



# National Electric Power Regulatory Authority

## Islamic Republic of Pakistan

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Registrar

No. NEPRA/R/TRF-69/GEL -2007/2027-29  
April 19, 2007

Subject: **Decision of the Authority w.r.t. Motion for Leave for Review filed by Gujranwala Energy Ltd. (GEL) under Rule 16(6) of NEPRA (Tariff Standards and Procedure) Rules, 1998 (Case No. NEPRA/TRF-69/GEL -2007)**


Dear Sir,

In continuation of this office letter No. NEPRA/TRF-69/GEL-2007/1402-4 dated 09.03.2007 whereby determination of the Authority on Gujranwala Energy Ltd. was sent. Please find enclosed herewith the decision of the Authority along with Annexes-I & II (19 pages) in the matter of Motion filed by Gujranwala Energy Ltd. against Case No. NEPRA/TRF-69/GEL -2007.

2. Subsequent to the culmination of proceedings in the subject Motion for Leave for Review and the issuance/announcement of decision of the Authority alongwith Annexes-I & II (19 pages) is being intimated to the Federal Government for the purpose of notification of the approved tariff, in the official Gazette pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997) read with Rule 19(11) of the National Electric Power Regulatory Authority Tariff (Standards and Procedure) Rules, 1998.

3. Please be informed that the Reference Tariff earlier intimated vide para 95 of the Authority's determination dated March 09, 2007, stands revised to the extent as detailed in para-37 (10 pages) of the decision of the Authority on the subject motion along with Annexes-I & II (02 pages) needs to be notified in the official Gazette. The Order is reproduced for the purpose of clarity and is attached herewith.

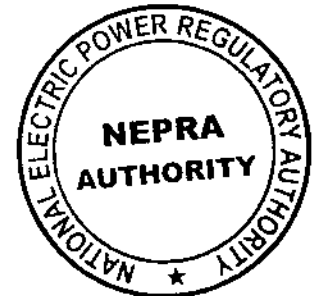
DA/As above.

  
(Mahjoob Ahmad Mirza)

Secretary  
Cabinet Division,  
Government of Pakistan  
Cabinet Secretariat  
Islamabad

CC:

1. Secretary, Ministry of Water & Power, Islamabad.
2. Secretary, Ministry of Finance, Islamabad.



**FINAL ORDER OF THE AUTHORITY**  
**IN CASE NO. NEPRA/TRF-69/GEL-2007**  
**TO BE NOTIFIED IN THE OFFICIAL GAZETTE**

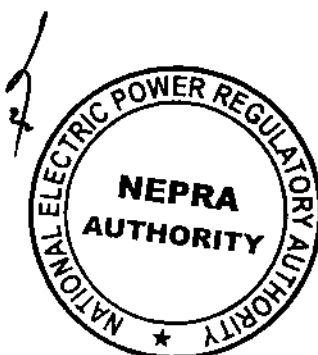
Pursuant to Rule 6 of the NEPRA Licensing (Generation) Rules 2000, Gujranwala Energy Limited (GEL) is allowed to charge, subject to adjustment of Capacity Purchase Price on account of net dependable capacity as determined by test jointly carried out by Central Power Purchasing Agency (CPPA) and the petitioner, the following is approved as specified tariff for GEL for delivery of electricity to CPPA of NTDC for procurement on behalf of Ex-WAPDA Distribution Companies:

**Reference Tariff**

<b>Tariff Components</b>	<b>Year 1 to 10</b>	<b>Year 11 to 25</b>	<b>Indexation</b>
<b>Capacity Charge PKR/kW/Hour)</b>			
O&M Foreign	0.0675	0.0675	US\$ /PKR & US CPI
O&M Local	0.0675	0.0675	WPI
Cost of Working Capital	0.0900	0.0900	KIBOR
Insurance	0.0816	0.0816	US\$ /PKR
Debt Service – Local	1.0020	-	KIBOR
Return on Equity	0.2733	0.2733	NIL
ROE during Construction	0.0509	0.0509	NIL
<b>Total Capacity Charge</b>	<b>1.6328</b>	<b>0.6308</b>	
<b>Energy Charge on Operation on Furnace Oil Rs./kWh</b>			
Fuel Cost Component	4.7811	4.7811	Fuel Price
Variable O&M	0.4362	0.4362	US\$ /PKR & US CPI

- Note: i) Capacity Charge Rs./kW/hour applicable to dependable capacity at the delivery point.
- ii) Dispatch criterion will be Energy Charge.
- iii) The above tariff is applicable for a period of 25 years commencing from the date of the Commercial Operation.
- iv) In case of foreign equity ROE and ROEDC component will be adjusted for Rs./\$ parity variation. The reference exchange rate will be Rs.61 per Dollar.
- v) Component wise tariff for operation on RFO is indicated at Annex-I.

The following adjustments /indexations shall be applicable to reference tariff;



# **I. Adjustment in EPC Cost (One Time)**

The Authority has assessed EPC cost as US\$ 169.566 million out of which US\$ 150.346 million would be in Euro and US\$ 19.220 million in US Dollar. Since the exact timing of payment to EPC contractor is not known at this point of time therefore an adjustment for relevant foreign currency fluctuation for the portion of payment in the relevant foreign currency will be made. In this regard the sponsor will be required to provide all the necessary relevant details along with documentary evidence. Based upon such information the EPC cost components in Euro, Dollar or Pak Rupees shall be established and shall be applied to the corresponding EPC cost components. The adjustment shall be only for currency fluctuation against the reference Euro/Dollar parity values according to the following mechanism;

$$EPC_{(Adj.)} = US\$ 150.624 \text{ Million} / 1.28 * E_{(PR)} + US\$ 18.960 \text{ Million}$$

Where:

$$E_{(PR)} = \text{Weighted Average EURO to dollar parity based upon timing of the payment}$$

Note:- The adjustment on account of variation in Euro/US\$ parity in the relevant EPC cost would be allowed on the basis of EPC contract being finalized within 3 months of tariff determination. No adjustment in EPC cost shall be allowed beyond 15 months of financial close or 18 months of tariff determination whichever is earlier.

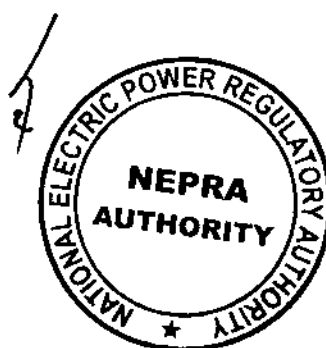
The tariff components i.e. Insurance, ROE, ROEDC, Principal Repayment and Interest Charges shall be adjusted according to the following formula at COD.

## **i) Insurance Adjustment Mechanism for EPC Cost Variation**

$$Ins_{(Rev)} = Ins_{(Ref)} / EPC_{(Ref)} \times EPC_{(Adj.)} \times P_{(Rev)} / 61$$

Where:

$Ins_{(Rev)}$	=	Revised reference insurance component of tariff
$Ins_{(Ref)}$	=	Reference insurance component of tariff as per original schedule of tariff
$EPC_{(Ref.)}$	=	Reference EPC in US\$
$EPC_{(Adj.)}$	=	Adjusted EPC in US\$
$P_{(Rev)}$	=	Rupee to Dollar parity at COD



**ii) Return on Equity Adjustment Mechanism for EPC Cost Variation**

$$ROE_{(Rev)} = 0.2733 / (25\% \times \text{US\$}204.329 \text{ million}) \times (25\% \times PC_{(Rev)}) \times P_{(Rev)} / 61$$

Where:

ROE(Rev) = Revised reference Return on Equity component of tariff

PC(Rev.) = Revised project cost after incorporating the adjustment for currency fluctuation

P(Rev) = Rupee to Dollar parity at COD

**iii) ROEDC Adjustment Mechanism for EPC Cost Variation**

$$ROEDC_{(Rev)} = 0.0509 / (\text{US\$}9.23 \text{ million}) \times (EDC_{(Rev)}) \times P_{(Rev)} / 61$$

Where:

ROEDC<sub>(Rev)</sub> = Revised reference Return on Equity during Construction component of tariff

EDC<sub>(Rev)</sub> = Revised Equity During Construction in million USD.

P<sub>(Rev)</sub> = Rupee to Dollar parity at COD

**iv) Debt Servicing Adjustment Mechanism for EPC Cost Variation**

$$DS_{(Rev)} = DS_{(Ref)} / \text{US\$} 153.247 \text{ million} \times (75\% \times PC_{(Rev)}) \times P_{(Rev)} / 61$$

Note: The adjustment factor established as per the above formula shall be applicable to the individual components of principal and interest during the entire repayment period.

DS<sub>(Rev)</sub> = Revised Debt Servicing component of tariff

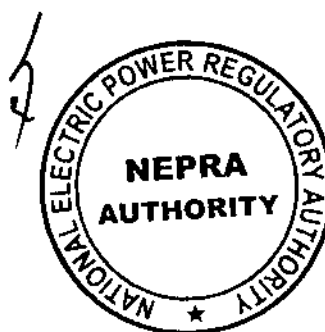
DS<sub>(Ref)</sub> = Reference Debt Servicing component of tariff as per original schedule of tariff

PC<sub>(Rev.)</sub> = Revised project cost after incorporating the adjustment for currency fluctuation

P<sub>(Rev)</sub> = Rupee to Dollar parity at COD

**II. Adjustment due to Variation in Net Capacity**

All the tariff components except fuel cost component shall be adjusted at the time of COD based upon the Initial Dependable Capacity (IDC) tests to be carried out for determination of contracted capacity. Adjustment shall not be made if IDC is established less than 195.26 MW net capacity, at reference site conditions. In case of higher net capacity the adjustments shall be made according to the following formula:



$$CC_{(Adj.)} = CC_{(Ref)} / NC_{(IDC)} \times 195.26 MW$$

Note: Above formula shall be applicable to all the individual relevant components of Capacity Charges.

Where;

$CC_{(Adj)}$  = Adjusted relevant Capacity Charge components of tariff  
 $CC_{(Ref)}$  = Reference relevant Capacity Charge components of tariff  
 $NC_{(IDC)}$  = Net Capacity at reference site conditions established at the time of IDC test

Note:- Reference capacity charge components of Tariff i.e. Revised O&M Foreign, Revised O&M Local, Insurance, Debt Servicing, Return on Equity and ROEDC to be adjusted as per IDC test.

Reference Site Conditions:

Ambient Temperature	30 °C
Altitude	200 m
Relative humidity	60%
Water Temperature to Charge air cooler	45 °C

### III. Adjustment in Insurance as per actual

The actual insurance cost for the minimum cover required under contractual obligations with the Power Purchaser not exceeding 1.35% of the EPC cost will be treated as pass-through. Insurance component of reference tariff shall be adjusted as per actual on yearly basis upon production of authentic documentary evidence by GEL according to the following formula;

$$\text{Insurance}_{(Rev)} = AIC / (1.35 \% \times \text{US\$}169.584 \text{ Million}) * AP$$

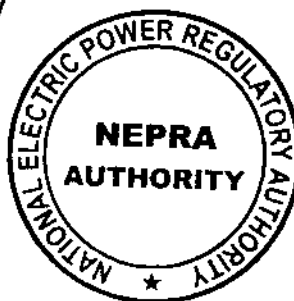
Where;

AIC = Adjusted Insurance Component (Rs. kW/hr) as per IDC Test  
AP = Actual Premium subject to maximum of 1.35% of the adjusted EPC

### IV. Adjustment Based on Actual Interest During Construction

Debt Service, Return on Equity and ROE & ROEDC during construction shall be adjusted on account of actual variation in drawdown and Interest During Construction with reference to the estimated figures.

GEL shall submit the relevant documents to NEPRA within 7 days of COD for adjustment of relevant tariff components.



**V. Adjustment due to Custom Duties & Taxes**

Debt Service, Return on Equity and ROE & ROEDC during construction shall be adjusted on account of actual variation in customs duties & taxes with reference to the estimated figures of US \$ 7.531 million.

GEL shall submit the relevant documents to NEPRA within 7 days of COD for adjustment of relevant tariff components.

**VI. Adjustment for variation in Dollar/Rupee parity**

Relevant reference tariff components shall be adjusted at COD on account of variation in Dollar/Rupee parity.

**VII. Pass-Through Items**

- i) No provision for income tax has been accounted for in the tariff. If GEL is obligated to pay any tax on its ROE, the exact amount paid by the company may be reimbursed by CPPA to GEL on production of original receipts. This payment may be considered as pass-through (as Rs./kW/hour) hourly payment spread over a 12 months period in addition to the capacity purchase price proposed in the Reference Tariff. Furthermore, in such a scenario, GEL may also submit to CPPA details of any tax shield savings and CPPA will deduct the amount of these savings from its payment to GEL on account of taxation.
- ii) Withholding tax is also a pass through item just like other taxes as indicated in the government guidelines for determination of tariff for new IPPs. In a reference tariff table withholding tax number is indicated as reference and CPPA (NTDC) shall make payment on account of withholding tax at the time of actual payment of dividend subject to maximum of 7.5% of 15% reference equity i.e. hourly payment (Rs./kW/hour) spread over a 12 month according to the following formula:

$$\text{Withholding Tax Payable} = [ \{ 15\% * (E(\text{Ref}) - E(\text{Red})) \} + \text{ROEDC}(\text{Ref}) ] * 7.5\%$$

Where:

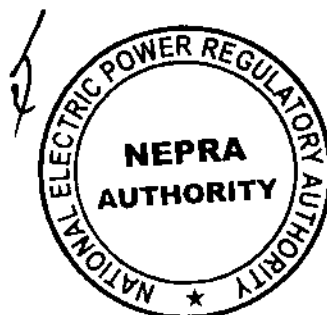
$E(\text{Ref})$  = Adjusted Reference Equity at COD

$E(\text{Red})$  = Equity Redeemed

$\text{ROEDC}(\text{Ref})$  = Reference Return on Equity During Construction

Note:- ROE, ROEDC and withholding tax pertaining to the foreign equity shall be adjusted for variation in currency (Pakistani Rupee/US\$).

- iii) In case Company does not declare a dividend in a particular year or only declares a partial dividend, then the difference in the withholding tax amount (between what is paid



in that year and the total entitlement as per the Net Return on Equity) would be carried forward and accumulated so that the Company is able to recover the same in hourly payments spread over 12 months period as a pass through from the Power Purchaser in future on the basis of the total dividend pay out.

**VIII. Indexations:**

The following indexation shall be applicable to the reference tariff as follows;

**a) Indexation applicable to O&M**

The Fixed O&M local component of Capacity Charge will be adjusted on account of Inflation (WPI) and Fixed O&M foreign component on account of variation in US CPI and dollar/Rupee exchange rate. Quarterly adjustment for local inflation, foreign inflation and exchange rate variation will be made on 1<sup>st</sup> July, 1<sup>st</sup> October, 1<sup>st</sup> January and 1<sup>st</sup> April based on the latest average quarterly available information with respect to WPI notified by the Federal Bureau of Statistics (FBS), US CPI issued by relevant US Agency and revised TT & OD selling rate of US Dollar notified by the National Bank of Pakistan. The mode of indexation will be as under:

**i) Fixed O&M**

$$F O\&M_{(LREV)} = \text{Rs. } 0.0675 / \text{kW/Hour} * WPI_{(REV)} / 118.96$$

$$F O\&M_{(FREV)} = \text{Rs. } 0.0675 / \text{kW/Hour} * US CPI_{(REV)} / 202.41 * ER_{(REV)} / 61$$

Where:

$F O\&M_{(LREV)}$  = the revised applicable Fixed O&M Local Component of the Capacity Charge indexed with WPI

$F O\&M_{(FREV)}$  = the revised applicable Fixed O&M Foreign Component of the Capacity Charge indexed with US CPI and Exchange Rate variations

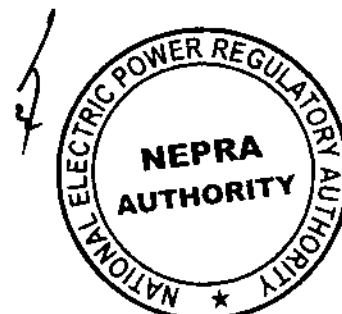
$WPI_{(REV)}$  = the revised wholesale Price Index (manufactures)

$WPI_{(REF)}$  = 118.96 wholesale price index (manufactures) of January 2007 notified by Federal Bureau of Statistics

$US CPI_{(REV)}$  = the revised US CPI

$US CPI_{(REF)}$  = 202.41 US CPI for the month of January 2007

$ER_{(REV)}$  = the Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan



Note: The reference numbers indicated above shall be replaced by the revised numbers after incorporating the required adjustments at COD.

ii) **Variable O&M**

The formula for indexation of variable O&M component will be as under:

$$\begin{aligned} V O\&M_{(LREV)} &= \text{Rs. } 0.0928/\text{kW/Hour} * WPI_{(REV)} / 118.96 \\ V O\&M_{(FREV)} &= \text{Rs. } 0.3434/\text{kW/Hour} * US CPI_{(REV)} / 202.41 * ER_{(REV)} / 61 \end{aligned}$$

Where:

$V O\&M_{(LREV)}$	=	the revised applicable Variable O&M Local Component of the Capacity Charge indexed with WPI
$V O\&M_{(FREV)}$	=	the revised applicable Variable O&M Foreign Component of the Capacity Charge indexed with US CPI and Exchange Rate variations
$WPI_{(REV)}$	=	the revised wholesale Price Index (manufactures)
$WPI_{(REF)}$	=	118.96 wholesale price index (manufactures) of January 2007 notified by Federal Bureau of Statistics
$US CPI_{(REV)}$	=	the revised US CPI
$US CPI_{(REF)}$	=	202.41 US CPI for the month of January 2007
$ER_{(REV)}$	=	the Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan

Note: The reference Variable O&M indicated above shall be replaced with the revised number at COD after incorporating the required adjustment based upon the IDC Test.

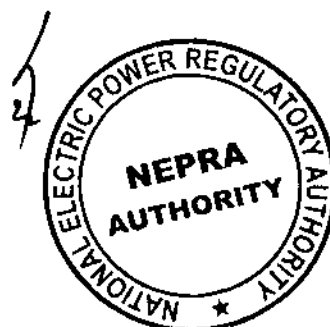
iii) **Adjustment for KIBOR variation**

The interest part of fixed charge component will remain unchanged throughout the term except for the adjustment due to variations in interest rate as a result of variation in quarterly KIBOR according to the following formula;

$$\Delta I_{(L)} = P_{(LREV)} * (KIBOR_{(REV)} - 10.45\%) / 4$$

Where:

$\Delta I_{(L)}$	=	the variation in interest charges applicable on local loan corresponding to variation in quarterly KIBOR. $\Delta I$ can be positive or negative depending upon whether $KIBOR_{(REV)} >$ or $<$ 10.45%. The interest payment obligation will be enhanced or
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reduced to the extent of  $\Delta I$  for each quarter under adjustment applicable on quarterly

$P_{(REV)} =$  is the outstanding principal (as indicated in the attached debt service schedule to this order) on a quarterly basis on the relevant quarterly calculations date. Period 1 shall commence on the date on which the 1<sup>st</sup> installment is due after availing the grace period.

Note: In case of foreign borrowing the adjustment will be made on account of Rs./\$ parity variation and LIBOR. For LIBOR adjustment the above formula will be used and KIBOR will be replaced with LIBOR and a spread of 3%.

#### iv) Fuel Price Variation

The Variable Charge Part of the tariff relating to fuel cost shall be adjusted on account of the fuel price variations according to the mechanism given below:

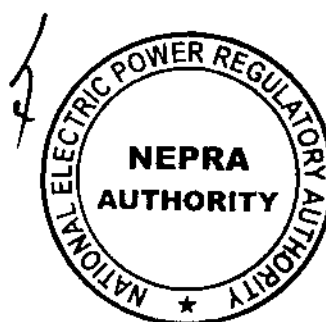
$$FC_{(REV)} = (Rs.4.3223 \text{ per kWh} * FP_{(REV)}) / Rs.23,247.07 \text{ per ton} + (Rs.0.4588 \text{ per kWh} * Ft_{(REV)}) / Rs.2,467.50 \text{ per ton}$$

Where:

$FC_{(REV)}$  = Revised fuel cost component of Variable Charge on RFO.  
 $Ft_{(REV)}$  = Revised Freight Charges adjusted for NHV-GHV factor  
 $FP_{(REV)}$  = The new price of RFO per Metric Ton adjusted for NHV/GHV factor of 1.05 as per the following mechanism;

Description	US\$/Ton	Rs./Ton
HSFO Arab Gulf Average Price for applicable Fortnight (From Platts Oilgram Report) *		
Black Premium (From OGRA)		
C & F Price – A		
Crude Handling and Incidental charges (7.282% of C&F Price)**		
<b>Sub-Total – B</b>		
EX Refinery Price – (C=A+B)		
GST (15% of EX Refinery Price)		
Selling Price – D		
OMC Margin (3.5% of Selling Price)		
GST (15% on OMC Margin)		
Sub Total – E		
Market Price – (F=D+E)		
<b>Cost of RFO excluding GST (GHV)</b>		
<b>Inland Freight</b>		
<b>Total Cost of RFO excluding GST (GHV)</b>		

US\$ Pak Rupee Exchange Rate-NBP Selling TT/OD at the date of applicable fuel price



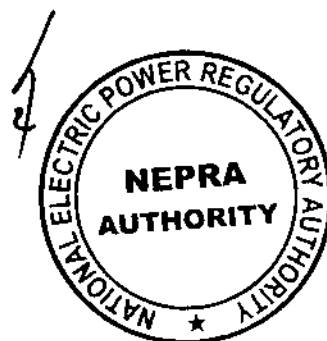
- \* The supplier shall clearly indicate average Gross and Net calorific values of Arabian Gulf or any other source of which average reference fuel prices are used. Fuel supplier shall provide price adjustment mechanism due to variation in calorific value of the fuel being supplied to the IPP against the reference calorific values.
- \*\* Fuel supplier shall provide item wise actual incidental charges prevailing at the time of receiving payment for fuel supply. This charge shall vary with market supply/demand position but shall not exceed 8% of C&F price, to be uniformly charged to all customers including GEL.

The fuel cost component will be adjusted after the commercial operation date, at the time of revision in RFO price.

Adjustment on account of local inflation, foreign inflation, foreign exchange rate variation, KIBOR/LIBOR variation and fuel price variation will be approved and announced by the Authority for immediate application within seven working days after receipt of GEL's request for adjustment in accordance with the requisite indexation mechanism stipulated herein.

**IX. Terms and Conditions of Tariff:**

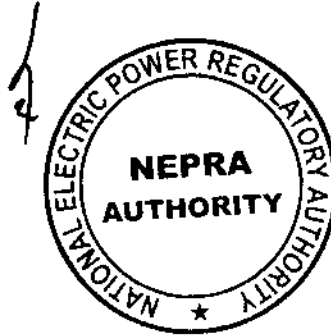
- i) The plant availability shall be 90%.
- ii) All new equipment will be installed and the plant will be of standard configuration.
- iii) Dispatch criterion will be based on the Energy Charge.
- iv) Internal consumption (including air-cooled condenser) has been assumed to be approximately 4.1 MW.
- v) Annual Unscheduled Outages (MWh) and Available Capacity (MW) without any liquidated damages shall be in accordance with the 2006 standardized PPA.
- vi) Scheduled Outage periods per annum shall be in accordance with the 2006 standardized PPA.
- vii) NTDC will be responsible for constructing the interconnection to the grid.
- viii) All invoicing and payment terms are assumed to be in accordance with the 2006 standardized PPA.
- ix) Tolerance in Dispatch shall be in accordance with 2006 standardized PPA.
- x) If there is any change in any assumption that may lead to change in the tariff shall be referred to NEPRA for approval.



- xi) If IPP is required by the power purchaser to deliver power above 132 kV, any additional cost to be incurred by the IPP will be submitted to NEPRA for adjustment. The adjustment request by the IPP shall be duly verified by the power purchaser.

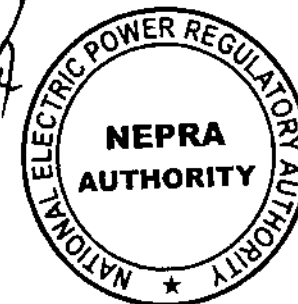
The above tariff and terms and conditions be incorporated in the Power Purchase Agreement between GEL and CPPA.

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**Gujranwala Energy Limited  
Reference Tariff Table**

Year	Variable Charge (Rs./kWh)			Capacity Charge (Rs./kW/Hour)									Capacity Charge at 60% PF	Tariff	
	Fuel	Variable O&M	Total	Fixed O&M	Cost of Working Capital	Insurance	ROE	ROEDC	Withholding Tax @7.5%	Loan Repayment	Interest Charges	Total	Rs. per kWh	Rs. per kWh	¢ per kWh
1	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.2807	0.7213	1.6572	2.7620	7.9793	13.0808
2	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.3203	0.6816	1.6572	2.7620	7.9793	13.0808
3	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.3657	0.6363	1.6572	2.7620	7.9793	13.0808
4	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.4174	0.5846	1.6572	2.7620	7.9793	13.0808
5	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.4764	0.5255	1.6572	2.7620	7.9793	13.0808
6	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.5438	0.4582	1.6572	2.7620	7.9793	13.0808
7	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.6207	0.3813	1.6572	2.7620	7.9793	13.0808
8	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.7085	0.2935	1.6572	2.7620	7.9793	13.0808
9	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.8087	0.1933	1.6572	2.7620	7.9793	13.0808
10	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.9231	0.0789	1.6572	2.7620	7.9793	13.0808
11	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
12	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
13	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
14	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
15	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
16	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
17	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
18	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
19	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
20	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
21	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
22	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
23	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
24	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
25	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
Levelized Tariff (1-25Years)			5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.3338	0.3444	1.3335	2.2225	7.4398	12.1963



**Decision of the Authority w.r.t. Motion for Leave for Review filed by  
Gujranwala Energy Ltd. (GEL) Under Rule 16(6) of Tariff Standard  
and Procedure Rules - 1998**

1. Gujranwala Energy Ltd. (GEL) filed motion for leave for review on 15.3.2007 against the tariff determination dated 5.3.2007 in Case No. NEPRA/TRF-69/GEL-2007. GEL requested for reconsideration of the following issues;

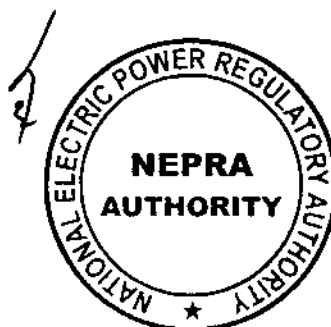
- Net Output of the plant at COD
- Project Cost
- EPC Cost
- Timeline of the Project
- Cost of Working Capital
- ROE
- ROEDC
- Debt Servicing
- Fuel Cost
- Variable O&M
- Pass Through Items
- Plant Availability
- Clarifications
- Miscellaneous

2. The Authority accepted the motion for leave for review on March 21, 2007 and held hearing on March 29, 2007 in NEPRA's main office in order to provide an opportunity to the petitioner to present its case before the Authority. All parties to the proceedings were informed accordingly. The issue wise discussion and decisions are given in the following paragraphs;

**Net Output of Plant at COD**

3. According to GEL net plant capacity has been decided at 196 MW instead of the Company's requested net plant capacity of 189 MW. GEL submitted that 4.1MW as indicated by the engine manufacturer, Wartsila, was for its equipment only i.e. excluding the auxiliary power consumption for the "Balance of Plant". The net output of 189MW was derived at by taking into consideration, over the 25-year Power Purchase Agreement (PPA) term, the increase in the auxiliary power consumption of the equipment, pump-sets, package-boiler (for decanting of the fuel oil unloading facilities during the winter months), step-up and step down transformer at the 132kV switchyard, HVAC on all buildings, station laboratory, workshop facilities CCTV, station lighting, ACC during summer months, radiators, etc. GEL requested as follows;

- (a) fix the net output at 189MW instead of 196MW;
- (b) the Contract Capacity to be finalized at the COD, which shall not be less than 189MW; and



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b<sup>1</sup>

- (c) plant output during the PPA term and the payment mechanism in relation thereto shall be consistent with the standardized PPA.

4. CPPA, while agreeing with the Authority's original decision stated that auxiliary consumption of 4.1MW is based on information given by WARTSILA therefore in the absence of any credible evidence to the contrary other estimates should not be relied upon. According to the documentary evidence in a similar case provided by WARDA, the auxiliary consumption is also 4.1 MW. The Authority has considered all the available information and observed that the figure of 4.1 MW does not cater for the transformation losses and decanting. On the basis of available information regarding the step up transformation losses (from generation voltage to 132 kV which is the delivery voltage), the Authority has assessed a margin of 0.3% to be allowed as additional auxiliary consumption along with 40 kW for decanting load (which is equivalent to 0.040MW). Thus the total auxiliary load would be  $4.1 + 0.30 \times 200/100 + 0.040 = 4.74$  MW. The Authority has therefore decided to modify the threshold of net capacity 196 MW to be 195.26 MW. Adjustment shall not be made if IDC is established less than 195.26 MW net capacity measured at 132 kV bus bar, at reference site conditions. The Authority considers that any load other than aforementioned auxiliary load required for plant operation cannot be allowed and should not be taken into account at the time of Initial Dependable Capacity (IDC) test.

#### **Project Cost**

##### **Non-EPC Cost**

5. GEL has submitted that it had requested non-EPC cost of US\$ 25.304 million whereas the Authority has allowed only US\$ 19.054 million, thus reducing it by US\$ 6.250 million or 25% of the Non-EPC cost requested by the Company. According to GEL no sponsors would agree to the adverse impact of cost overruns on their IRR on account of a 25% reduction in the non-EPC cost.

6. The Authority considered the GEL's request and observes that GEL could not submit any cogent argument to justify its request for enhancement of Non-EPC cost. The Authority therefore decides not to later its earlier decision in this context.

##### **EPC Cost**

7. GEL submitted that its entire EPC price is denominated in Euros and GEL has to make payment to its EPC contractor in Euros or Euro equivalent in Pakistani Rupees on the date of



payment, regardless of the fact whether cost is offshore or onshore therefore GEL may be allowed the applicable currency adjustments.

8. GEL's request regarding indexation of onshore project cost with Dollar/Euro parity could not be justified. The Authority used conversion rate of 1.20 Dollar/Euro because the petitioner had used this conversion factor to translate local currency in equivalent Euro. The Authority understands that there are two parts of EPC contract, one offshore; which will be for plant and equipment and the other onshore which will be for infrastructure development and civil works. The Authority considers that the costs to be incurred in local currency cannot be adjusted for variation in Euro/Dollar parity. The Authority therefore decides not to alter its earlier decision in this context.

9. The Authority considers that under Part I of Paragraph 95 titled as the Adjustment in EPC Cost (One Time) the sentence "The adjustment would be allowed for a period of up to 3 months or up to financial close whichever is earlier" requires further clarification. The Authority therefore decided to insert the following note under part I in paragraph 95 titled as Adjustment in EPC cost (One Time);

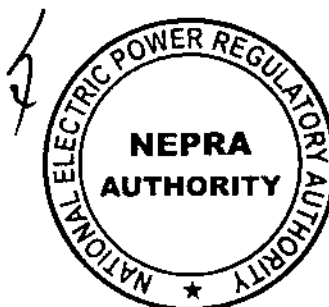
*"The adjustment on account of variation in Euro/US\$ parity in the relevant EPC cost would be allowed on the basis of EPC contract being finalized within 3 months of tariff determination. No adjustment in EPC cost shall be allowed beyond 15 months of financial close or 18 months of tariff determination whichever is earlier".*

#### **Timeline of Project**

10. GEL submitted that in its Petition 20 month construction period was indicated however due to sudden increase in demand of engines technology worldwide it has requested the Authority in letter dated March 7, 2007 that a minimum of 24 months construction period was required by its potential EPC Contractors. GEL submitted that the delay on account of the existing circumstances is not within its control therefore tentative timeline that the Company is able to indicate in relation to the Project is as follows:

Tariff Ruling	March 31, 2007
Finalization of EPC and FSA	June 30, 2007
Finalization of PPA and IA	July 31, 2007
Financial Close	September 30, 2007
Commercial Operation Date	August 31, 2009

11. GEL further submitted that the aforementioned timeline assumes the availability of



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engines from the manufacturers/suppliers and that GEL shall not incur liquidated damages etc. if the COD is delayed for reasons beyond the control of the petitioner.

12. The Authority understands that the project is on fast track basis to meet the requirement of the shortage of power in the country during 2008-09 and the timeline approved by the Authority in its determination dated March 9, 2007 was requested by GEL. The Authority considers that all the fast track projects are bound to meet the deadline as fixed by GOP; GEL's request regarding extension in COD date is not justified and is therefore not accepted.

#### **Cost of Working Capital**

13. According to GEL the Authority has disallowed the "Fuel Advance Payment" payable to the fuel supplier. GEL submitted that it is industry norm for fuel suppliers to require advance payments and the Authority should allow this item so that advance payment to the fuel supplier can be made for assuring uninterrupted supply of fuel to the Company, and resultantly to the Power Purchaser.

14. The Authority considers that the issue has already been addressed in the original determination and needs no further reconsideration.

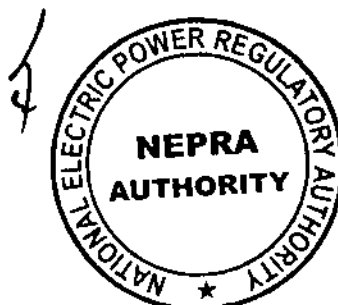
#### **ROE**

15. According to GEL at paragraph-81 of the Tariff Ruling the ROE component of the tariff is stated to be Rs.0.2802/kw/hr (derived from the equity amount of US\$ 50.987 million, as indicated in paragraph-71) while the tariff table annexed with the Order of the Authority mentions such component as Rs. 0.2794/kw/hr. GEL requested that this needs rectification by the Authority and the correct figure of Rs.0.2802/kw/hr should be reflected in the tariff table.

16. The Authority has revisited the working of ROE and observed that the correct assessment of equity amount was US\$51.08 million. Based upon GEL's corrected equity and loan drawdown schedule, the Authority has now assessed GEL's ROE as Rs.0.2733 per kWh.

#### **ROEDC**

17. GEL submitted that NEPRA allowed ROEDC component of tariff of Rs.0.0491 on the basis of 18 months construction period whereas GEL requested Rs.0.0749/kw/hr on the basis of 20 months construction period (subsequently modified to 24 months). According to GEL even taking 18-month construction period and the revised project cost of US\$203.950 million, the



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component works out to Rs.0.0654/kw/hr. GEL requested that the ROEDC component of tariff further submitted that the Authority allowed the same method of calculation to Attock Gen.

18. The Authority considers that GEL's request is not valid because Authority cannot allow construction period more than 18-months. Based upon the GEL's equity and loan drawdown schedule ROEDC has been reassessed as Rs.0.0509 per kWh.

#### **Debt Servicing**

19. GEL has requested that foreign debt may be allowed to it, if required and such debt would be indexed to LIBOR+3%.

20. The Authority has considered the GEL request and decided that the reference tariff will be adjusted initially at COD on the basis of documentary evidence in this regard. The relevant tariff component will be adjusted for variation in Rs./\$ parity and LIBOR subsequently.

#### **Fuel Cost**

21. GEL has requested that the calorific value (which has been fixed at 40,792 BTU/Kg in paragraph-86 of the Tariff Ruling) and the HHV:LHV adjustment factor (which has been fixed at 1.05) should be allowed to be agreed by the company at the time of finalization of the Fuel Supply Agreement.

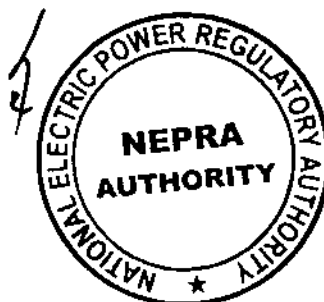
22. NEPRA has adopted the calorific value indicated in the Energy Year Book 2006 issued by Hydrocarbon Development Institute of the Ministry of Petroleum. The Authority agrees with the proposal that the issue of calorific value should be clarified in Fuel Supply Agreement (FSA). In this regard it has to be ensured that the reference calorific value (for the source of which fuel prices are used as reference for determining prices of HSFO) are clearly indicated in the FSA.

#### **Variable O&M**

23. The Authority has allowed Rs.0.4362/kWh and this component has been worked out at the €/US\$ parity of € 1 = US\$ 1.20 and US\$/PKR of US\$ 1 = Rs.61. While determining this component, the Authority has quoted the reference of Attock Gen and stated that:

*"Alternatively for assessment of reasonable level of variable O&M cost the Authority considers that the Attock's case can be considered as reference."*

24. Keeping in view the above, the Authority should follow the ruling in Attock Gen's case in true spirit. Whereas, the Authority has allowed foreign component of €4.6909 per MWhr as per Attock Gen ruling, for local component the Authority has reduced the lube oil cost to €1.2676 per



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MWhr from €1.3489 per MWhr by relying upon another unidentified case. We request the Authority to kindly follow the Attock Gen precedent for both foreign and local components. The local component on the basis of €1.3489/Mw, €/US\$ parity of 1.20 and US\$/PKR parity of 1/61, works out to 0.0987/Kwh.

25. Furthermore, the Authority has taken €/US\$ parity of 1.28 in all calculations for Tariff Ruling other than the calculation for the variable O&M component for which the Authority has taken €/US\$ parity of 1/1.20. We submit that the Authority should kindly follow the same parity of 1.28 in calculation of Variable

26. If we take into account the Variable O&M cost of €6.03/MWh «(4.6909 + €1.3489), at €/US\$ parity of 1.28 and US\$/PKR parity of 1/61, the variable O&M component in Pak Rupees works out to Rs.0.4716/Kwh. We humbly request the Authority to allow the same, following the precedent of Attock Gen. also be mentioned at paragraph-95 in the table titled "Reference Tariff".

27. The Authority considered the GEL's request for conversion of variable O&M costs of Euro 4.6909/MWh with US\$/Euro parity of 1.28 with reference to variable O&M allowed in the case of AGL. In the instant case the adjustment for US\$/Euro parity as requested by GEL is not relevant. Even after application of same indexation to the Attock case, the allowed variable O&M is comparable; therefore the request for revision in this context is not accepted.

#### **Pass Through Items**

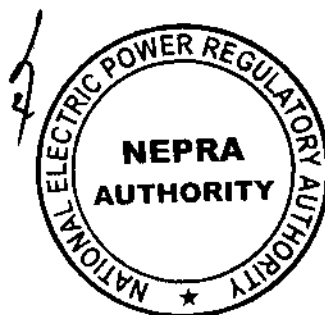
28. GEL requested for inclusion of amount of equity redeemed in calculation of withholding tax of 7.5% in line with the decision of the Attock Gen.

29. The Authority considers that the assessment regarding withholding tax is in line with the earlier decisions of the Authority and needs no alteration in this context.

#### **Plant Availability**

30. According to GEL, company has submitted 86% annual plant availability, i.e. 30 days (or 720 hours) as "Scheduled Outage" (planned shutdown) per engine per year (except in a year in which a Major Overhaul is required, in which case Scheduled Outage allowance shall be 60 Days), and 500 hours for "Forced Outage" (unplanned shutdown) while Authority has determined 90% plant availability. GEL submitted that no such guarantee from WARTSILA has been provided or offered to the Company. GEL requested that 86% plant availability has been indicated by our potential O&M Contractor.

31. CPPA during the hearing of motion for leave for review did not support the IPPs request



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regarding 86% plant availability. According to CPPA the plant availability of such type of technology is above 90%. According to the documentary evidence submitted by WARD (a similar case), WARTSILA has guaranteed 90% plant availability. The Authority in its determination of generation tariff for used/refurbished plants has also determined the 90% plant availability which was indicated by the petitioner itself. The Authority finds no cogent reason to change its earlier decision and has therefore decided to hold its earlier decision in this context.

#### **Clarifications**

32. GEL requested the Authority to adopt consistent industry norms and prudent practices, as the Company's negotiations with WARTSILA with regard to plant and equipment supply are on a non-exclusive basis. GEL has sought clarification that the general assumptions of the tariff will be incorporated into the PPA to be entered into in due course between the Company and the Power Purchaser/NTOC.

33. The Authority considers that the order of the Authority adequately addresses the issue and does not require any further clarification.

#### **Miscellaneous**

34. According to GEL, Paragraph-48 of the Tariff Ruling imposes an onerous obligation on the Company as follows:

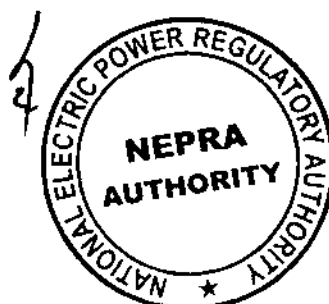
*"The petitioner will ensure that the total de-rated plant capacity at 30°C will be maintained at this value and the total de-ration will be restricted to 0.977 MW only through control of the following:*

*By restricting the air-cooling water temperature to be within  $\pm 45^{\circ}\text{C}$ ;*

*By keeping the value of sum of exhaust gas back pressure + air inlet pressure drop to be within  $\pm 500\text{ mm H}_2\text{O}$ ;*

*By controlling the de-rating effect for lower air pressure on account of site altitude in such a manner that the net capacity given for tariff determination is adhered to".*

35. GEL submitted that the aforesaid aspect is to be negotiated and agreed to under the PPA. According to GEL it would be almost impossible for the Company to meet the parameters; therefore exempt the Company of these restrictions. GEL further submitted that in case of any unintentional errors or omissions, typographical errors etc., the same will be corrected/incorporated and advised to the Authority as soon as the Company becomes aware of it. Any other point not identified herein may kindly be allowed to be raised for the Authority's kind consideration during the hearing of the Company's motion for review.



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36. The Authority has considered the GEL's request and is of the view that the above conditions have been incorporated to ensure that the capacity after measurable derating (as indicated by the Manufacturer) is made available to the Purchaser who is paying for the Capacity. The Authority therefore decides to maintain its earlier decision.

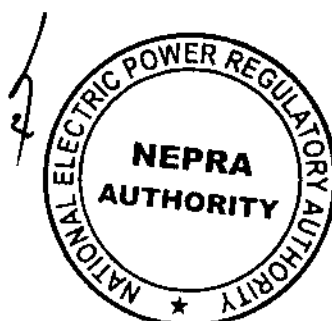
### **FINAL ORDER**

37. Pursuant to Rule 6 of the NEPRA Licensing (Generation) Rules 2000, Gujranwala Energy Limited (GEL) is allowed to charge, subject to adjustment of Capacity Purchase Price on account of net dependable capacity as determined by test jointly carried out by Central Power Purchasing Agency (CPPA) and the petitioner, the following is approved as specified tariff for GEL for delivery of electricity to CPPA of NTDC for procurement on behalf of Ex-WAPDA Distribution Companies:

#### **Reference Tariff**

<b>Tariff Components</b>	<b>Year 1 to 10</b>	<b>Year 11 to 25</b>	<b>Indexation</b>
<b>Capacity Charge PKR/kW/Hour)</b>			
O&M Foreign	0.0675	0.0675	US\$ /PKR & US CPI
O&M Local	0.0675	0.0675	WPI
Cost of Working Capital	0.0900	0.0900	KIBOR
Insurance	0.0816	0.0816	US\$ /PKR
Debt Service – Local	1.0020	-	KIBOR
Return on Equity	0.2733	0.2733	NIL
ROE during Construction	0.0509	0.0509	NIL
<b>Total Capacity Charge</b>	<b>1.6328</b>	<b>0.6308</b>	
<b>Energy Charge on Operation on Furnace Oil Rs./kWh</b>			
Fuel Cost Component	4.7811	4.7811	Fuel Price
Variable O&M	0.4362	0.4362	US\$ /PKR & US CPI

- Note: i) Capacity Charge Rs./kW/hour applicable to dependable capacity at the delivery point.
- ii) Dispatch criterion will be Energy Charge.
- iii) The above tariff is applicable for a period of 25 years commencing from the date of the Commercial Operation.
- iv) In case of foreign equity ROE and ROEDC component will be adjusted for Rs./\$ parity variation. The reference exchange rate will be Rs.61 per Dollar.



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- v) Component wise tariff for operation on RFO is indicated at Annex-I.

The following adjustments /indexations shall be applicable to reference tariff;

**I. Adjustment in EPC Cost (One Time)**

The Authority has assessed EPC cost as US\$ 169.566 million out of which US\$ 150.346 million would be in Euro and US\$ 19.220 million in US Dollar. Since the exact timing of payment to EPC contractor is not known at this point of time therefore an adjustment for relevant foreign currency fluctuation for the portion of payment in the relevant foreign currency will be made. In this regard the sponsor will be required to provide all the necessary relevant details along with documentary evidence. Based upon such information the EPC cost components in Euro, Dollar or Pak Rupees shall be established and shall be applied to the corresponding EPC cost components. The adjustment shall be only for currency fluctuation against the reference Euro/Dollar parity values according to the following mechanism;

$$EPC_{(Adj.)} = US\$ 150.624 \text{ Million} / 1.28 * E_{(PR)} + US\$ 18.960 \text{ Million}$$

Where:

$$E_{(PR)} = \text{Weighted Average EURO to dollar parity based upon timing of the payment}$$

Note:- The adjustment on account of variation in Euro/US\$ parity in the relevant EPC cost would be allowed on the basis of EPC contract being finalized within 3 months of tariff determination. No adjustment in EPC cost shall be allowed beyond 15 months of financial close or 18 months of tariff determination whichever is earlier.

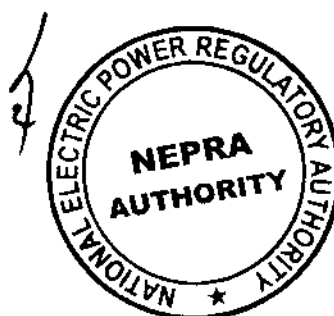
The tariff components i.e. Insurance, ROE, ROEDC, Principal Repayment and Interest Charges shall be adjusted according to the following formula at COD.

**i) Insurance Adjustment Mechanism for EPC Cost Variation**

$$Ins_{(Rev)} = Ins_{(Ref)} / EPC_{(Ref)} \times EPC_{(Adj.)} \times P_{(Rev)} / 61$$

Where:

$Ins_{(Rev)}$	=	Revised reference insurance component of tariff
$Ins_{(Ref)}$	=	Reference insurance component of tariff as per original schedule of tariff
$EPC_{(Ref)}$	=	Reference EPC in US\$
$EPC_{(Adj.)}$	=	Adjusted EPC in US\$



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$P_{(Rev)}$  = Rupee to Dollar parity at COD

**ii) Return on Equity Adjustment Mechanism for EPC Cost Variation**

$$ROE_{(Rev)} = 0.2733 / (25\% \times \text{US\$204.329 million}) \times (25\% \times PC_{(Rev)}) \times P_{(Rev)} / 61$$

Where:

$ROE_{(Rev)}$  = Revised reference Return on Equity component of tariff

$PC_{(Rev.)}$  = Revised project cost after incorporating the adjustment for currency fluctuation

$P_{(Rev)}$  = Rupee to Dollar parity at COD

**iii) ROEDC Adjustment Mechanism for EPC Cost Variation**

$$ROEDC_{(Rev)} = 0.0509 / (\text{US\$9.23million}) \times (EDC_{(Rev)}) \times P_{(Rev)} / 61$$

Where:

$ROEDC_{(Rev)}$  = Revised reference Return on Equity during Construction component of tariff

$EDC_{(Rev)}$  = Revised Equity During Construction in million USD.

$P_{(Rev)}$  = Rupee to Dollar parity at COD

**iv) Debt Servicing Adjustment Mechanism for EPC Cost Variation**

$$DS_{(Rev)} = DS_{(Ref)} / \text{US\$ 153.247 million} \times (75\% \times PC_{(Rev)}) \times P_{(Rev)} / 61$$

Note: The adjustment factor established as per the above formula shall be applicable to the individual components of principal and interest during the entire repayment period.

$DS_{(Rev)}$  = Revised Debt Servicing component of tariff

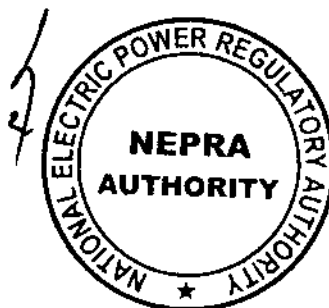
$DS_{(Ref)}$  = Reference Debt Servicing component of tariff as per original schedule of tariff

$PC_{(Rev.)}$  = Revised project cost after incorporating the adjustment for currency fluctuation

$P_{(Rev)}$  = Rupee to Dollar parity at COD

**II. Adjustment due to Variation in Net Capacity**

All the tariff components except fuel cost component shall be adjusted at the time of COD based upon the Initial Dependable Capacity (IDC) tests to be carried out for determination of contracted capacity. Adjustment shall not be made if IDC is established



less than 195.26 MW net capacity, at reference site conditions. In case of higher net capacity the adjustments shall be made according to the following formula:

$$CC_{(Adj)} = CC_{(Ref)} / NC_{(IDC)} \times 195.26 MW$$

Note: Above formula shall be applicable to all the individual relevant components of Capacity Charges.

Where;

$CC_{(Adj)}$  = Adjusted relevant Capacity Charge components of tariff  
 $CC_{(Ref)}$  = Reference relevant Capacity Charge components of tariff  
 $NC_{(IDC)}$  = Net Capacity at reference site conditions established at the time of IDC test

Note:- Reference capacity charge components of Tariff i.e. Revised O&M Foreign, Revised O&M Local, Insurance, Debt Servicing, Return on Equity and ROEDC to be adjusted as per IDC test.

Reference Site Conditions:

Ambient Temperature	30 °C
Altitude	200 m
Relative humidity	60%
Water Temperature to Charge air cooler	45 °C

### III. Adjustment in Insurance as per actual

The actual insurance cost for the minimum cover required under contractual obligations with the Power Purchaser not exceeding 1.35% of the EPC cost will be treated as pass-through. Insurance component of reference tariff shall be adjusted as per actual on yearly basis upon production of authentic documentary evidence by GEL according to the following formula;

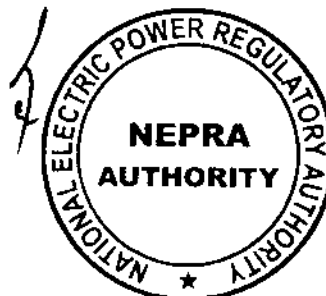
$$\text{Insurance}_{(Rev)} = AIC / (1.35 \% \times \text{US\$}169.584 \text{ Million}) * AP$$

Where;

AIC = Adjusted Insurance Component (Rs. kW/hr) as per IDC Test  
AP = Actual Premium subject to maximum of 1.35% of the adjusted EPC

### IV. Adjustment Based on Actual Interest During Construction

Debt Service, Return on Equity and ROE & ROEDC during construction shall be adjusted on account of actual variation in drawdown and Interest During Construction with reference to the estimated figures.



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GEL shall submit the relevant documents to NEPRA within 7 days of COD for adjustment of relevant tariff components.

**V. Adjustment due to Custom Duties & Taxes**

Debt Service, Return on Equity and ROE & ROEDC during construction shall be adjusted on account of actual variation in customs duties & taxes with reference to the estimated figures of US \$ 7.531 million.

GEL shall submit the relevant documents to NEPRA within 7 days of COD for adjustment of relevant tariff components.

**VI. Adjustment for variation in Dollar/Rupee parity**

Relevant reference tariff components shall be adjusted at COD on account of variation in Dollar/Rupee parity.

**VII. Pass-Through Items**

- i) No provision for income tax has been accounted for in the tariff. If GEL is obligated to pay any tax on its ROE, the exact amount paid by the company may be reimbursed by CPPA to GEL on production of original receipts. This payment may be considered as pass-through (as Rs./kW/hour) hourly payment spread over a 12 months period in addition to the capacity purchase price proposed in the Reference Tariff. Furthermore, in such a scenario, GEL may also submit to CPPA details of any tax shield savings and CPPA will deduct the amount of these savings from its payment to GEL on account of taxation.
- ii) Withholding tax is also a pass through item just like other taxes as indicated in the government guidelines for determination of tariff for new IPPs. In a reference tariff table withholding tax number is indicated as reference and CPPA (NTDC) shall make payment on account of withholding tax at the time of actual payment of dividend subject to maximum of 7.5% of 15% reference equity i.e. hourly payment (Rs./kW/hour) spread over a 12 month according to the following formula:

$$\text{Withholding Tax Payable} = [ \{ 15\% * (E(\text{Ref}) - E(\text{Red})) \} + \text{ROEDC}(\text{Ref}) ] * 7.5\%$$

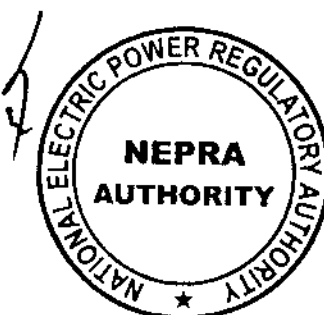
Where:

$E(\text{Ref})$  = Adjusted Reference Equity at COD

$E(\text{Red})$  = Equity Redeemed

$\text{ROEDC}(\text{Ref})$  = Reference Return on Equity During Construction

Note:- ROE, ROEDC and withholding tax pertaining to the foreign equity shall be adjusted for variation in currency (Pakistani Rupee/US\$).



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- iii) In case Company does not declare a dividend in a particular year or only declares a partial dividend, then the difference in the withholding tax amount (between what is paid in that year and the total entitlement as per the Net Return on Equity) would be carried forward and accumulated so that the Company is able to recover the same in hourly payments spread over 12 months period as a pass through from the Power Purchaser in future on the basis of the total dividend pay out.

**VIII. Indexations:**

The following indexation shall be applicable to the reference tariff as follows;

**a) Indexation applicable to O&M**

The Fixed O&M local component of Capacity Charge will be adjusted on account of Inflation (WPI) and Fixed O&M foreign component on account of variation in US CPI and dollar/Rupee exchange rate. Quarterly adjustment for local inflation, foreign inflation and exchange rate variation will be made on 1<sup>st</sup> July, 1<sup>st</sup> October, 1<sup>st</sup> January and 1<sup>st</sup> April based on the latest average quarterly available information with respect to WPI notified by the Federal Bureau of Statistics (FBS), US CPI issued by relevant US Agency and revised TT & OD selling rate of US Dollar notified by the National Bank of Pakistan. The mode of indexation will be as under:

**i) Fixed O&M**

$$F O\&M_{(LREV)} = \text{Rs. } 0.0675 / \text{kW/Hour} * WPI_{(REV)} / 118.96$$

$$F O\&M_{(FREV)} = \text{Rs. } 0.0675 / \text{kW/Hour} * US CPI_{(REV)} / 202.41 * ER_{(REV)} / 61$$

Where:

$F O\&M_{(LREV)}$  = the revised applicable Fixed O&M Local Component of the Capacity Charge indexed with WPI

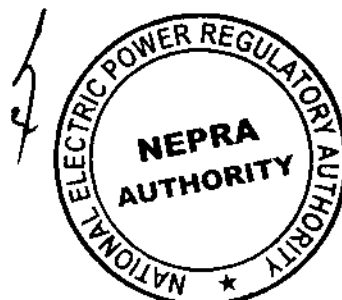
$F O\&M_{(FREV)}$  = the revised applicable Fixed O&M Foreign Component of the Capacity Charge indexed with US CPI and Exchange Rate variations

$WPI_{(REV)}$  = the revised wholesale Price Index (manufactures)

$WPI_{(REF)}$  = 118.96 wholesale price index (manufactures) of January 2007 notified by Federal Bureau of Statistics

$US CPI_{(REV)}$  = the revised US CPI

$US CPI_{(REF)}$  = 202.41 US CPI for the month of January 2007



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$ER_{(REV)}$  = the Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan

Note: The reference numbers indicated above shall be replaced by the revised numbers after incorporating the required adjustments at COD.

ii) **Variable O&M**

The formula for indexation of variable O&M component will be as under:

$$V O\&M_{(LREV)} = \text{Rs. } 0.0928/\text{kW/Hour} * WPI_{(REV)} / 118.96$$

$$V O\&M_{(FREV)} = \text{Rs. } 0.3434/\text{kW/Hour} * US CPI_{(REV)} / 202.41 * ER_{(REV)} / 61$$

Where:

$V O\&M_{(LREV)}$  = the revised applicable Variable O&M Local Component of the Capacity Charge indexed with WPI

$V O\&M_{(FREV)}$  = the revised applicable Variable O&M Foreign Component of the Capacity Charge indexed with US CPI and Exchange Rate variations

$WPI_{(REV)}$  = the revised wholesale Price Index (manufactures)

$WPI_{(REF)}$  = 118.96 wholesale price index (manufactures) of January 2007 notified by Federal Bureau of Statistics

$US CPI_{(REV)}$  = the revised US CPI

$US CPI_{(REF)}$  = 202.41 US CPI for the month of January 2007

$ER_{(REV)}$  = the Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan

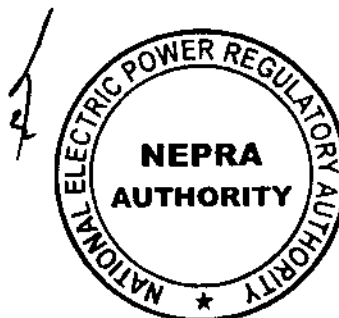
Note: The reference Variable O&M indicated above shall be replaced with the revised number at COD after incorporating the required adjustment based upon the IDC Test.

iii) **Adjustment for KIBOR variation**

The interest part of fixed charge component will remain unchanged throughout the term except for the adjustment due to variations in interest rate as a result of variation in quarterly KIBOR according to the following formula;

$$\Delta I_{(L)} = P_{(LREV)} * (KIBOR_{(REV)} - 10.45\%) / 4$$

Where:



$\Delta I_{(L)}$  = the variation in interest charges applicable on local loan corresponding to variation in quarterly KIBOR.  $\Delta I$  can be positive or negative depending upon whether  $KIBOR_{(REV)} > \text{or} < 10.45\%$ . The interest payment obligation will be enhanced or reduced to the extent of  $\Delta I$  for each quarter under adjustment applicable on quarterly

$P_{(REV)}$  = is the outstanding principal (as indicated in the attached debt service schedule to this order) on a quarterly basis on the relevant quarterly calculations date. Period 1 shall commence on the date on which the 1<sup>st</sup> installment is due after availing the grace period.

Note: In case of foreign borrowing the adjustment will be made on account of Rs./\$ parity variation and LIBOR. For LIBOR adjustment the above formula will be used and KIBOR will be replaced with LIBOR and a spread of 3%.

#### iv) Fuel Price Variation

The Variable Charge Part of the tariff relating to fuel cost shall be adjusted on account of the fuel price variations according to the mechanism given below:

$$FC_{(REV)} = (Rs.4.3223 \text{ per kWh} * FP_{(REV)}) / Rs.23,247.07 \text{ per ton} + (Rs.0.4588 \text{ per kWh} * Ft_{(REV)}) / Rs.2,467.50 \text{ per ton}$$

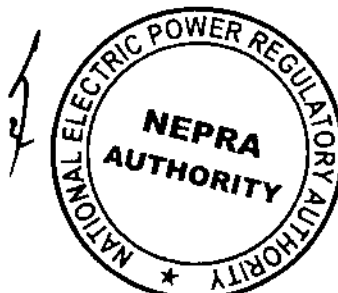
Where:

$FC_{(REV)}$  = Revised fuel cost component of Variable Charge on RFO.

$Ft_{(REV)}$  = Revised Freight Charges adjusted for NHV-GHV factor

$FP_{(REV)}$  = The new price of RFO per Metric Ton adjusted for NHV/GHV factor of 1.05 as per the following mechanism;

Description	US\$/Ton	Rs./Ton
HSFO Arab Gulf Average Price for applicable Fortnight (From Platts Oilgram Report) *		
Black Premium (From OGRA)		
C & F Price – A		
Crude Handling and Incidental charges (7.282% of C&F Price)**		
<b>Sub-Total – B</b>		
EX Refinery Price – (C=A+B)		
GST (15% of EX Refinery Price)		
Selling Price – D		
OMC Margin (3.5% of Selling Price)		
GST (15% on OMC Margin)		
Sub Total – E		
Market Price – (F=D+E)		
<b>Cost of RFO excluding GST (GHV)</b>		



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Inland Freight		
Total Cost of RFO excluding GST (GHV)		

US\$ Pak Rupee Exchange Rate-NBP Selling TT/OD at the date of applicable fuel price

- \* The supplier shall clearly indicate average Gross and Net calorific values of Arabian Gulf or any other source of which average reference fuel prices are used. Fuel supplier shall provide price adjustment mechanism due to variation in calorific value of the fuel being supplied to the IPP against the reference calorific values.
- \*\* Fuel supplier shall provide item wise actual incidental charges prevailing at the time of receiving payment for fuel supply. This charge shall vary with market supply/demand position but shall not exceed 8% of C&F price, to be uniformly charged to all customers including GEL.

The fuel cost component will be adjusted after the commercial operation date, at the time of revision in RFO price.

Adjustment on account of local inflation, foreign inflation, foreign exchange rate variation, KIBOR/LIBOR variation and fuel price variation will be approved and announced by the Authority for immediate application within seven working days after receipt of GEL's request for adjustment in accordance with the requisite indexation mechanism stipulated herein.

**IX. Terms and Conditions of Tariff:**

- i) The plant availability shall be 90%.
- ii) All new equipment will be installed and the plant will be of standard configuration.
- iii) Dispatch criterion will be based on the Energy Charge.
- iv) Internal consumption (including air-cooled condenser) has been assumed to be approximately 4.1 MW.
- v) Annual Unscheduled Outages (MWh) and Available Capacity (MW) without any liquidated damages shall be in accordance with the 2006 standardized PPA.
- vi) Scheduled Outage periods per annum shall be in accordance with the 2006 standardized PPA.
- vii) NTDC will be responsible for constructing the interconnection to the grid.
- viii) All invoicing and payment terms are assumed to be in accordance with the 2006 standardized PPA.
- ix) Tolerance in Dispatch shall be in accordance with 2006 standardized PPA.

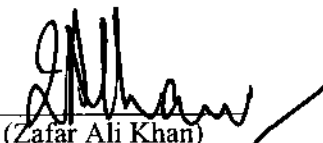


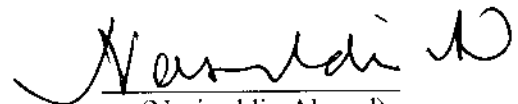
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- x) If there is any change in any assumption that may lead to change in the tariff shall be referred to NEPRA for approval.
- xi) If IPP is required by the power purchaser to deliver power above 132 kV, any additional cost to be incurred by the IPP will be submitted to NEPRA for adjustment. The adjustment request by the IPP shall be duly verified by the power purchaser.

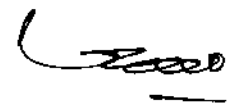
The above tariff and terms and conditions be incorporated in the Power Purchase Agreement between GEL and CPPA.

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(Zafar Ali Khan)  
Member

  
(Nasiruddin Ahmed)  
Member

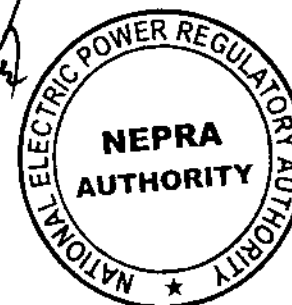
  
(Abdul Rahim Khan)  
Member

  
Lt. General (R) Saeed uz Zafar  
Chairman



**Gujranwala Energy Limited**  
**Reference Tariff Table**

Year	Variable Charge (Rs./kWh)			Capacity Charge (Rs./kW/Hour)									Capacity Charge at 60% PF	Tariff	
	Fuel	Variable O&M	Total	Fixed O&M	Cost of Working Capital	Insurance	ROE	ROEDC	Withholding Tax @7.5%	Loan Repayment	Interest Charges	Total	Rs. per kWh	Rs. per kWh	¢ per kWh
1	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.2807	0.7213	1.6572	2.7620	7.9793	13.0808
2	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.3203	0.6816	1.6572	2.7620	7.9793	13.0808
3	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.3657	0.6363	1.6572	2.7620	7.9793	13.0808
4	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.4174	0.5846	1.6572	2.7620	7.9793	13.0808
5	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.4764	0.5255	1.6572	2.7620	7.9793	13.0808
6	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.5438	0.4582	1.6572	2.7620	7.9793	13.0808
7	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.6207	0.3813	1.6572	2.7620	7.9793	13.0808
8	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.7085	0.2935	1.6572	2.7620	7.9793	13.0808
9	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.8087	0.1933	1.6572	2.7620	7.9793	13.0808
10	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	0.9231	0.0789	1.6572	2.7620	7.9793	13.0808
11	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
12	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
13	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
14	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
15	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
16	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
17	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
18	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
19	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
20	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
21	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
22	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
23	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
24	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
25	4.7811	0.4362	5.2173	0.1351	0.0900	0.0816	0.2733	0.0509	0.0243	-	-	0.6552	1.0921	6.3093	10.3432
<b>Levelized Tariff (1-25Years)</b>			<b>5.2173</b>	<b>0.1351</b>	<b>0.0900</b>	<b>0.0816</b>	<b>0.2733</b>	<b>0.0509</b>	<b>0.0243</b>	<b>0.3338</b>	<b>0.3444</b>	<b>1.3335</b>	<b>2.2225</b>	<b>7.4398</b>	<b>12.1963</b>



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### Gujranwala Energy Limited Debt Servicing Schedule

Period	Local Debt					Annual Principal Repayment Rs./kW/ hr.	Annual Interest Rs./kW/ hr.	Annual Debt Servicing Rs./kW/ hr.
	Principal Million \$	Repayment Million \$	Mark-Up Million \$	Balance Million \$	Debt Service Million \$			
1	153.25	1.87	5.15	151.38	7.0238	0.2807	0.7213	1.0020
	151.38	1.93	5.09	149.44	7.0238			
	149.44	2.00	5.02	147.44	7.0238			
	147.44	2.07	4.96	145.38	7.0238			
	153.25	7.87	20.23	145.38	28.0954			
	145.38	2.14	4.89	143.24	7.0238			
	143.24	2.21	4.82	141.03	7.0238			
2	141.03	2.28	4.74	138.75	7.0238	0.3203	0.6816	1.0020
	138.75	2.36	4.67	136.39	7.0238			
	145.38	8.98	19.11	136.39	28.0954			
	136.39	2.44	4.59	133.96	7.0238			
	133.96	2.52	4.50	131.44	7.0238			
	131.44	2.60	4.42	128.83	7.0238			
	128.83	2.69	4.33	126.14	7.0238			
3	136.39	10.25	17.84	126.14	28.0954	0.3657	0.6363	1.0020
	126.14	2.78	4.24	123.36	7.0238			
	123.36	2.88	4.15	120.48	7.0238			
	120.48	2.97	4.05	117.51	7.0238			
	117.51	3.07	3.95	114.44	7.0238			
	126.14	11.70	16.39	114.44	28.0954			
	114.44	3.18	3.85	111.26	7.0238			
4	111.26	3.28	3.74	107.98	7.0238	0.4174	0.5846	1.0020
	107.98	3.39	3.63	104.59	7.0238			
	104.59	3.51	3.52	101.08	7.0238			
	114.44	13.36	14.74	101.08	28.0954			
	101.08	3.63	3.40	97.45	7.0238			
	97.45	3.75	3.28	93.71	7.0238			
	93.71	3.87	3.15	89.83	7.0238			
5	89.83	4.00	3.02	85.83	7.0238	0.4764	0.5255	1.0020
	101.08	15.25	12.85	85.83	28.0954			
	85.83	4.14	2.89	81.69	7.0238			
	81.69	4.28	2.75	77.42	7.0238			
	77.42	4.42	2.60	73.00	7.0238			
	73.00	4.57	2.45	68.43	7.0238			
	85.83	17.40	10.69	68.43	28.0954			
6	68.43	4.72	2.30	63.70	7.0238	0.5438	0.4582	1.0020
	63.70	4.88	2.14	58.82	7.0238			
	58.82	5.05	1.98	53.78	7.0238			
	53.78	5.22	1.81	48.56	7.0238			
	68.43	19.87	8.23	48.56	28.0954			
	48.56	5.39	1.63	43.17	7.0238			
	43.17	5.57	1.45	37.60	7.0238			
7	37.60	5.76	1.26	31.84	7.0238	0.6207	0.3813	1.0020
	31.84	5.95	1.07	25.88	7.0238			
	48.56	22.68	5.42	25.88	28.0954			
	25.88	6.15	0.87	19.73	7.0238			
	19.73	6.36	0.66	13.37	7.0238			
	13.37	6.57	0.45	6.80	7.0238			
	6.80	6.80	0.23	0.00	7.0238			
8	25.88	25.88	2.21	0.00	28.0954	0.8087	0.1933	1.0020
9						0.9231	0.0789	1.0020
10								



### Gujranwala Energy Limited Debt Servicing Schedule

Period	Local Debt					Annual Principal Repayment Rs./kW/ hr.	Annual Interest Rs./kW/ hr.	Annual Debt Servicing Rs./kW/ hr.
	Principal Million \$	Repayment Million \$	Mark-Up Million \$	Balance Million \$	Debt Service Million \$			
1	153.25	1.87	5.15	151.38	7.0238	0.2807	0.7213	1.0020
	151.38	1.93	5.09	149.44	7.0238			
	149.44	2.00	5.02	147.44	7.0238			
	147.44	2.07	4.96	145.38	7.0238			
	153.25	7.87	20.23	145.38	28.0954			
	145.38	2.14	4.89	143.24	7.0238			
	143.24	2.21	4.82	141.03	7.0238			
2	141.03	2.28	4.74	138.75	7.0238	0.3203	0.6816	1.0020
	138.75	2.36	4.67	136.39	7.0238			
	145.38	8.98	19.11	136.39	28.0954			
	136.39	2.44	4.59	133.96	7.0238			
	133.96	2.52	4.50	131.44	7.0238			
	131.44	2.60	4.42	128.83	7.0238			
	128.83	2.69	4.33	126.14	7.0238			
3	136.39	10.25	17.84	126.14	28.0954	0.3657	0.6363	1.0020
	126.14	2.78	4.24	123.36	7.0238			
	123.36	2.88	4.15	120.48	7.0238			
	120.48	2.97	4.05	117.51	7.0238			
	117.51	3.07	3.95	114.44	7.0238			
	126.14	11.70	16.39	114.44	28.0954			
	114.44	3.18	3.85	111.26	7.0238			
4	111.26	3.28	3.74	107.98	7.0238	0.4174	0.5846	1.0020
	107.98	3.39	3.63	104.59	7.0238			
	104.59	3.51	3.52	101.08	7.0238			
	114.44	13.36	14.74	101.08	28.0954			
	101.08	3.63	3.40	97.45	7.0238			
	97.45	3.75	3.28	93.71	7.0238			
	93.71	3.87	3.15	89.83	7.0238			
5	89.83	4.00	3.02	85.83	7.0238	0.4764	0.5255	1.0020
	101.08	15.25	12.85	85.83	28.0954			
	85.83	4.14	2.89	81.69	7.0238			
	81.69	4.28	2.75	77.42	7.0238			
	77.42	4.42	2.60	73.00	7.0238			
	73.00	4.57	2.45	68.43	7.0238			
	85.83	17.40	10.69	68.43	28.0954			
6	68.43	4.72	2.30	63.70	7.0238	0.6207	0.3813	1.0020
	63.70	4.88	2.14	58.82	7.0238			
	58.82	5.05	1.98	53.78	7.0238			
	53.78	5.22	1.81	48.56	7.0238			
	68.43	19.87	8.23	48.56	28.0954			
	48.56	5.39	1.63	43.17	7.0238			
	43.17	5.57	1.45	37.60	7.0238			
7	37.60	5.76	1.26	31.84	7.0238	0.7085	0.2935	1.0020
	31.84	5.95	1.07	25.88	7.0238			
	48.56	22.68	5.42	25.88	28.0954			
	25.88	6.15	0.87	19.73	7.0238			
	19.73	6.36	0.66	13.37	7.0238			
	13.37	6.57	0.45	6.80	7.0238			
	6.80	6.80	0.23	0.00	7.0238			
8	25.88	25.88	2.21	0.00	28.0954	0.8087	0.1933	1.0020
9						0.9231	0.0789	1.0020
10								

