	Regional Manager (M&T)
vi.	Mr. Asim Ijaz	Dy. Manager (P&E)

4. Aforesaid standing committee of IESCO conveyed their approval regarding grid study vide letter No 3522-32/CE/IESCO/ICE (PEHT-1068) dt 11-07-2011 (copy enclosed).

5. As per procedure, requirement of AEDB Pakistan consent by NEDC for purchase of electricity is mandatory, which will finally shape up into a Power Purchase Agreement (PPA) at any later stage, when the subject project blossoms into maturity.

6. Kindly convey your consent + MOU (formal power acquisition) (PPA), regarding purchase of electricity from the aforesaid Solar Power Plant on top priority basis.

Best regards

(Khalid Pervaiz)
MD - WIL

02 Copies Received

7. Plant Quotation

Dear Sir Khalid,

PV power plant Ground type (11 KV grid system) for Pakistan solar project						
Item No.	Description	Maker/brand/spec.	Quantity	unit	Unit Price (USD)	Amount(USD)
1	SOLAR MODULE 230W -238W	poly crystalline	4,374	Pc	431.845	2,035,625
2	MOUNTING SYSTEM(with structure design and strength prove)	AL type Anode T> 7um	1,000,000	W	0.302	302,071
3	DC/AC 4KW ON GRID INVERTER	PCM Solar King 4kW Inverter with 5 years Warranty	243	set	1,441.21	350,213
4	DC DISTRIBUTION (JUNCTION) BOX (IP65)	DC fuse with base /Varistor/monitoring	81	set	1,240.74	100,500
5	AC PANEL (5DC boxes in one 1AC panel)	NFB disconnect /not include concrete base	41	set	945.732	38,898
6	AC MP panel	NFB disconnect /not include concrete base	9	set	719.222	6,473
7	Monitoring System					
	Irradiance Meter(with D/A Translation Card)	Second Class	1	set	5,000.00	5,000
	Temp. Meter(with D/A Translation Card)	Stainless Box	1	set	1,200.00	1,200

<http://mail.dsl.net.pk/horde/services/download/?module=imp&thismailbox=INBOX&inde...> 8/17/2011

	PC + 21" Monitor		2	set	1,582.50	3,165
	Monitoring Software					
	Cable/Hardwares					
	RS 485/RS 232 Trans Card		1	set	21,000	21,000
	Data Collection System /Convert to PC					
8	PVC Pipe / Screws / pipe Lug / Nuts/... others	1Mwp	1	set	123,705	123,705
9	Cable /Cable track/ Edge Cover / others	DC side (infront Inverter)	1	set	179,804	179,804
10	FUNDATION /CIVIL WORK	Concrete / Grounding Base Engineering	1	set	POF side	
11	Earthing System/Grounding System	Grounding Lug with Grounding cable	1	set	14,097	14,097
12	Electrical ROOM and Warehouse	Building Constructing Door Installation Electrical Installation Decorating	1	set	POF side	
13	AC High Voltage Panel/Equipments	MOF panel DS Panel PT Panel MVCB Panel TRA Panel MP Panel			POF side	
14	LIGHTENING SYSTEM		1	set	POF side	
15	Engineering				POF side	
16	Labor (DC side) (AC Side)	Earth Moving/Fundation Civil Engineering Mounting system Installation Modules Installation DC side Electrical components installation Monitoring System Installation AC System Installation Monitoring System Installation Lighting System Installation	1	set	POF side	
17	Transformer		1	set	POF side	

15	Local Technician upon Signature		1	set	POF side	
19	Management cost (including guidance of installation and training at sanjwal site), including presentation)		1	set	111,900	111,900
20	Design (engineering design and civil design) & Consulting Fee	Mechanical Construction stress calculated/signature Electrical Technician signature	1	set	190,968	190,968
21	Test equipment and Measurement		1	set	67,537	67,537
22	Tool Kits/accessories	PR/DC/AC/Resistance	1	set	20,069	20,069
23	Spare parts for 1 year Warranty		1	set	32,048	32,048
total plant cost						3,668,000

8. Plant Construction Period

The construction period for power generation facility is four months after award of tariff and placement of contract for plant and equipment.

1	Leveling of ground and grouting of foundation pillars, and receipt of equipment	02
2	Installation of mounting/fixtures	01
3	Electrical Connection and lying of L.T/H.T cables, Installation /Commissioning of power plant and final acceptance test (FAT).	01

H/B ✓ TRF-100/Sanjwal
MF

**National Electric Power Regulatory Authority
Registrar Office**

No. TRF-100/7295

August 15, 2011

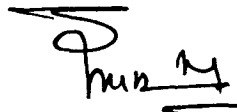
**Subject: Tariff Petition for 1 MW Solar Power Plant at Sanjwal
Wah Industries Limited**

Enclosed please find herewith a copy of the subject tariff petition filed by Wah Industries Limited vide letter dated 11.08.2011 (received on 12.08.2011).

2. Senior Advisor (Tariff) and Legal Advisor-II are requested to provide their recommendations/comments within three days in case of any deficient information which may call for non-admission of the petition.

3. The Tariff Petition is also forwarded to D.G. (Technical) and Regulatory Economist with the request to furnish their comments & recommendations to Registrar Office, if any, prior to its placement before the Authority for admission or to offer the same during the Authority Meeting to be convened in this regard.

Enclosure: As above.


(Syed Safeer Hussain) 15/8/11
Registrar

1. D. G. (Technical)
2. Senior Advisor (Tariff) (Tariff petition already forwarded vide No. 4379 dated 12.08.2011)
3. Legal Advisor-II
4. Regulatory Economist

CC:

1. Chairman
2. Vice Chairman / Member (CA)
3. Member (T)
4. Member (S&P)
5. Member (L)

✓ TRF-100/1114
~1/2
F/C

National Electric Power Regulatory Authority
Tariff Division

No.NEPRA/TRF/SSPPL-2011

August 17, 2011

Subject: COMMENTS ON TARIFF PETITION FOR 1 MW SOLAR POWER PLANT
AT SANJWAL FILED BY WAH INDUSTRIES LIMITED

Please refer to Registrar office letter No.TRF-100/7395 dated August 15, 2011 along with the tariff petition of Sanjwal Solar Power (Pvt.) Ltd (SSPPL) forwarded for comments of Tariff Division.

2. The subject tariff petition analyzed in detail and comments of Tariff Division are as under:

- i) Certificate of registration of SSPPL registered under Companies Ordinance, 1984 is not attached with tariff petition.
- ii) LOI issued by AEDB in favour of SSPPL has not been provided by the petitioner.
- iii) Feasibility study duly approved by AEDB has not been provided by the petitioner with tariff petition.
- iv) Consent letter of power purchaser not submitted by the petitioner.
- v) Construction period has not been mentioned in the tariff petition.
- vi) Return on equity during construction (ROEDC) has not been claimed by the petitioner.
- vii) General assumptions of tariff have not been provided in the tariff petition.
- viii) *Tariff table attached has not been prepared as per old practice*

3. In view of above shortfalls/deficiencies, the tariff petition of SSPPL may not be admitted without obtaining the above required documents/information.

Senior Adviser (Tariff)
Dy. No. 389
Date: 17-08-11

(Noman Siddiqui)
Deputy Director (Tariff)

Senior Advisor (Tariff) 3/17/08/11

Registrar

AD(MR)
+
PA

Received	1489
Dy. No.	389
Date	17-08-11

F/D

TRF-100/800
N/A

Dated: 17-8-2011

Subject: Tariff Petition for 1 MW Solar Power Plant at Sanjwal Wahi Industries Limited

With reference to letter No. TRF-100/7395, dated August 15, 2011 on the subject, our comments are as under:-

- The subject petition is not signed by the petitioner (rule 3(7) of Tariff Rules)
- No affidavit is attached. (rule 3(8) of Tariff Rules)
- The petitioner is a Company and neither any nomination of some Authorized person is mentioned in the petition nor any authorization has been attached with the petition. (rule 3(11) of Tariff Rules)
- The petition should also be in conformity with the requirements of sub-rule (2) of rule 3 of Tariff Rules and necessary verification in this regard may be provided by the concerned professionals.

Legal Advisor
Issue No. 225
Date: 12-8-11

~~Registrar~~

For M. A.

-AD (MR)

17/8

Mohammad Shafique
(Legal Advisor-II)

Registrar
Dy. No. 4459
Dated: 17-08-11

Wah Industries Limited

(ISO 9001 CERTIFIED)

No. WIL/Accts/SPG/01

Date: August 18, 2011

The Registrar
National Electric Power Regulatory Authority
2nd Floor, OPF Building,
Shahrah-e-Jamhooriyat, G-5/2
Islamabad

For information &
24/8/11

Dear Sir

Subject: Tariff Petition for 1 MW Solar Power Plant at Sanjwal

With reference to our meeting with you, it came to our knowledge that there are certain discrepancies in tariff petition duly submitted on August 11, 2011. Through this letter we seek your approval for an extension of 30 working days from the date receipt of this letter, for submission of remaining documents which are as follows:

- Signed petition as per Rule 3, sub-rule 7 of Tariff Standards and Procedure Rules 1998
- An affidavit, under Rule 3, sub-rule 8 of Tariff Standards and Procedure Rules 1998, signed by the petitioner or communicator indicating that the statements made therein are true to be best of the knowledge of the deponent
- Nomination / Authorization of the person acting on behalf of Solar Power Private Limited, through a Board Resolution in board meeting, who will liaison with NEPRA
- Approved Feasibility Study of proposed project
- Draft Memorandum of Understanding with NTDC / WAPDA
- EPC Contract copy
- Generation Licence Application along with prescribed fee and other requirements as per NEPRA Licensing (Application & Modification Procedure) Regulation, 1999

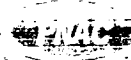
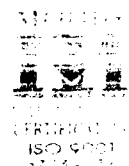
Looking forward to an affirmative reply

Yours Sincerely

Khalid Pervaiz
Managing Director
Wah Industries Limited

Registrar 4596
By. No. 23-08-4
Dated 23-08-11

Quaid Avenue Wah Cantt (Pakistan)
Tel: (051) 9314283, 9314101-21 Ext. 21003, 23206, 23202, 23281, 23204
Fax: (051) 9271400, 9314281, 9314100 E-mail: wilwah@micro.net.pk



Wah Industries Limited

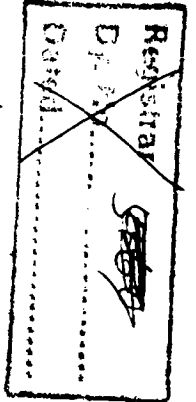
(ISO 9001 CERTIFIED)



September 19, 2011

The Registrar
National Electric Power Regulatory Authority
2nd Floor, OPF Building
Shahrah-e-Jamhoriyat, G-5/2
Islamabad

Urgent 1
For N/A
AD (MR)
+
PA
2/9



Subject: Tariff Petition for 1 MW Solar Power Plant at Sanjwal

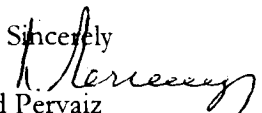
Dear Sir

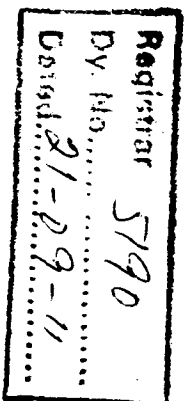
With reference to our meeting held on Friday 16th, ~~October~~ ^{Sept}, 2011 at NEPRA, we are submitting the below mentioned discrepancies in tariff petition duly submitted on August 11, 2011.

1. Signed petition as per Rule 1, sub rule 7 of Tariff Standards and Procedures Rules 1998
2. An Affidavit, under Rule 3, sub-rule 8 of Tariff Standards and Procedures Rules 1998, signed by the petitioner.
3. Authorization through a Board Resolution in a Board Meeting
4. Feasibility study of the project, provisionally approved by NEPRA
5. Copy of Letter on Intent (LOI)
6. Application to IESCO for obtaining consent for purchase of electricity
7. Copy of quotation stating detailed cost of the project as provided by EPC contractor
8. Description of construction period of power generation facility
9. Generation License application along with prescribed fee

Looking forward for your quick action

Yours Sincerely


Khalid Pervaiz
Managing Director
Wah Industries Limited



Missing Information

Quaid Avenue Wah Cantt (Pakistan)

Tel: (051) 9314283, 9314101-21 Ext. 21003, 23206, 23202, 23281, 23204

Fax: (051) 9271400, 9314281, 9314100 E-mail: wilwah@micro.net.pk



Wah Industries Limited

(ISO 9001 CERTIFIED)



No. WIL/Accts/SPG/01

-9-2011

Urgent

For m/a &

— AD (MR)
+ Pa

22/9

The Registrar
National Electric Power Regulatory Authority
2nd Floor, OPF Building
Shahrah-e-Jamhooriyat, G-5/2
Islamabad

Subject: Tariff Petition for 1 MW Solar Power Plant at Sanjwal

Dear Sir

With reference to our meeting held on Monday 19th September, 2011 at NEPRA, we are submitting the following documentations to cover the discrepancies in tariff petition.

1. An Affidavit, under Rule 3, sub-rule 8 of Tariff Standards and Procedures Rules 1998, signed by the petitioner.
2. Authorization through a Board Resolution in a Board Meeting
3. Copy of quotation stating detailed cost of the project signed by prospective EPC contractor
4. Consent of IESCO for purchase of electricity.

I hope the above makes our application complete and I Look forward for your quick action.

Yours Sincerely


Khalid Pervaiz
Managing Director
Wah Industries Limited

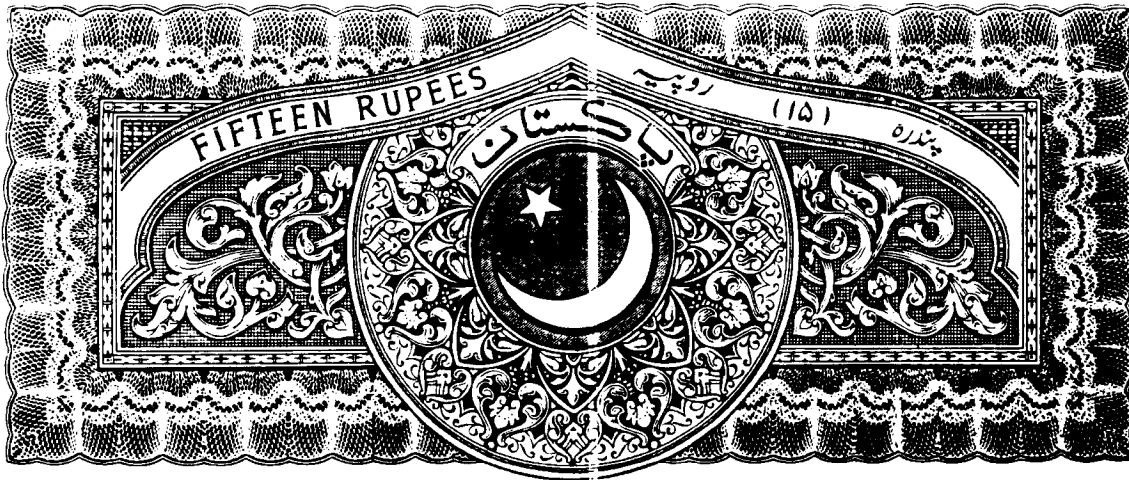
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22-09-11
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Quaid Avenue Wah Cantt (Pakistan)
Tel: (051) 9314283, 9314101-21 Ext. 21003, 23205, 23202, 20751, 21401
Fax: (051) 9271400, 9314281, 9314100 E-mail: wilwah@micro.net.pk



PAKISTAN

15 RS. *FT*



AFFIDAVIT

BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

Affidavit of Mr Khalid Pervaiz S/o Mr Muhammad Shafi, CNIC No. 37406-9471903-5, residence of Bungalow No. 7-A, Indus Road, Wah Cantt, Teh : Taxila, Distt : Rawalpindi, national of the Islamic Republic of Pakistan, Director of Sanjwal Solar Power (Pvt) Limited ("company").

I, the above named deponent, do hereby solemnly affirm and declare that :-

1. I am the authorized representative of the Company by virtue of the Board Resolution No. 02 dated 20-09-2011.
2. The contents of Tariff Petition & Generation Licensing (including any review petitions and any motion for leave to review) for submission to the National Electric Power Regulatory Authority (NEPRA) for determination of the tariff and related matters in respect of 1-MW Solar Power Plant at Sanjwal (Pakistan) are true and correct to the best of my knowledge and belief and nothing relevant has been concealed or withheld.
3. I also affirm that in relation thereto, enter into and execute all required documents, make all filings and pay all applicable fees, and take all other steps in connection therewith, in each case, of any nature whatsoever and information to be provided by me in connection with the aforesaid Tariff Petition & Generation Licensing shall be true and correct to the best of my knowledge and belief.

Dated : _____

K. Pervaiz
DEPONENT

Verification

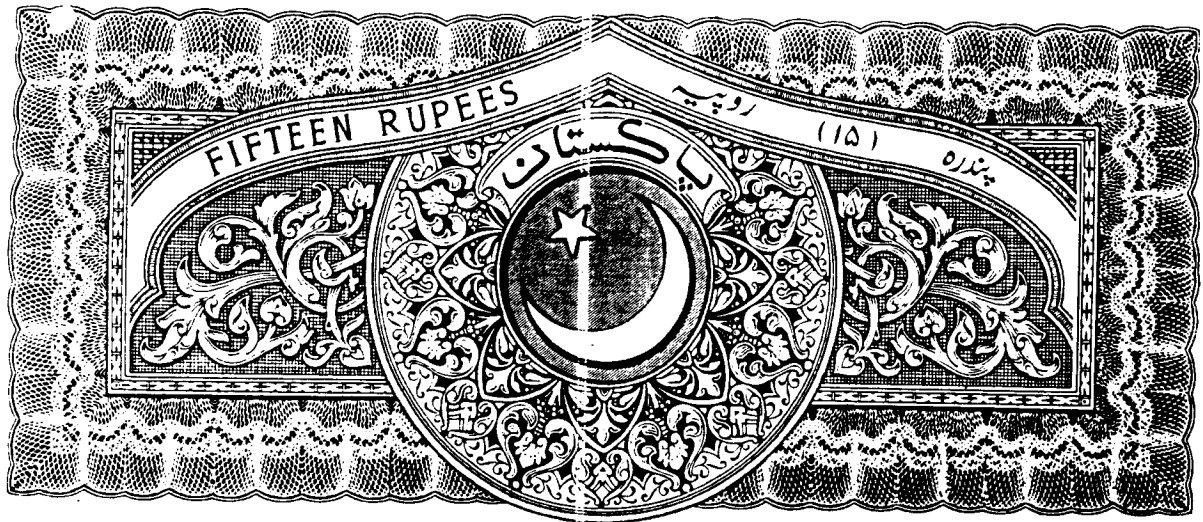
It is hereby verified on solemn affirmation at Islamabad, Pakistan on this _____ 2011 that the contents of the above Affidavit are true and correct to the best of my knowledge and belief and that nothing material or relevant has been concealed or withheld.

K. Pervaiz
DEPONENT



PAKISTAN

15 RS.



- 2 -

Amir

F/A

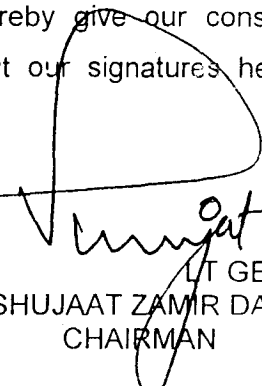
SANJWAL SOLAR POWER (PVT) LIMITED
SANJWAL

RESOLUTION NO. 02


DATED : 20-09-2011

RESOLVED that Mr Khalid Pervaiz, Director, Sanjwal Solar Power (Pvt) Limited is hereby authorized to produce Affidavit on stamp paper to the National Electric Power Regulatory Authority on behalf of the company regarding filing of Tariff Petition & Generation Licensing (including any review petitions and any motion for leave to review) for submission to the National Electric Power Regulatory Authority (NEPRA) for determination of the tariff and related matters in respect of 1-MW Solar Power Plant at Sanjwal (Pakistan) and in relation thereto, enter into and execute all required documents, make all filings and pay all applicable fees, and take all other steps in connection therewith, in each case, of any nature whatsoever.

We, the undersigned, hereby give our consent to the passing of the above Resolution by circulation and put our signatures hereunder in token of the approval thereto.


LT GEN
(SHUJAAT ZAMIR DAR)
CHAIRMAN


(FAHIMULLAH KHATTAK)
DIRECTOR


(RIAZ AHMED) 20.9.11
DIRECTOR


(MUHAMMAD ASIF)
DIRECTOR


(TASHHIR UDDIN)
MANAGING DIRECTOR



SCHEDULE OF STORE TO BE SUPPLIED

AGAINST CONTRACT NO:

Date: -9-2011

Complete Solar Power Plant of 01 MW capacity, as per details of power generation given in Annex-E, alongwith the scope of supply given below, according to the offer dated: 16-08-2011 of M/s HBKCS, China.

Sr. #	Description of Store	A/U	Qty	Unit Price in USD	Total cost in USD
1.	Solar Module- 230W-238W (Poly Crystalline)	Pc	4,374	465.392	2,035,625.00
2.	Mounting System (with structure design and strength prove)	W	1,000,000	0.30207	302,070.00
3.	DC/AC 4 KW on grid inverter PCM Solar King 4KW inverter with 5 years warranty (Spec. Annex – C)	set	243	1,441.21	350,214.00
4.	DC Distribution (Junction) Box (IP 65)	Set	81	1,240.74	100,500.00
5.	AC Panel (06 DC boxes in one 1 AC panel)	Set	41	948.732	38,898.00
6.	AC MP Panel	Set	09	719.222	6,473.00
7.	Monitoring system				
	i. Irradiation meter (with D/A Translation card) Second Class	Set	01	5,000.00	5,000.00
	ii. Temperature Meter (with D/A Translation card) stand less Box	Set	01	1,200.00	1,200.00
	iii. PC + 21" Monitor	Set	02	1,582.50	3,165.00
	iv. Monitoring soft ware cable /hardware Rs.485/Rs/232/ Translation card, data collection system /convert to Pc	Set	01	84,729.00	84,729.00
8.	PVC Pipe /screw /pipe lug /nuts/others 01 MWp	Set	01	123,705.00	123,705.00
9.	Cable/cable track/edge cover/others DC side (In front inverter)	Set	01	179,804.00	179,804.00
10.	Earthling system /grounding system	Set	01	14,097.00	14,097.00
11.	Test equipment and measurement	Set	01	67,537.00	67,537.00
12.	Tool Kits/accessories PR/DC/AC Resistance	Set	01	20,069.00	20,069.00
13.	Spare parts for 01 year warranty (Annex – B)	Set	01	32,048.00	32,048.00
14.	Management cost(including guidance of installation and tranining at sanjwal site), including presentation)	set	01	111,900.00	111,900.00
15.	Design (engineering design and civil design) & Consulting Fee	set	01	190,966.00	190,966.00
	Mechanical Construction stress calculated/signature				
	Electronical Technican signature				
Total FOB Value					3,668,000

For and on behalf of
HB KYOTO COMPLIANT SOURCES INTERNATIONAL CO, LTD.

Page 1 of 2

.....
Authorized Signature(s)

AUG 16 2011

F/G-1

September 27, 2011

Subject: Deficiencies in the Tariff petition of Sajwal Solar (Pvt) Ltd.(SSPPL)

With reference to the subject matter, following deficiencies have been noted in the Tariff petition of SSPPL:


1. Tariff table not correct, having many errors such as,
 - Principal repayment is in Rupees, whereas, other Tariff components are in Rs. /kWh
 - Principal repayment is spread over 25 years where as Interest has been spread over 10 years;
 - ROEDC is not available in Tariff Table
2. EPC Contract is not firm as per the requirement of ECC decision;
3. Feasibility Study is not approved by AEDB;

Until the above deficiencies have been fulfilled the petition should not be admitted.

Senior Advisor (Tariff) 27/9/11

Registrar


(Noman Siddiqui)
Deputy Director Tariff-II


27/9
AD(MR)+PA

Registrar S302
Dy. No.
Dated 27.09.2011



Islamabad
Electric Supply Company Limited
 Head Office, Street No. 40, Sector C 7/4 Islamabad

No. 8675-80 /CEO/IESCO/CE(P&E)/HT-1269

Dated: 19/09/2011

Mr. Khalid Pervez
 Managing Director
 Wah Industries Ltd.
 Quaid Avenue Wah Cantt
 Fax No. 051-9271400

4M/S-11
 11. 11.11.11
 20/9/11

Subject: CONSENT REGARDING PURCHASE OF ELECTRICITY FROM 01MW SANJWAL SOLAR POWER PLANT

Ref: 1. Your office letter No. Solar/Project(2010-11) Dated 08-09-11.
 2. Initial feasibility report of IESCO Standing Committee dated 11-07-11

IESCO is principally agreed to purchase the Power from ON GRID SOLAR Power System offered by Wah Industries Ltd (WIL) vide above referred letter. IESCO agrees to sign an Energy Purchase Agreement (EPA) with the Wah Industries Ltd (WIL) after fulfilling the following requirements:

1. WIL will arrange a Generation License issued by NEPRA for the subject proposal.
2. WIL will transmit the generated power at IESCO 132KV Sanjwal Grid Station through 11KV underground cable.
3. An agreement containing all necessary provision in view of Policy for Development of Renewable Energy for Power Generation 2006 (GOP) shall be established between IESCO and WIL that will also indicate the tariff to be applied for the sale of power from WIL to IESCO.
4. The tariff of above said Power Purchased/Sold will be determined by NEPRA.
5. WIL will provide the Alternative Energy Development Board (AEDB) approved copy of Feasibility Study of the subject Solar Power Project, approval from other departments (such as Environmental Protection Agency (EPA), Punjab etc) and other related information.

As soon as the above mentioned requirements are fulfilled an MOU can be signed in between IESCO and WIL.

This is issued with the approval of Chief Executive Officer IESCO.

Chief Engineer (P&E)
 IESCO, Islamabad

CC:

1. Chief Executive Officer, IESCO Islamabad.
2. Chief Engineer (DEV), IESCO Islamabad.
3. Chief Engineer (T&G), IESCO Islamabad (Convener of the Technical Committee IESCO) w.r.t his above referred report.
4. Registrar NEPRA, Sector G-5 Islamabad.
5. Mr. Imran Ahmed Director REP, AEDB House # 3 Street # 8, F-8/3 Islamabad.
6. Master file

F/J

**Summary / Checklist for
Examination of Tariff Petition Received under
NEPRA (Tariff Standards and Procedure) Rules, 1998**

Name of Company: Sanjwal Solar Power (Pvt.) Ltd.
Tariff Determination for: 1 MW Solar Power Project, Sanjwal, Punjab
Prepared/Updated on: 26.09.2011

Rule #	Information / Documents Required	Compliance	Remarks	Tariff Division's Observations
3(1)	Any licensee, consumer or person interested in the tariff may file a petition with the Authority by filing it with the Registrar along with such fees as may be determined by the Authority from time to time. The Authority may also initiate proceedings suo moto.	✓	Tariff Petition filing fee amounting to Rs.82,662/- submitted vide demand Draft No. BBB 10274601 dated 10.08.2011.	
3(2)(a)	state the name and address of the petitioner and the grounds giving rise to the petitioner's interest forming the basis of the petition and, where the petitioner is a licensee, the number and other relevant details of the licence as may be determined by the Authority from time to time.	✓	Mr. Khalid Pervaiz Managing Director Wah Industries Ltd. (on behalf of Sanjwal Solar Power (Pvt.) Ltd.) Quaid Avenue, Wah Cantt. Grounds giving rise to the Petitioner's interest are at para 1.3 & 1.4 (pages 5-6).	
3(2)(b)	state in a concise manner the grounds and the facts forming the basis of the petition;	✓	Provided at para 2 (pages 7-9).	
3(2)(c)	the relief or determination sought	✓	Provided at para 5.1 (page 21)	
3(2)(d)	be accompanied with comparative schedules of charges, costs, units, price and other items comprising the existing tariff and the proposed tariff, or such other details as may be determined from time to time by the Authority for the purpose.	✓	Not applicable	
3(2)(e)	be accompanied with a comparative table of the existing tariff design and the proposed tariff design on the basis of the categories of consumers likely to be affected by a modification of the tariff, their consumption patterns and charges payable by them; and	✓	Not applicable	

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Rule #	Information / Documents Required	Compliance	Remarks	Tariff Division's Observations
3(2)(f)	be supported with a summary of evidence giving brief particulars of the data, facts and evidence in support of the petition.	✓	Provided at pages 9-24.	
3(8)	Any petition or communication, where in any statement of fact or opinion is made by the petitioner or the communicator, shall be verified by an affidavit, drawn up in the first person stating the full name, age, occupation and address of the deponent and the capacity in which he is signing and indicating that the statement made therein is true to be best of the knowledge of the deponent, information received by the deponent and belief of the deponent, and shall be signed and sworn before a person lawfully authorized to take and receive affidavits, provided that, a communication filed during the course of a hearing may be affirmed in person before the Authority by the person filing the same.	✓	Affidavit provided	
	Board Resolution to authorize one or more persons to file a tariff petition with NEPRA and make further correspondence etc.	✓	Provided	
ECC Decision in Case No. ECC-65/5/2007 dated 23.05.2007	NEPRA should stop the practice of accepting EPC Costs on the basis of quotations etc. Instead, they should base their determination on firm (non-reopenable) competitive price duly initialed / signed by the IPP/EPC Contractors.	✓	Copy of quotation stating detailed cost of the project signed by prospective EPC Contractor provided.	



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Calendar for Processing the Tariff Petition

**Status of Tariff Petition filed by Sanjwal Solar Power (Pvt.) Ltd.
for Determination of Generation Tariff of 1 MW Solar Power Plant**

Approved Timelines	Milestones/Required Action	Action By	Actual Action Taken	Actual Days Consumed	Total Days Consumed
Day 01 23.09.2011	Tariff petition received by Registrar and circulation thereof to the Tariff Division for comments/recommendation. Missing information provided by the Petitioner.	Registrar	Received on 12.08.2011 Sent to Tariff Section 12.08.2011 22.09.2011	00	00
Day 04 28.09.2011	Certificate by the Tariff Division to Registrar that the petition contains all the requisite information for processing and may be accepted (or advice to return the deficient petition indicating the deficiencies)	DG(T)/SA(T)	Received from Tariff Section 27.09.2011	03	03
Day 06 30.09.2011	Filing / Acceptance of the tariff petition by the Registrar and submission of Working Paper by the Registrar to Coordination for consideration of the Authority to grant Leave for Review or otherwise		Sent to Coord Section 27.09.2011	03	03
Day 10 06.10.2011	Admission of the tariff petition by the Authority	Registrar			
Day 12 10.10.2011	Advertisement in the Press/Notice of Admission/public hearing to stakeholders	DG(T)/SA(T) Dir-Admn			
Day 26 28.10.2011	Public Hearing	DG(T)/SA(T)			
Day 33 08.11.2011	Closure of Evidence	DG(T)/SA(T) /LA-II/III			
Day 48 29.11.2011	Case Officer's Report seeking approval of Authority on Financial and Technical Analysis	DG(T)/SA(T)			
Day 56 09.12.2011	Draft Determination by the Case Officer for consideration of the Authority	DG(T)/SA(T)			
Day 59 14.12.2011	Final Determination for signatures of the Authority	DG(T)/SA(T)			
Day 66 23.12.2011	Determination signed by the Authority	Members of the Authority			
Day 69 28.12.2011	Issuance of Determination to the Government for notification and other stakeholders for record	Registrar			



ALTERNATIVE ENERGY DEVELOPMENT BOARD

MINISTRY OF WATER & POWER
GOVERNMENT OF PAKISTAN

1, Nazimuddin Road, Sector F - 10/4, Islamabad
Tel: 051 2215308 Fax: 051 2215356



Subject: Solar Energy in Pakistan: Setting up Upfront Tariff and Capacity Cap

Pakistan is blessed with a huge solar potential of more than 5-6 KWH/m²/day of irradiation in many areas. The potential is technically feasible for both Solar PV and Solar Thermal application. The area with highest solar potential is the province of Balochistan followed by Eastern Sindh and Southern Punjab. Even the areas with the lowest solar potential of Pakistan has better solar resource compared to most of Europe thereby ensuring better energy yield and comparatively lower tariff.

2. Germany has largest solar installation in the world and offers very attractive tariff upto US \$ 0.45 per KWH, whereas France and Canada offer over US \$ 0.60. In Pakistan, we expect this Tariff to be around US \$ 0.25 – \$0.30 per KWH based on cost-plus policy of tariff determination. However, market induction will require further incentives to compete as our neighbor India has announced Feed in Tariff of US \$ 0.39 per KWH for Solar PV Parks which has already distorted the market. Aforesaid in view, Solar energy has an impression of being an expensive option but it is required to be initiated now keeping in view the long term energy security and global trends.

3. Under the 2006 RE policy, AEDB is required to process the requests of LOIs it receives. AEDB has, so far, issued 7 Lols for cumulative capacities of 114 MWs under this policy. As per existing process and procedures, the tariff for these projects will be determined on Cost Plus basis; however, it has been accepted globally that because of the unique nature and complexities involved, the cost plus tariff determination is not the right method of setting the price of solar energy. In fact currently Pakistan is the only country in the World that is offering "cost plus" for the grid based solar energy.

4. In order to provide the necessary support to the sector in an economical and efficient way, AEDB suggests to set and announce the Upfront / Feed in Tariff for this sector along with setting up the cap on how much capacity may be added annually ensuring gradual injection of Solar energy at economical cost.

5. It is proposed that as was done in India – announce an appropriate upfront tariff based on international trends for the first 150 MW and invite the offers. If there are no takers, we may consider revision of this tariff upwards, or alternately if we have more than expected

For information & info H.

– DG (Tariff).

22/9

cc: chairman
VC/M (LIC).
M (S&P)
M (A&C).
M (R&T).

Registrar	5231
By No.	22-09-11
Date	22-09-11

investors, we may fine tune it downwards. Given that there has been no determination of Solar Tariffs by NEPRA so far, and no EPC has been entered into, AEDB feels this to be the safest and the most equitable way forward.

6. AEDB seeks NEPRA indulgence in the matter and looks forward for the advice and steps to move forward on the feed-in-tariff for the solar PV in Pakistan.



(Imran Ahmed)

Director REP/Policy Coordinator

The Member Tariff, National Electric Power Regulatory Authority, Islamabad

U.O No. B/3/1/Tariff/11 Dated 21 Sept, 2011.

CC

1. The Registrar, National Electric Power Regulatory Authority; Islamabad
2. JS Power, Ministry of Water & Power, Islamabad
3. PS to CEO