



National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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Registrar

No. NEPRA/R/TRF-123/GPL-2008/1455-57

December 30, 2009

Subject: Decision of the Authority in the Matter of Motion for Leave for Review filed By Grange Power Limited (GPL) under Rule 16(6) of NEPRA (Tariff Standards and Procedure) Rules, 1998 with respect to Determination of the Authority dated 26-06-2009 (Case No. NEPRA/TRF-123/GPL-2008) - Intimation of Decision of tariff pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997)

Dear Sir,

In continuation of this office letter No. NEPRA/R/TRF-123/GPL-2008/6594-6596 dated June 26, 2009 whereby determination of the Authority on Grange Power Limited was sent. Please find enclosed herewith the decision of the Authority along with Annexes-I & II (17 pages) in the matter of Motion for Leave for Review filed by Grange Power Limited on July 7, 2009 against Case No. NEPRA/TRF-123/GPL-2008.

2. Subsequent to the culmination of proceedings in the subject Motion for Leave for Review the decision of the Authority along with Annexes-I & II (17 pages) is being intimated to the Federal Government for the purpose of notification of the specified 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 16(11) of the National Electric Power Regulatory Authority Tariff (Standards and Procedure) Rules, 1998.

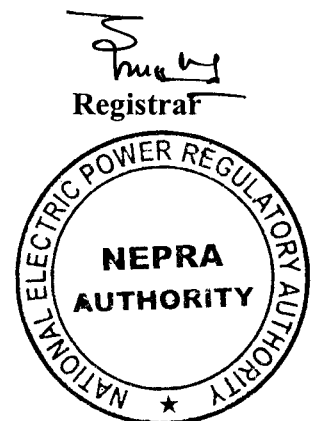
3. Please be informed that the Reference Tariff earlier intimated vide para 20.2 of the Authority's determination dated June 26, 2009, stands revised to the extent as detailed in order of the Authority (para 12) on the subject motion along with Annexes-I & II needs to be notified in the official Gazette. The Final Order is reproduced for the purpose of clarity and is attached herewith.

Enclosure: As above

The Secretary
Ministry of Water & Power
Government of Pakistan
'A' Block, Pak Secretariat
Islamabad.

CC:

1. Secretary, Cabinet Division, Islamabad.
2. Secretary, Ministry of Finance, Islamabad.





**ORDER OF THE AUTHORITY
IN CASE NO. NEPRA/TRF-123/GPCL-2008
TO BE NOTIFIED IN THE OFFICIAL GAZETTE**

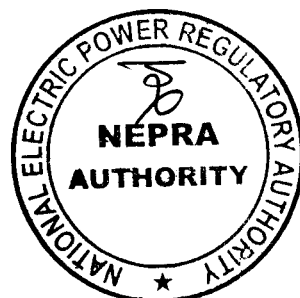
Pursuant to Rule 16 (11) of the NEPRA Licensing (Generation) Rules, Grange Power Company Limited (GPCL) is allowed to charge, subject to adjustment of Capacity Purchase Price on account of net dependable capacity and net thermal efficiency as determined by test jointly carried out by the Central Power Purchasing Agency (CPPA) of the National Transmission and Dispatch Company (NTDC) and the Petitioner, the following is approved as specified tariff for GPCL for delivery of electricity to the CPPA of the NTDC for procurement on behalf of Ex-WAPDA Distribution Companies:

Specified Reference Tariff

Tariff Components	Year 1 to 10	Year 11 to 25	Indexation
Capacity Charge (PKR/kW/Hour)			
O&M Foreign	0.1116	0.1116	US\$ /PKR & US CPI
O&M Local	0.0840	0.0840	WPI
Cost of Working Capital	0.1031	0.1031	KIBOR
Insurance	0.1391	0.1391	US\$ /PKR
Debt Service – Local	2.0910	----	KIBOR
Return on Equity	0.5129	0.5129	US\$ /PKR
ROE during Construction	0.0552	0.0552	US\$ /PKR
Total Capacity Charge	3.0969	1.0059	
Energy Charge on Operation on Furnace Oil (Rs./kWh)			
Fuel Cost Component	5.4625	5.4625	Fuel Price
Variable O&M			
Foreign	0.4691	0.4691	US\$/PKR & US CPI
Local	----	----	

Note: i) Component wise proposed tariff for operation on RFO is indicated at Annex-I.
ii) Debt Servicing Schedule is attached as Annex-II.

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





I. One Time Adjustments

I.(i) Adjustment in EPC Cost

The Authority has assessed offshore EPC cost as US\$ 136.350 million and onshore as US\$ 28 million (to be incurred in PKR). 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. The adjustment shall be only for currency fluctuation against the reference parity values. Based upon such information the relevant currency of EPC cost components shall be adjusted and applied to the corresponding EPC cost components. The relevant tariff components i.e. Insurance, ROE, ROEDC, Principal Repayment and Interest Charges shall be adjusted accordingly.

I. (ii) Adjustment due to Variation in Net Capacity

The reference tariff has been determined on the basis of minimum net capacity of 146.5 MW at delivery point at mean site conditions. 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 in the presence of NEPRA representative. Adjustment shall not be made if IDC is established less than 146.5 MW net capacity at reference site conditions. The adjustments shall be made according to the following formula:

$$CC_{(Adj.)} = CC_{(Ref)} \times 146.5MW / NC_{(IDC)}$$

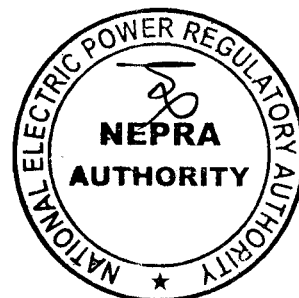
Note: Above formula shall be applicable to all the individual relevant components of Capacity Charges and variable O&M as well.

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 and Variable O&M to be adjusted as per IDC test.

Reference Conditions:





- Ambient Air Temperature 25 degree C.
- Relative humidity 60%
- Site Altitude 600 ft above Sea level
- Ambient Air pressure 1 bar

I. (iii) Adjustment due to Variation in Net Efficiency

The reference tariff has been determined on the basis of minimum net efficiency of 45%. The fuel cost component shall be adjusted at the time of COD based upon Heat Rate Test to be carried out in the presence of NEPRA representative. The adjustment shall not be made if the net efficiency is established less than 45%. The adjustment shall be made according to the following formula;

$$FC_{(Adj)} = \text{Rs. } 5.4625 \text{ per kWh} / 7582 \times HR_{(T)}$$

Where;

$FC_{(Adj)}$ = Adjusted fuel cost component at the time of heat rate test at COD

$HR_{(T)}$ = Heat Rate in Btu per kWh established after Heat Rate Test at the time of COD

I.(iv) Adjustment Based on Actual Interest During Construction & Financing Fees

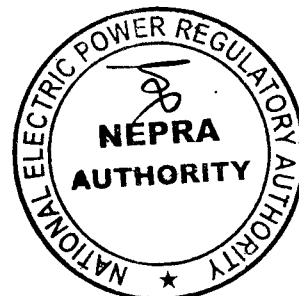
Debt Service, Return on Equity and ROE during construction shall be adjusted at the time of COD on account of actual variation in drawdown and Interest During Construction and financing fees with reference to the estimated figures of US\$ 29.594 million and US\$ 5.243 million respectively. Adjustment on account of financing fees is restricted to the extent of 3% of total financing.

I.(v) Adjustment due to Custom Duties & Withholding Taxes

Debt Service, Return on Equity and ROE during construction shall be adjusted at the time of COD on account of actual variation in custom duties & withholding Taxes with reference to the estimated figures of US\$ 8.181 million and US\$ 1.680 million respectively.

I.(vi) Adjustment for variation in Rupee/Dollar parity

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





II. 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 GPCL according to the following formula;

$$\text{Insurance}_{(Adj)} = \text{AIC} / \text{P}_{(Ref)} * \text{P}_{(Act)} / 80.45 * \text{ER}_{(Rev)}$$

Where;

- AIC = Adjusted Insurance Component (Rs. kW/hr) as per IDC Test
P_(Ref) = Reference Premium US\$ 2.219
P_(Act) = Actual Premium or 1.35% of the adjusted EPC which ever is lower
ER_(Rev) = The revised TT and OD selling rate of US\$ as notified by the National Bank of Pakistan at invoice date

III. Adjustment in Return on Equity (ROE)

Return on Equity will be quarterly adjusted on account of variation in PKR/US\$ parity according to the following formula:

$$\text{ROE}_{(Rev)} = \text{ROE}_{(Ref)} * \text{ER}_{(Rev)} / 80.45$$

Where;

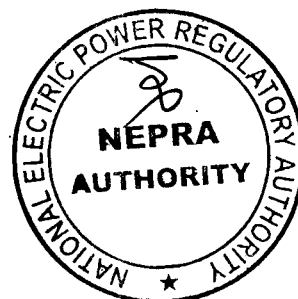
- ROE_(Rev) = Revised ROE
ROE_(Ref) = Reference ROE
ER_(Rev) = The revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan

IV. Adjustment in Return on Equity during Construction (ROEDC)

Return on Equity during Construction will be quarterly adjusted on account of variation in PKR/US\$ parity according to the following formula:

$$\text{ROEDC}_{(Rev)} = \text{ROEDC}_{(Ref)} * \text{ER}_{(Rev)} / 80.45$$

Where;





ROEDC (Rev)	=	Revised ROEDC
ROEDC (Ref)	=	Reference ROEDC
ER (Rev)	=	The revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan

V. **Adjustment of Withholding Tax**

Withholding tax will be adjusted on account of exchange rate variation according to the following formula:

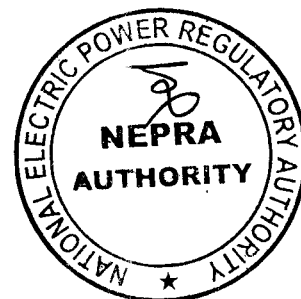
$$WT_{(Rev)} = WT_{(Ref)} * ER_{(Rev)}/80.45$$

Where;

WT (Rev)	=	Revised Withholding tax
WT (Ref)	=	Reference Withholding tax
ER(Rev)	=	The revised TT&OD selling rate of US dollar as notified by the National Bank of Pakistan

VI. **Pass-Through Items**

- i) "No provision for income tax, workers' profit participation fund and workers' welfare fund, any other tax, excise duty or other duty, levy, charge, surcharge or other governmental impositions, payable on the generation, sales, exploration has been accounted for in the tariff. If GPCL is obligated to pay any tax on the income purely generated from its operation i.e. Electricity Generation of power producer, the exact amount should be reimbursed by CPPA 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 in the Reference Tariff. Furthermore, in such a scenario, GPCL may also submit to CPPA details of any tax shield savings and CPPA will deduct the amount of these savings from its payment to GPCL on account of taxation.
- ii) Withholding tax on dividend 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 period 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

- 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.

VII. Indexations:

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

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 1st July, 1st October, 1st January and 1st April based on the latest available information with respect to WPI notified by the Federal Bureau of Statistics (FBS), US CPI issued by US Bureau of Labor Statistics 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

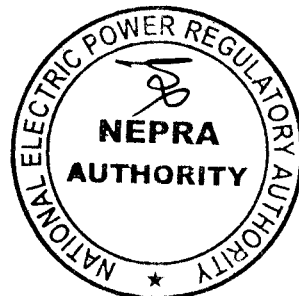
$$F O\&M_{(\text{LREV})} = \text{Rs. } 0.0840/\text{kW}/\text{Hour} * \text{WPI}_{(\text{REV})} / 137.8$$

$$F O\&M_{(\text{FREX})} = \text{Rs. } 0.1116/\text{kW}/\text{Hour} * \text{US CPI}_{(\text{REV})} / 210.228 * \text{ER}_{(\text{REV})} / 80.45$$

Where:

$F O\&M_{(\text{LREV})}$ = the revised applicable Fixed O&M Local Component of tariff

$F O\&M_{(\text{FREX})}$ = the revised applicable Fixed O&M Foreign Component of tariff





$WPI_{(REF)}$	=	the reference WPI (manufactures) of December 2008
$US\ CPI_{(REF)}$	=	the reference US CPI (All Urban Consumers) of December 2008
$WPI_{(REV)}$	=	the revised Wholesale Price Index (manufactures)
$US\ CPI_{(REV)}$	=	the revised US CPI (All Urban Consumers)
$ER_{(REV)}$	=	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:

$$V\ O\&M_{(REV)} = Rs. 0.4691/kWh * US\ CPI_{(REV)} / 210.228 * ER_{(REV)} / 80.45$$

Where:

$V\ O\&M_{(FREV)}$	=	the revised applicable Variable O&M Foreign Component of tariff
$US\ CPI_{(REF)}$	=	the reference US CPI (All Urban Consumers) of December 2008
$US\ CPI_{(REV)}$	=	the revised US CPI (All Urban Consumers)
$ER_{(REV)}$	=	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.

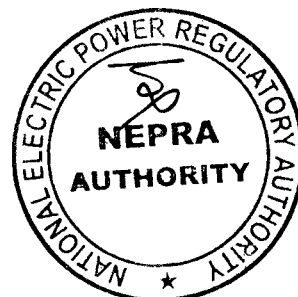
iii) Adjustment for KIBOR variation

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;

$$\Delta I_{(L)} = P_{(LREV)} * (KIBOR_{(REV)} - 13.23\%) / 4$$

Where:

$\Delta I_{(L)}$	=	the variation in interest charges on local loan applicable corresponding to variation in quarterly KIBOR. ΔI can be positive or negative depending upon whether $KIBOR_{(REV)} >$ or
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< 13.23%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each quarter under adjustment applicable on quarterly basis

$P_{(REV)}$ = 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 1st installment is due after availing the grace period.

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:

$$FC_{(REV)} = Rs. 5.0004 \text{ per kWh} * FP_{(REV)} / Rs. 25,427 \text{ per ton} + Rs. 0.4621 \text{ per kWh} * Ft_{(REV)} / Rs. 2,350 \text{ per ton}$$

Where:

$FC_{(REV)}$ Revised fuel cost component of Variable Charge on RFO.
 $Ft_{(REV)}$ Revised Freight Charges
 $FP_{(REV)}$ The new price of RFO per Metric Ton.

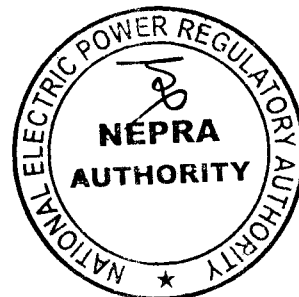
The fuel cost component will be adjusted after the commercial operation date, at the time of revision in RFO price.

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

For one time adjustment of relevant tariff components at COD according to the mechanism laid down in this order, GPCL shall submit the relevant documents to NEPRA within 30 days of COD for adjustment.

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

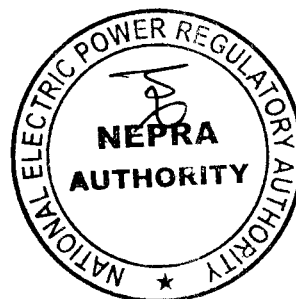
- i) Capacity Charge Rs./kW/hour applicable to dependable capacity at the delivery point.





- ii) The tariff is applicable for a period of 25 years commencing from the date of the Commercial Operation.
- iii) All new equipment will be installed and the plant will be of standard configuration.
- iv) Dispatch criterion will be based on the Energy Charge.
- v) Internal consumption has been assumed to be approximately 5.5 MW.
- 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 shall be submitted to NEPRA for adjustment. The adjustment request by the IPP shall be duly verified by the power purchaser.
- xii) 100% of debt has been assumed to be local provided however that in the event GPCL uses a mix of foreign and local loan, the future benefits of the lower interest rates shall be passed on to the Power Purchaser.
- xiii) No corporate income tax and no minimum turnover tax have been assumed.
- xiv) Working capital has been financed by a separate Working Capital facility, and is not included in the project cost.
- xv) Minimum loading of the Complex shall be according to the manufacturer's technical limits to allow for combined cycle operations.
- xvi) All fuel during plant tests after synchronization of the Complex to the grid is assumed to be paid for by the Power Purchaser.

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



Grange Power Limited (GPL)
Reference Tariff Schedule Based on RFO

Year	Energy Charge (PKR/kWh)		Fixed O&M - Fixed O&M						Return on Equity during Construction				Loan		Interest		Capacity Charge		Tariff
	Fuel	Variable	Local	Foreign	Insurance	Working Capital	Equity	Withholding Tax @ 7.5%	Repayment	Charges	Total	60% Plant	Factor	PKR per kWh					
1	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	0.4526	1.6383	3.1395	5.2326	11.1642						
2	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	0.5307	1.5603	3.1395	5.2326	11.1642						
3	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	0.6222	1.4688	3.1395	5.2326	11.1642						
4	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	0.7295	1.3615	3.1395	5.2326	11.1642						
5	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	0.8553	1.2357	3.1395	5.2326	11.1642						
6	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	1.0028	1.0882	3.1395	5.2326	11.1642						
7	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	1.1758	0.9152	3.1395	5.2326	11.1642						
8	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	1.3785	0.7125	3.1395	5.2326	11.1642						
9	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	1.6162	0.4748	3.1395	5.2326	11.1642						
10	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	1.8949	0.1960	3.1395	5.2326	11.1642						
11	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
12	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
13	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
14	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
15	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
16	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
17	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
18	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
19	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
20	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
21	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
22	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
23	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
24	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
25	5.4625	0.4691	0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	-	-	1.0486	1.7476	7.6793						
Levelized Tariff (1-25 Years)			0.0840	0.1116	0.1391	0.1031	0.5129	0.0426	0.6142	0.8012	2.4640	4.1067	10.0384						

Net Capacity 146.5 MW

Reference Exchange Rate PKR 80.45 = 1 US\$

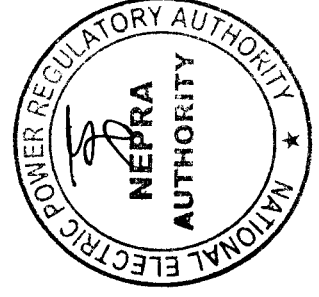
Reference Fuel Price (Inclusive of Freight) 27,777.00 Rs./Mtone

Reference US CPI 210.228 for December 2008 as notified by the US Labour Bureau of Labor Statistics

Reference WPI (Manufacturer) 137.8 for December 2008 as notified by the Federal Bureau of Statistics

Efficiency 45.00%

Levelized Tariff (at 60% plant factor) per kWh US Cents 12.4778

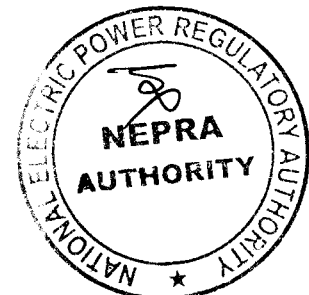


16

**Grange Power Limited (GPL)
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 Rs.	Repayment Million Rs.	Mark-up Million Rs.	Balance Million Rs.	Debt Service Millin Rs.			
1	13,165.34	136.68	534.18	13,028.67	670.86	0.4526	1.6383	2.0910
	13,028.67	142.22	528.64	12,886.44	670.86			
	12,886.44	147.99	522.87	12,738.45	670.86			
	12,738.45	154.00	516.86	12,584.45	670.86			
	13,165.34	580.89	2,102.55	12,584.45	2,683.45			
	12,584.45	160.25	510.61	12,424.20	670.86			
	12,424.20	166.75	504.11	12,257.45	670.86			
2	12,257.45	173.52	497.35	12,083.94	670.86			
	12,083.94	180.56	490.31	11,903.38	670.86			
	12,584.45	681.07	2,002.38	11,903.38	2,683.45			
	11,903.38	187.88	482.98	11,715.50	670.86			
	11,715.50	195.50	475.36	11,520.00	670.86			
	11,520.00	203.44	467.42	11,316.56	670.86			
	11,316.56	211.69	459.17	11,104.87	670.86			
3	11,903.38	798.52	1,884.93	11,104.87	2,683.45			
	11,104.87	220.28	450.58	10,884.59	670.86			
	10,884.59	229.22	441.64	10,655.37	670.86			
	10,655.37	238.52	432.34	10,416.85	670.86			
	10,416.85	248.20	422.66	10,168.65	670.86			
	11,104.87	936.22	1,747.23	10,168.65	2,683.45			
	10,168.65	258.27	412.59	9,910.38	670.86			
4	9,910.38	268.75	402.11	9,641.63	670.86			
	9,641.63	279.65	391.21	9,361.98	670.86			
	9,361.98	291.00	379.86	9,070.98	670.86			
	10,168.65	1,097.67	1,585.78	9,070.98	2,683.45			
	9,070.98	302.81	368.06	8,768.17	670.86			
	8,768.17	315.09	355.77	8,453.08	670.86			
	8,453.08	327.88	342.98	8,125.20	670.86			
5	8,125.20	341.18	329.68	7,784.02	670.86			
	9,070.98	1,286.96	1,396.49	7,784.02	2,683.45			
	7,784.02	355.02	315.84	7,429.00	670.86			
	7,429.00	369.43	301.43	7,059.57	670.86			
	7,059.57	384.42	286.44	6,675.15	670.86			
	6,675.15	400.02	270.84	6,275.13	670.86			
	7,784.02	1,508.89	1,174.55	6,275.13	2,683.45			
6	6,275.13	416.25	254.61	5,858.88	670.86			
	5,858.88	433.14	237.72	5,425.75	670.86			
	5,425.75	450.71	220.15	4,975.03	670.86			
	4,975.03	469.00	201.86	4,506.03	670.86			
	6,275.13	1,769.10	914.35	4,506.03	2,683.45			
	4,506.03	488.03	182.83	4,018.00	670.86			
	4,018.00	507.83	163.03	3,510.17	670.86			
7	3,510.17	528.44	142.43	2,981.74	670.86			
	2,981.74	549.88	120.98	2,431.86	670.86			
	4,506.03	2,074.17	609.27	2,431.86	2,683.45			
	2,431.86	572.19	98.67	1,859.67	670.86			
	1,859.67	595.41	75.46	1,264.27	670.86			
	1,264.27	619.56	51.30	644.70	670.86			
	644.70	644.70	26.16	0.00	670.86			
8	2,431.86	2,431.86	251.59	0.00	2,683.45			
	2,431.86	2,431.86	251.59	0.00	2,683.45			

✓ 8





Decision in the matter of Motion for Leave for Review filed by Grange Power Ltd under Rule 16(6) of the Tariff Standards and Procedure Rule - 1998 with respect to Determination of the Authority dated 26-06-2009 (No. NEPRA/TRF-123/GPL-2008)

Grange Power Limited (herein referred to as “the Company”) filed motion for leave for review (“motion”) on July 7, 2009 with respect to the Determination of the Authority dated June 26, 2009 in case No. NEPRA/TRF-123/GPL-2008. The petitioner sought relief on the following cost items:

- EPC Cost
 - Project development cost
 - Un-recovered fuel cost during testing
 - Mobilization Advance
 - Working Capital
2. The Authority accepted the motion on July 7, 2009. Individual notices were sent to key stakeholders. Hearing in the matter was held on July 18, 2009 which was participated by the all the stakeholders.
 3. The GPL sought following relief:
 - i) To approve the revised EPC cost of US\$ 175.430 million because it is GPL’s firm/non re-openable cost which in any case needs to be determined on a case to case base;
 - ii) To approve US\$ 3.718 million as project development cost;;
 - iii) To approve US\$ 2.00 million for un-recovered fuel cost for testing;
 - iv) To approve US\$ 3.00 million as mobilization cost;
 - v) To approve US\$ 4.00 million as mandatory stores and spares
 4. The petitioner vide letter No. nil dated October 9, 2009 submitted that its EPC cost has been reverted by the EPC contractor due to delay in the decision and financial close.
 5. Based upon the discussion during the hearing, submission of the petition, comments of the stakeholders, following issues emerged out of the proceedings:
 - EPC Cost
 - Project development cost
 - Un-recovered fuel cost during testing
 - Working Capital
 - Mobilization Advance





6. EPC Cost

6.1 The petitioner stated that the Authority determined US\$ 164.350 million as against the requested EPC cost of US\$ 178.350 million on the following grounds:

- i) The petitioner was unable to provide the item-wise costs;
- ii) The EPC cost allowed/approved in other similar cases; and
- iii) Price is dependent on the EPC scope, which was not provided

6.2 The Petitioner while showing its overall satisfaction over the tariff determined by NEPRA sought reconsideration on certain aspects. The Petitioner submitted that it finalized its EPC contract in accordance with the ECC's decision and it was firm/non-reopenable and duly signed by both i.e. sponsor and the Contractor; therefore it could not be reviewed by the Authority. According to the Petitioner its EPC cost was determined on lower side after delay of six months. The Petitioner submitted that considering the acute shortage of power in the country, it further negotiated with the EPC contractor and revised the EPC price to US\$ 175.430. The Petitioner submitted that the EPC price determined by the Authority was not acceptable for EPC contractor, which is not willing to offer below US\$170-175 million. The Petitioner responding to Authority's query regarding high per MW cost stated that the project is actually 180 MW if operated on gas. Since the project has to operate on RFO therefore, its capacity would decline to 146.5 MW, which is not the Contractor's fault. The Petitioner requested to compare the per MW cost on the basis of 180 MW plant capacity instead of 146.5 MW. The Petitioner accordingly requested:

- i) To allow the total cost of US\$ 175.430 million to the Company comprising:
 - Off-shore cost of US\$ 144.300 million
 - On-shore cost of US\$ 31.130 million.

6.3 The Authority considers that the Petitioner's contention regarding Authority's powers to review the EPC price once it is agreed and EPC contract is initialed and signed by the both Sponsor and Contractor is misconceived and incorrect. According to Rule 16 of the Tariff Standards and Procedure Rules-1998 the Authority is required to allow prudently incurred costs. In view thereof, it is not binding on the Authority to accept any EPC price, which in Authority's opinion does not meet the criteria of prudence. The Authority while appreciating the sponsor's efforts for reducing its EPC cost, considers that the revised EPC price still does not reflect the international





market trend in this regard. The Authority further considers that the sponsor only reiterated its earlier stance and failed to substantiate its request with additional evidence and cogent reasons. The Authority has therefore decided to maintain its earlier decision in this regard.

- 6.4 The Authority has considered the Petitioner's request for allowing adjustment on account of Euro/Dollar parity for the Gas Turbine because this cost would be incurred in Euros. The Authority considers that the Petitioner's request in this regard does have merit for reconsideration. The Authority has therefore decided to allow this adjustment based on the verifiable documentary evidence, at the time of COD. For this adjustment the reference Gas Turbine cost and Euro/US\$ parity will be US\$39.350 million and 1.3173.

7. EPC Cost –Onshore

- 7.1 The Petitioner contended that the Authority has determined US\$ 28 million as EPC Onshore cost against its request of US\$31.13 million. The Petitioner further contended that it signed its contract in US\$, while it has been allowed On-shore cost in Pak Rupees. According to the Petitioner the cost incurred will be in US\$ not in Pak Rupees. The Petitioner argued that all other IPPs have been allowed EPC Onshore cost in US\$ by the Authority; therefore both the On-shore and Off-shore components of EPC being in US\$ contract need to be adjusted on COD for PKR/USD exchange rate fluctuations (reference PKR/US\$ exchange rate used in the petition). The Petitioner requested the Authority to provide rupee dollar parity adjustment for onshore portion.
- 7.2 CPPA objected to the Petitioner's request for allowing on-shore EPC component in US\$. According to CPPA the local onshore contract in EPC cost should reflect the corresponding benefits on this account.
- 7.3 The Authority has considered the Petitioner's request and CPPA's objection. The Authority noted that it had allowed to all other Independent Power Producers (IPPs) on-shore EPC cost in US\$ dollars, therefore, declining Petitioner's request would be discriminatory. In view thereof the Authority has decided to accept the Petitioner's request for allowing on-shore EPC in US\$.





8. Project Development Cost

8.1 The Petitioner stated that the Authority, as against the Company's requested cost of US\$ 3.718 million, allowed US\$ 1.666 million. The Petitioner submitted that the Company intended to incur additional cost, which is not included in the scope of work of the EPC contractor (Annex A of review motion). The Petitioner submitted a quotation from Habib Rafiq Pvt. Ltd in support of its claim for construction of administration building, personnel hostel, guest house, canteen, shops, gate house, mosque, plant boundary wall and plant surveillance and security system. Accordingly the Petitioner requested to allow US\$ 3.718 million as project development cost.

8.2 CPPA submitted that the mostly cost requested by the petitioner are already covered in EPC cost and the cost determined by NEPRA was reasonable.

8.3 The Authority has examined the evidence provided by the Petitioner and has observed that the costs as per the quotation could not be substantiated when calculated based on the lay-out plans provided by the petitioner. The Authority considers that the construction of administration building is generally the responsibility of the EPC contractor, therefore the petitioner's request in this regard is not justified. As regards the construction cost for other Non-EPC civil works the Authority based on the cost allowed in other cases has assessed US\$ 0.73 million. Accordingly the overall project development cost has been revised to US\$ 2.396 million.

9. Un-recovered fuel cost during testing

9.1 NEPRA has allowed US\$ 0.5 million as against the Company's request of US\$ 2 million. The Company will incur a cost of US\$ 2.00 million during testing as is evident from the letter of EPC contractor. The petitioner in support of its claim also provided the Letter from the EPC Contractor. GPL requested the Authority to allow US\$ 2.00 million on account of Un-recovered fuel cost during testing.

9.2 CPPA submitted that the cost of US\$ 2 million as demanded by the Company for un-recovered fuel cost during testing is not based on facts. According to CPPA since the power purchaser will pay the fuel cost during the testing of the complex prior to COD as per the provision of the PPA. Therefore cost of US\$ 0.5 million determined by NEPRA under this head is reasonable and may not be increased.





9.3 The petitioner in support of its claim has submitted a copy of letter from China Aviation Gas Turbine Company Limited mentioning therein that in its opinion the owner must allocate US\$ 2 million in project cost in order to carry out the activities successfully. The petitioner provided no proper working in support of its claim. The Authority considers that the petitioner could not substantiate its claim with proper documentary evidence. The Authority has allowed US\$ 0.5 million to all RFO based IPPs, therefore, it has decided not to alter its earlier decision in this regard.

10. Mobilization Advance

10.1 NEPRA has allowed US\$ 0.6 million as against the requested cost of US\$ 3.00 million. The Company has to incur a substantial cost for mobilization because of the location of the project. The Company in its support had also submitted the proposal from Albario with the petition. The Company has obtained the details of mobilization advance from Albario. In view of the aforesaid, NEPRA is requested to allow US\$ 3.00 million on account of mobilization advance.

10.2 CPPA submitted that the cost of US\$ 0.6 million allowed by NEPRA should be looked into by NEPRA keeping in view the location of the plant in remote area as well as detailed provided by O&M contractor of the company.

10.3 The Authority has carefully examined the breakdown of mobilization cost during eight month period prior to COD provided by Albario Engineering (Pvt.) Ltd. The Authority observed that the cost indicated in the breakup for equipment, logistics setup and operations, review and finalization of procedure drawing manuals, training and certification were not the primary responsibility of the O&M contractor. The Authority considers that the cost of equipment, logistic setups and operation and training and certifications are EPC contractor responsibility while review and finalization of procedure, drawings and manual is the owner's engineer responsibility. In Authority's opinion the cost under the aforementioned heads are not justified. The Authority however considers that the cost to the extent of human resources i.e. US\$ 0.7 million can be accepted. Accordingly the Authority has revised the mobilization cost of US\$ 0.6 million allowed in earlier decision to US\$ 0.7 million

11. Working Capital

11.1 The Petitioner stated that NEPRA did not allow mandatory stores/spares or emergency spares of US\$ 4.00 million as a part of working capital requirement. According to the Petitioner mandatory stores and spares are necessary for the smooth





operations of the power plant. The Petitioner while justifying its request stated that utilization of spare parts for its project would be manifold as compared to projects running on gas. The petitioner further stated that it had already given an undertaking that mandatory stores and spares / emergency stores and spares are not included in the EPC's scope and are in fact owner's responsibility. In view of the aforementioned reasons the petitioner requested to allow US\$ 4.00 million.

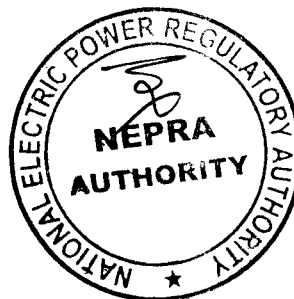
- 11.2 CPPA stated that the petitioner requested US\$ 4 million as a part of working capital for mandatory and emergency spare parts. CPPA submitted that the working capital should include only cost for 30 days RFO storage at 100% plant factor. The company should take up the matter of spares with its EPC contractor to include these in EPC cost.
- 11.3 Having considered the petitioner's request, the Authority is of the opinion that the petitioner's request is not consistent with the Authority's decision in other similar projects where the Authority has decided to consider the cost of spare parts in the Project Cost at the time of COD in case the IPPs are able to establish the requirement through provision of verifiable documentary evidence. In the instant case the same will be applicable.

12. **ORDER**

Pursuant to Rule 16 (11) of the NEPRA Licensing (Generation) Rules, Grange Power Company Limited (GPCL) is allowed to charge, subject to adjustment of Capacity Purchase Price on account of net dependable capacity and net thermal efficiency as determined by test jointly carried out by the Central Power Purchasing Agency (CPPA) of the National Transmission and Dispatch Company (NTDC) and the Petitioner, the following is approved as specified tariff for GPDL for delivery of electricity to the CPPA of the NTDC for procurement on behalf of Ex-WAPDA Distribution Companies:

Specified Reference Tariff

Tariff Components	Year 1 to 10	Year 11 to 25	Indexation
Capacity Charge PKR/kW/Hour)			
O&M Foreign	0.1116	0.1116	US\$ /PKR & US CPI
O&M Local	0.0840	0.0840	WPI
Cost of Working Capital	0.1031	0.1031	KIBOR
Insurance	0.1391	0.1391	US\$ /PKR





Debt Service – Local	2.0910	----	KIBOR
Return on Equity	0.5129	0.5129	US\$ /PKR
ROE during Construction	0.0552	0.0552	US\$ /PKR
Total Capacity Charge	3.0969	1.0059	
Energy Charge on Operation on Furnace Oil Rs./kWh			
Fuel Cost Component	5.4625	5.4625	Fuel Price
Variable O&M			
Foreign	0.4691	0.4691	US\$/PKR & US CPI
Local	----	----	

Note: i) Component wise proposed tariff for operation on RFO is indicated at Annex-I.
ii) Debt Servicing Schedule is attached as Annex-II.

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

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

The Authority has assessed offshore EPC cost as US\$ 136.350 million and onshore as US\$ 28 million (to be incurred in PKR). 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. The adjustment shall be only for currency fluctuation against the reference parity values. Based upon such information the relevant currency of EPC cost components shall be adjusted and applied to the corresponding EPC cost components. The relevant tariff components i.e. Insurance, ROE, ROEDC, Principal Repayment and Interest Charges shall be adjusted accordingly.

I. (ii) **Adjustment due to Variation in Net Capacity**

The reference tariff has been determined on the basis of minimum net capacity of 146.5 MW at delivery point at mean site conditions. 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 in the presence of NEPRA representative. Adjustment shall not be made if





IDC is established less than 146.5 MW net capacity at reference site conditions. The adjustments shall be made according to the following formula:

$$CC_{(Adj)} = CC_{(Ref)} \times 146.5 MW / NC_{(IDC)}$$

Note: Above formula shall be applicable to all the individual relevant components of Capacity Charges and variable O&M as well.

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 and Variable O&M to be adjusted as per IDC test.

Reference Conditions:

- Ambient Air Temperature 25 degree C.
- Relative humidity 60%
- Site Altitude 600 ft above Sea level
- Ambient Air pressure 1 bar

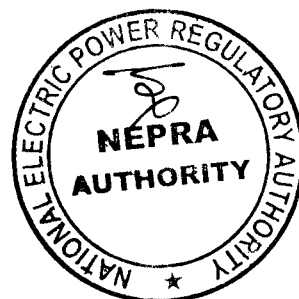
I. (iii) Adjustment due to Variation in Net Efficiency

The reference tariff has been determined on the basis of minimum net efficiency of 45%. The fuel cost component shall be adjusted at the time of COD based upon Heat Rate Test to be carried out in the presence of NEPRA representative. The adjustment shall not be made if the net efficiency is established less than 45%. The adjustment shall be made according to the following formula;

$$FC_{(Adj)} = Rs. 5.4625 \text{ per kWh} / 7582 \times HR_{(T)}$$

Where;

- $FC_{(Adj)}$ = Adjusted fuel cost component at the time of heat rate test at COD
 $HR_{(T)}$ = Heat Rate in Btu per kWh established after Heat Rate Test at the time of COD





I.(iv) Adjustment Based on Actual Interest During Construction & Financing Fees

Debt Service, Return on Equity and ROE during construction shall be adjusted at the time of COD on account of actual variation in drawdown and Interest During Construction and financing fees with reference to the estimated figures of US\$ 29.594 million and US\$ 5.243 million respectively. Adjustment on account of financing fees is restricted to the extent of 3% of total financing.

I.(v) Adjustment due to Custom Duties & Withholding Taxes

Debt Service, Return on Equity and ROE during construction shall be adjusted at the time of COD on account of actual variation in custom duties & withholding Taxes with reference to the estimated figures of US\$ 8.181 million and US\$ 1.680 million respectively.

I.(vi) Adjustment for variation in Rupee/Dollar parity

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

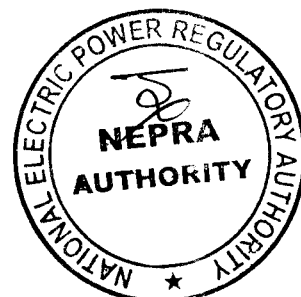
II. Adjustment in Insurance as per actual

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 GPCL according to the following formula;

$$\text{Insurance}_{(Adj)} = \text{AIC} / \text{P}_{(Ref)} * \text{P}_{(Act)} / 80.45 * \text{ER}_{(Rev)}$$

Where;

AIC	=	Adjusted Insurance Component (Rs. kW/hr) as per IDC Test
P _(Ref)	=	Reference Premium US\$ 2.219
P _(Act)	=	Actual Premium or 1.35% of the adjusted EPC which ever is lower
ER _(Rev)	=	The revised TT and OD selling rate of US\$ as notified by the National Bank of Pakistan at invoice date





III. Adjustment in Return on Equity (ROE)

Return on Equity will be quarterly adjusted on account of variation in PKR/US\$ parity according to the following formula:

$$ROE_{(Rev)} = ROE_{(Ref)} * ER_{(Rev)} / 80.45$$

Where;

$$ROE_{(Rev)} = \text{Revised ROE}$$

$$ROE_{(Ref)} = \text{Reference ROE}$$

$$ER_{(Rev)} = \text{The revised TT \& OD selling rate of US dollar as notified by the National Bank of Pakistan}$$

IV. Adjustment in Return on Equity during Construction (ROEDC)

Return on Equity during Construction will be quarterly adjusted on account of variation in PKR/US\$ parity according to the following formula:

$$ROEDC_{(Rev)} = ROEDC_{(Ref)} * ER_{(Rev)} / 80.45$$

Where;

$$ROEDC_{(Rev)} = \text{Revised ROEDC}$$

$$ROEDC_{(Ref)} = \text{Reference ROEDC}$$

$$ER_{(Rev)} = \text{The revised TT \& OD selling rate of US dollar as notified by the National Bank of Pakistan}$$

V. Adjustment of Withholding Tax

Withholding tax will be adjusted on account of exchange rate variation according to the following formula:

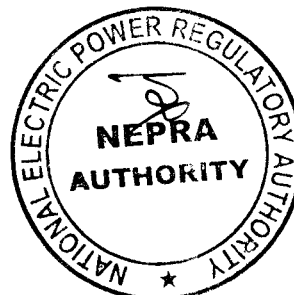
$$WT_{(Rev)} = WT_{(Ref)} * ER_{(Rev)} / 80.45$$

Where;

$$WT_{(Rev)} = \text{Revised Withholding tax}$$

$$WT_{(Ref)} = \text{Reference Withholding tax}$$

$$ER_{(Rev)} = \text{The revised TT\&OD selling rate of US dollar as notified by the National Bank of Pakistan}$$





VI. Pass-Through Items

i) "No provision for income tax, workers' profit participation fund and workers' welfare fund, any other tax, excise duty or other duty, levy, charge, surcharge or other governmental impositions, payable on the generation, sales, exploration has been accounted for in the tariff. If GPCL is obligated to pay any tax on the income purely generated from its operation i.e. Electricity Generation of power producer, the exact amount should be reimbursed by CPPA 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 in the Reference Tariff. Furthermore, in such a scenario, GPCL may also submit to CPPA details of any tax shield savings and CPPA will deduct the amount of these savings from its payment to GPCL on account of taxation.

ii) Withholding tax on dividend 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 period 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

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.

VII. Indexations:

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



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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 1st July, 1st October, 1st January and 1st April based on the latest available information with respect to WPI notified by the Federal Bureau of Statistics (FBS), US CPI issued by US Bureau of Labor Statistics 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

$$F O\&M_{(LREV)} = \text{Rs. } 0.0840/\text{kW}/\text{Hour} * WPI_{(REV)} / 137.8$$

$$F O\&M_{(FREV)} = \text{Rs. } 0.1116/\text{kW}/\text{Hour} * US CPI_{(REV)} / 210.228 * ER_{(REV)} / 80.45$$

Where:

$F O\&M_{(LREV)}$ = the revised applicable Fixed O&M Local Component of tariff

$F O\&M_{(FREV)}$ = the revised applicable Fixed O&M Foreign Component of tariff

$WPI_{(REF)}$ = the reference WPI (manufactures) of December 2008

$US CPI_{(REF)}$ = the reference US CPI (All Urban Consumers) of December 2008

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

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

$ER_{(REV)}$ = 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:

$$V O\&M_{(REV)} = \text{Rs. } 0.4691/\text{kWh} * US CPI_{(REV)} / 210.228 * ER_{(REV)} / 80.45$$

Where:

$V O\&M_{(FREV)}$ = the revised applicable Variable O&M Foreign Component of tariff





US CPI_(REF) = the reference US CPI (All Urban Consumers) of December 2008
US CPI_(REV) = the revised US CPI (All Urban Consumers)
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;

$$\Delta I_{(L)} = P_{(LREV)} * (KIBOR_{(REV)} - 13.23\%) / 4$$

Where:

$\Delta I_{(L)}$ = the variation in interest charges on local loan applicable corresponding to variation in quarterly KIBOR. ΔI can be positive or negative depending upon whether $KIBOR_{(REV)} >$ or $< 13.23\%$. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each quarter under adjustment applicable on quarterly basis

$P_{(REV)}$ = 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 I shall commence on the date on which the 1st installment is due after availing the grace period.

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:

$$FC_{(REV)} = Rs. 5.0004 \text{ per kWh} * FP_{(REV)} / Rs. 25,427 \text{ per ton} + Rs. 0.4621 \text{ per kWh} * Ft_{(REV)} / Rs. 2,350 \text{ per ton}$$

Where:





FC (Rev)	Revised fuel cost component of Variable Charge on RFO.
Ft(Rev)	Revised Freight Charges
FP (Rev)	The new price of RFO per Metric Ton.

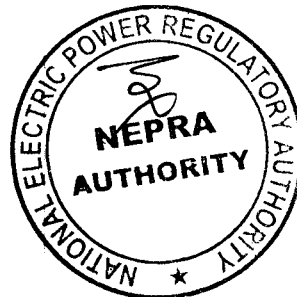
The fuel cost component will be adjusted after the commercial operation date, at the time of revision in RFO price.

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

For one time adjustment of relevant tariff components at COD according to the mechanism laid down in this order, GPCL shall submit the relevant documents to NEPRA within 30 days of COD for adjustment.

VIII. Terms and Conditions of Tariff:

- i) Capacity Charge Rs./kW/hour applicable to dependable capacity at the delivery point.
- ii) The tariff is applicable for a period of 25 years commencing from the date of the Commercial Operation.
- iii) All new equipment will be installed and the plant will be of standard configuration.
- iv) Dispatch criterion will be based on the Energy Charge.
- v) Internal consumption has been assumed to be approximately 5.5 MW.
- 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 shall be submitted to

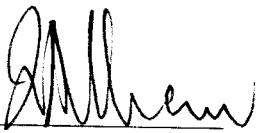





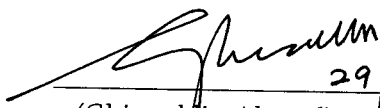
- NEPRA for adjustment. The adjustment request by the IPP shall be duly verified by the power purchaser.
- xii) 100% of debt has been assumed to be local provided however that in the event GPCL uses a mix of foreign and local loan, the future benefits of the lower interest rates shall be passed on to the Power Purchaser.
 - xiii) No corporate income tax and no minimum turnover tax have been assumed.
 - xiv) Working capital has been financed by a separate Working Capital facility, and is not included in the project cost.
 - xv) Minimum loading of the Complex shall be according to the manufacturer's technical limits to allow for combined cycle operations.
 - xvi) All fuel during plant tests after synchronization of the Complex to the grid is assumed to be paid for by the Power Purchaser.

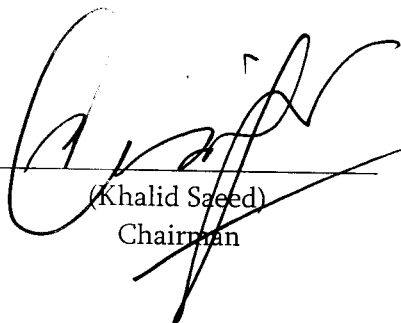
The above tariff and terms and conditions shall be incorporated in the Power Purchase Agreement between GPCL and CPPA.

AUTHORITY

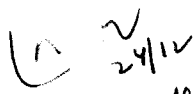

(Zafar Ali Khan)
Member
23/12/09


(Maqbool Ahmed Khawaja)
Member
24/12


(Ghiasuddin Ahmed)
Member/Vice Chairman
29/12


(Khalid Saeed)
Chairman

In addition to above:-
(*) "Test performed at C.O.D shall be witnessed by representative of NEPRA."


(Maqbool Ahmed Khawaja)

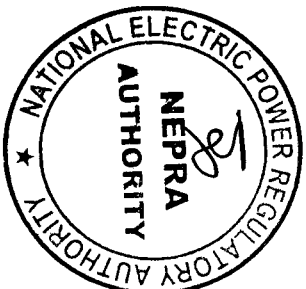


Grange Power Limited (GPL)
Reference Tariff Schedule Based on RFO

Annexure - 1

Year	Energy Charge (PKR/kWh)			Capacity Charge (PKR/kWh)											Capacity Charge	PKR per kWh
	Fuel	Variable O&M	Total	Fixed O&M-Local	Fixed O&M-Foreign	Insurance	Cost of Working Capital	Return on Equity	Return on Equity during construction	Withholding Tax @7.5%	Loan Repayment	Interest Charges	Total	60% Plant Factor		
1	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	0.4526	1.6383	3.1395	5.2326	11.1642	
2	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	0.5307	1.5603	3.1395	5.2326	11.1642	
3	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	0.6222	1.4688	3.1395	5.2326	11.1642	
4	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	0.7295	1.3615	3.1395	5.2326	11.1642	
5	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	0.8553	1.2357	3.1395	5.2326	11.1642	
6	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	1.0028	1.0882	3.1395	5.2326	11.1642	
7	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	1.1758	0.9152	3.1395	5.2326	11.1642	
8	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	1.3785	0.7125	3.1395	5.2326	11.1642	
9	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	1.6162	0.4748	3.1395	5.2326	11.1642	
10	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	1.8949	0.1960	3.1395	5.2326	11.1642	
11	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
12	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
13	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
14	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
15	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
16	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
17	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
18	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
19	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
20	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
21	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
22	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
23	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
24	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
25	5.4625	0.4691	5.9317	0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	-	-	1.0486	1.7476	7.6793	
Levelized Tariff (1-25 Years)				0.0840	0.1116	0.1391	0.1031	0.5129	0.0552	0.0426	0.6142	0.8012	2.4640	4.1067	10.0384	

Net Capacity 146.5 MW
 Reference Exchange Rate PKR 80.45 = 1 US\$
 Reference Fuel Price (Inclusive of Freight) 27,777.00 Rs./Mone
 Reference US CPI 210.228 for December 2008 as notified by the US Labour Bureau of Labor Statistics
 Reference WPI (Manufacturers) 137.8 for December 2008 as notified by the Federal Bureau of Statistics
 Efficiency 45.00%
 Levelized Tariff (at 60% plant factor) per kWh US Cents 12.4778



-16-

**Grange Power Limited (GPL)
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 Rs.	Repayment Million Rs.	Mark-up Million Rs.	Balance Million Rs.	Debt Service Millin Rs.			
1	13,165.34	136.68	534.18	13,028.67	670.86	0.4526	1.6383	2.0910
	13,028.67	142.22	528.64	12,886.44	670.86			
	12,886.44	147.99	522.87	12,738.45	670.86			
	12,738.45	154.00	516.86	12,584.45	670.86			
	13,165.34	580.89	2,102.55	12,584.45	2,683.45			
	12,584.45	160.25	510.61	12,424.20	670.86			
	12,424.20	166.75	504.11	12,257.45	670.86			
2	12,257.45	173.52	497.35	12,083.94	670.86	0.5307	1.5603	2.0910
	12,083.94	180.56	490.31	11,903.38	670.86			
	12,584.45	681.07	2,002.38	11,903.38	2,683.45			
	11,903.38	187.88	482.98	11,715.50	670.86			
	11,715.50	195.50	475.36	11,520.00	670.86			
	11,520.00	203.44	467.42	11,316.56	670.86			
	11,316.56	211.69	459.17	11,104.87	670.86			
3	11,903.38	798.52	1,884.93	11,104.87	2,683.45	0.6222	1.4688	2.0910
	11,104.87	220.28	450.58	10,884.59	670.86			
	10,884.59	229.22	441.64	10,655.37	670.86			
	10,655.37	238.52	432.34	10,416.85	670.86			
	10,416.85	248.20	422.66	10,168.65	670.86			
	11,104.87	936.22	1,747.23	10,168.65	2,683.45			
	10,168.65	258.27	412.59	9,910.38	670.86			
4	9,910.38	268.75	402.11	9,641.63	670.86	0.7295	1.3615	2.0910
	9,641.63	279.65	391.21	9,361.98	670.86			
	9,361.98	291.00	379.86	9,070.98	670.86			
	10,168.65	1,097.67	1,585.78	9,070.98	2,683.45			
	9,070.98	302.81	368.06	8,768.17	670.86			
	8,768.17	315.09	355.77	8,453.08	670.86			
	8,453.08	327.88	342.98	8,125.20	670.86			
5	8,125.20	341.18	329.68	7,784.02	670.86	0.8553	1.2357	2.0910
	9,070.98	1,286.96	1,396.49	7,784.02	2,683.45			
	7,784.02	355.02	315.84	7,429.00	670.86			
	7,429.00	369.43	301.43	7,059.57	670.86			
	7,059.57	384.42	286.44	6,675.15	670.86			
	6,675.15	400.02	270.84	6,275.13	670.86			
	7,784.02	1,508.89	1,174.55	6,275.13	2,683.45			
6	6,275.13	416.25	254.61	5,858.88	670.86	1.1758	0.9152	2.0910
	5,858.88	433.14	237.72	5,425.75	670.86			
	5,425.75	450.71	220.15	4,975.03	670.86			
	4,975.03	469.00	201.86	4,506.03	670.86			
	6,275.13	1,769.10	914.35	4,506.03	2,683.45			
	4,506.03	488.03	182.83	4,018.00	670.86			
	4,018.00	507.83	163.03	3,510.17	670.86			
7	3,510.17	528.44	142.43	2,981.74	670.86	1.3785	0.7125	2.0910
	2,981.74	549.88	120.98	2,431.86	670.86			
	2,431.86	572.19	98.67	1,859.67	670.86			
	1,859.67	595.41	75.46	1,264.27	670.86			
	1,264.27	619.56	51.30	644.70	670.86			
	644.70	644.70	26.16	0.00	670.86			
	2,431.86	2,431.86	251.59	0.00	2,683.45			
10						1.8949	0.1960	2.0910

