



**National Electric Power Regulatory Authority**  
Islamic Republic of Pakistan

**Registrar**

2nd Floor, OPF Building, G-5/2, Islamabad  
Ph: 9206500, 9207200 Fax : 9210215  
E-mail: registrar@nepra.org.pk

No.NEPA/R/TRF-100/MPL-2008/633-635  
February 13, 2009

**Subject: Authority's Decision on the Central Power Purchasing Agency's Request for the Procurement of Power from Mira Pakistan Ltd. – Kotli Hydropower Project (Case # NEPRA/TRF-100/MPL-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,

Please find enclosed the subject Decision of the Authority along with Annexure-I & II (14 pages) in Case No. NEPRA/TRF-100/MPL-2008.

2. The Decision 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).
3. Please note that the Decision of the Authority along with Annexure-I & II (12 pages) needs to be notified in the official gazette.

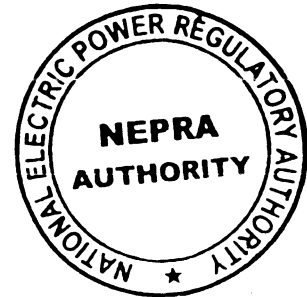
Enclosure: As above

The Secretary  
Cabinet Division  
Government of Pakistan  
Cabinet Secretariat  
Islamabad

CC:

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

( Hussnain Zaigham )



**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY  
(NEPRA)**

**\*\*\***

**Case No. NEPRA/TRF-100/MPL-2008**

**DECISION OF THE AUTHORITY  
ON  
POWER PROCUREMENT REQUEST**

**Filed by**

**Central Power Purchasing Agency  
(CPPA)**

**For**

**Kotli Hydropower Project –  
Mira Pakistan Limited**

**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY**

(NEPRA)

\*\*\*

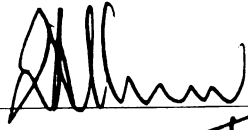
Case No. NEPRA/TRF-100/MPL-2008

**Petitioner**

Central Power Purchasing Agency (CPPA)  
for Kotli Hydropower Project - Mira Pakistan Limited

**AUTHORITY**

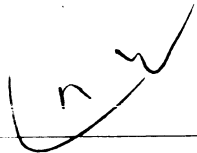
Zafar Ali Khan  
Member

  
11/2/09

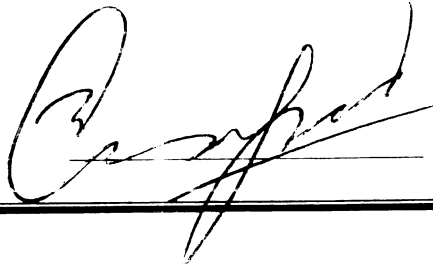
Ghiasuddin Ahmed  
Member



Maqbool Ahmad Khawaja  
VC/Member



Khalid Saeed  
Chairman







**The Authority's Decision on the Central Power Purchasing Agency's request for the procurement of power from Mira Pakistan Limited - Kotli Hydropower project**

Central Power Purchasing Agency (CPPA) (hereinafter the "Petitioner") submitted its request for acquisition of power procurement and approval of the negotiated tariff along with the agreed terms and conditions, from Mira Pakistan Limited (MPL) in respect of its Kotli Hydropower project. The aforesaid generation facility is located in the territory of Azad Jammu and Kashmir (AJ&K), an area where the NEPRA Act is not applicable. The instant request has, therefore, been made under the NEPRA Interim Power Procurement (Procedures and Standards) Regulations 2005 (IPPR).

2. The determination is particularly significant as it requires NEPRA to evaluate CPPA's request and to ascertain the viability of mutually agreed tariff and the terms thereof, for MPL's Project located in the territory of Azad Jammu and Kashmir (hereinafter referred to as the "AJ&K") which does not fall under NEPRA's territorial jurisdiction. The determination, inter alia, deals with the following:

- (i) CPPA's role as a Power Purchaser/power procurer;
- (ii) the scope and extent of NEPRA's review in determining the prudence (or otherwise) of the Negotiated Tariff and evaluation of supporting evidence; and
- (iii) facilitation offered to the generation companies located outside NEPRA's territorial jurisdiction

3. CPPA has requested for the approval of a tariff of US cents 5.79/kWh (Rs. 3.47/kWh) at PKR 60 to 1 US Dollar, levelized over thirty (30) years of proposed contract period net of 7.5% Withholding tax together with the terms and conditions of the tariff agreed mutually with MPL (hereinafter referred to as the "Negotiated Tariff").

4. Since CPPA made its procurement request under IPPR, therefore, it needs to be recognized that there are two distinct stages for NEPRA's approval of a request. The first stage envisages NEPRA's permission for CPPA to procure power, whereas at the second stage, CPPA is expected to bring a contract including prices and other terms and conditions before the Authority for approval. Ideally CPPA should have negotiated with the sellers once it gets NEPRA's permission. However, based on the feed back received from various stakeholders, the Authority observed that only power acquisition permission to CPPA would not be taken favorably by the power sellers located in AJ&K. On one hand the power sellers in AJ&K expect such procedural flexibility as available to other generation facilities which are located within NEPRA's jurisdiction, and on the other they need to be assured that their agreed tariff with CPPA has full backing of the regulator. According to them such assurance would enable them to negotiate with the prospective lenders. In addition while considering CPPA's request for approval of negotiated tariff at the feasibility stage, the Authority felt that approval of tariff in advance ('Advance tariff') is one of the various means allowed in the NEPRA Act and the rules, regulations made thereunder. Under Rule 6(d) of the NEPRA (Generation) Rules, 2000, the approval of tariff in advance for a hydropower project has been left at the discretion of the Authority as one of the legally permissible means of determining tariff. The



Authority, therefore, considers it proper that while granting permission to CPPA, its negotiated tariff may also be considered for approval at this stage.

5. As for NEPRA's prudence review of costs, it is to be noted that the negotiated tariff between CPPA and the power seller (MPL) is based on feasibility level costs. Although there are various issues which can be considered to ascertain the – reasonability of various cost components and technical parameters, however, at this stage and in order to remain consistent, NEPRA will accord deference to the figures which were considered in the feasibility study and approved by the PPIB's panel of experts. This approach is in line with the NEPRA previous determination in another project namely Suki Kinari Hydropower Project; where it was concluded that though costs are non-firm, no detailed prudence of various project cost components of tariff shall be done at this stage. So as not to discriminate CPPA's procurement request, the Authority also decided not to carryout detailed prudence of costs and other project parameters in the instant case.

6. The aforesaid approach is in accordance with the Mechanism for Tariff Determination for Hydropower Projects (the "Mechanism"); a document circulated by NEPRA to facilitate and streamline tariff issues for hydropower projects. The mechanism envisages that after obtaining a tariff based on feasibility study the sponsors may come to NEPRA, if they wish so, for their tariff determination at the EPC stage. By allowing so the Authority in-fact not only recognized the non-firm nature of costs and other project parameters, it also established that for such projects it would carryout detailed prudence of project parameters at the EPC stage. Therefore CPPA's request will also be considered by the Authority on similar lines.

7. However, while reviewing the request of the Petitioner the Authority observed some inconsistency vis-a-vis, the tariffs determined for other hydropower projects. In this regard the following parameters needed to be treated uniformly, which have been discussed hereunder.

- i) Cost of contingencies;
- ii) financial charges;
- iii) debt servicing specifically relevant to overall length of repayment period;
- iv) return on equity;
- v) other adjustments/indexation with reference to currency

#### 8. Cost of Contingencies

CPPA has sought approval of feasibility level EPC cost which includes cost of contingencies in the civil and electro-mechanical works at the rate of 10% and 5% respectively. The Authority considers that the Mechanism emphasizes on high standard of the feasibility study whereby various studies are performed thoroughly and comprehensively in order to evaluate and rely upon the estimates for various project cost components based on firm Bill of Quantities (BOQs) for the civil works provided in the feasibility. Apparently, the feasibility study of MPL project, which was carried out prior to approval of the Mechanism, failed to meet the standard, therefore, the Authority is constraint to reduce it to 5% and 2.5%



as cost of contingencies in the civil and electro-mechanical works respectively. Accordingly, US\$ 5.885 million have been allowed on account of cost of contingencies for the civil and electro-mechanical works.

9. Financial charges

CPPA has proposed US\$ 6.4 million on account of arrangement fee and other financial charges and fees. In the case of other hydropower projects, the Authority has allowed up to a maximum of 3% of the total loan amount as financial charges including fees. On the same principle, a US\$ 3.732 million have been approved as financial charges/arrangement fee for MPL- Kotli Hydropower Project.

10. Based on the aforesaid the approved EPC cost and the total project cost for MPL-Kotli Hydropower projects amounts to US\$ 118.659 million and US\$ 169.613 Million respectively in accordance with the following break-down;

Project cost Component	US\$ Million
Civil Works excluding Land	91.065
E & M Equipment excluding Custom Duty	26.344
Switch yard	1.250
<b>EPC Cost</b>	<b>118.659</b>
Land & Rehabilitation costs	18.000
Custom Duty	1.348
Insurance During Construction	2.491
Feasibility/project development/other fees	2.500
Legal & Advisory fees & Charges	1.500
Construction Period Overheads	1.500
Construction Management/Owner's Engineer	2.000
Debt Arrangement/other financial charges	3.732
O&M Training and Start-up	1.000
<b>Total Capital Expenditure</b>	<b>152.730</b>
Interest During Construction	16.883
<b>Total Project Cost</b>	<b>169.613</b>

11. Debt Servicing

The Authority considers it just and fair to expect that the period of debt servicing ( repayment of debt) negotiated with the lenders should be proportionate to the useful (contracted) life of the project, so that the benefit of diluted debt servicing in the initial years of plant operation could be passed on to the end consumers. Nevertheless, considering the current market situation, the Authority has decided to base debt servicing for hydropower projects on at least twelve (12) years of operation of the plant after the Commercial Operation Date (the "COD") as done in the case of other hydropower projects. Accordingly, the term for repayment of loans (the "Debt") in the instant case has been changed from bi-annual repayment of debt spread over eleven (11) years as proposed by the Petitioner, to quarterly repayment of Debt spread over twelve (12) years period.

12. Return on Equity

The negotiated rate of return of 18% (IRR based) is higher as compared to the 17% return on equity (IRR based) approved for other hydropower projects, which, it may be clarified, is already 2% more than what is allowed to thermal projects and wind power projects. Accordingly, 17% return on equity (IRR based) inclusive of the project construction period of four (4) years has been approved. Since the project is on BOOT basis, therefore, redemption of equity has been allowed proportionately in the remaining 18 years of contract life which would begin at the 12<sup>th</sup> anniversary of actual plant operation from COD.

13. Insurance expense for the plant operational phase

CPPA has proposed annual insurance expense @ 0.9% of EPC which works out to be US\$ 1.0679 million and thus approved.

14. Reference currency exchange rate

CPPA has based its working of a negotiated tariff on exchange rate of US\$ to PKR 60. The current PKR/US\$ exchange rate has changed significantly. It is, therefore, considered necessary that the various components of costs based on foreign currency i.e. USD be reflected in the local currency PKR at the prevailing exchange rate. Accordingly, the current US\$/PKR exchange rate of 1:79 has been used as a reference for the calculation of the tariff.

15. Adjustment of cost of reopeners and price escalation

CPPA is entitled to cost adjustments due to geological uncertainties and price escalation in cement, steel, labor and fuel in accordance with the procedure laid down in the Mechanism. Since, the Negotiated Tariff is on the basis of feasibility level costs and Bill of Quantities (BOQ) are not yet firm, therefore, are liable to change at the EPC stage. The parties are therefore, advised to pursue further negotiations for the finalization and submission of bilateral contract(s) on the basis of firm EPC cost and BOQ for all the civil works, for the approval of the Authority in accordance with the NEPRA IPPR without unreasonable delay. The necessary adjustment in EPC cost shall, however, be allowed, subject to the provision of all the information/data by the CPPA to NEPRA in accordance with the Mechanism.

16. In view of the discussion in the foregoing, the Authority approves the Advance Tariff (levelized) of Rs. 4.3041/kWh (US cents 5.4482/kWh) for procurement of power from MPL project-Kotli Hydropower project as per component-wise tariff attached herewith as Annex-I.



*[Handwritten signature]*

2

## Order

17. The Authority has approved the following tariff (hereinafter the "Advance Tariff") along with the terms and conditions based on feasibility level costs under the NEPRA Interim Power Procurement (Procedures & Standards) Regulations 2005 (IPPR), for procurement of power by CPPA from Mira Pakistan Limited (MPL) in respect of its Kotli Hydropower Project for onward sales to the distribution companies.

### **Advance Tariff**

<b>Tariff Components</b>	<b>Year 1-12</b>	<b>Year 13-30</b>	<b>Indexation</b>
<b>Fixed Charges (Rs/kW/Month)</b>			
Fixed O&M Local	152.7062	152.7062	WPI
Insurance	72.4799	72.4799	PKR/US\$
Debt Service	1069.3881	-	LIBOR
Return on Equity	489.2402	520.0509	PKR/US\$
ROE during Construction	135.4554	135.4554	PKR/US\$
<b>Variable Charge (Rs/kWh)</b>			
Variable O&M	0.0400	0.0400	WPI
Water Use Charge	0.1500	0.1500	WPI

- i) The Advance tariff has been calculated on the basis of Net Contracted Capacity of 97 MW and benchmark annual energy production of 475 GWh at net annual plant capacitor factor of 55.90%.
- ii) Hydrological risk shall be borne by the Power Purchaser in accordance with the 2002 Power Policy.
- iii) No adjustment for Certified Emission Reductions (CERs) has been accounted for. Upon actual realization of CERs, the proceeds shall be distributed between the Power Purchaser and MPL Project in accordance with the 2002 Power Policy.
- iv) The above tariff is applicable for a period of thirty (30) years on BOOT basis commencing from the date of the COD.
- v) Debt service shall be paid in the first twelve (12) years of commercial operation of plant after COD.
- vi) Redemption of equity has been allowed after 12 years of commercial operation of the plant and proportionately spread over rest of the contracted life (18 years) of the project.
- vii) The component- wise tariff is indicated at Annex-I. Debt Service Schedule is attached as Annex-II.
- viii) CPPA is directed to take due notice of the requirements under the 2002 Power Policy about the use of indigenous resources.
- ix) The Petitioner is entitled to adjustment of cost reopeners and cost escalation in the civil works. Such adjustment will be allowed subject to provision of the required information/data in accordance with the Mechanism approved by NEPRA, along with duly certified copies of the EPC contract and the Power Purchase Agreement for approval by the Authority under the NEPRA IPPR.

5

2





The following indexations shall be applicable to the tariff;

## I. One Time Adjustment

### i) Adjustment due to variation in Net Capacity

The tariff for the Capacity Charge has been determined on the basis of net capacity of 97 MW. The fixed tariff components (CPP) shall be adjusted at the time of COD based upon the Initial Dependable Capacity (IDC) test to be carried out for determination of contracted capacity. Adjustment shall not be made if the IDC is established at less than 97 MW. The adjustment will be made according to the formula:

$$CC_{(Adj)} = CC_{(Ref)} \times 97 \text{ MW} / NC_{(IDC)}$$

Where;

$CC_{(Adj)}$  = Adjusted relevant capacity charge component of tariff

$CC_{(Ref)}$  = Reference relevant capacity charge component of tariff.

$NC_{(IDC)}$  = Net Capacity at reference site conditions established at the time of IDC test.

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

### (ii) Cost of Debt

The total amount of debt has been assumed at 75% of the total project cost. Debt service component of tariff has been based on 100% foreign financing. The Principal repayment and the cost of debt shall be adjusted at Financial Closing as per actual borrowing composition i.e. Local and/or Foreign as the case may be.

### (iii) Interest During Construction

Interest During Construction (IDC) has been estimated as US\$ 16.883 million. This will be adjusted at COD on account of actual variation in interest on the basis of actual drawdown for the period of four years of project construction. CPPA shall submit relevant documents to NEPRA within fifteen (15) days of COD for adjustment of relevant tariff components.

### (iv) Adjustment due to Custom Duty and Taxes

Custom Duty amounting to US\$ 1.348 million has been taken as reference. The petitioner shall be allowed adjustment in the relevant components of tariff due to any variation on account of actual payment of custom duties through provision of documentary evidence at the time of COD. The Withholding Tax @6% on local services has been included in the project cost. Any variation on the basis of actual Withholding tax shall be adjusted in the cost.

### (v) Adjustment for variation in Rupee/Dollar parity

Relevant components of the tariff shall be adjusted at COD on account of actual variation in PKR/US\$ parity over the reference PKR. 79.00 to 1US Dollar.

6

2



## II. Pass-Through Items

No provision for income tax has been accounted for in the tariff. If the power producer is obligated to pay any tax, the exact amount paid by the company shall be reimbursed by the Power Purchaser to the company on production of original receipts. This payment should be considered as pass-through payment (Rs/kW/M) spread over a twelve (12) months period in addition to fixed charges of the Tariff.

Withholding tax on dividends is also a pass through item just like other taxes as indicated in the government Guidelines. Withholding tax shall be paid @ 7.5% (or the applicable rate) of the reference equity. The Power Purchaser shall make payment on account of withholding tax at the time of actual payment of dividend subject to the maximum of 7.5% (or the applicable rate) of 17% equity according to the following formula:

$$\text{Withholding Tax Payable} = [(17\% * (E_{(\text{Ref})} - E_{(\text{Red})})) + \text{ROEDC}_{(\text{Ref})}] \times 7.5\%$$

Where:

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

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

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

In case the Company does not declare a dividend in any particular year or only declares a partial dividend, then the difference in the withholding tax amount (between what has been 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 as a pass through item from the Power Purchaser in future on the basis of the total dividend pay out.

## III. Hydrological Risk

Hydrological risk will be borne by the Power Purchaser in accordance with the 2002 Power Policy.

## IV. Indexations:

The following indexation shall be applicable to the tariff;

### (a) Indexation applicable to O&M

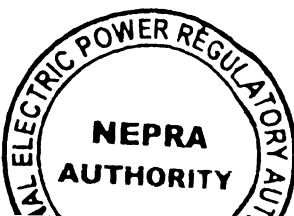
The local part of O&M cost will be adjusted on account of Inflation (WPI). Quarterly Adjustment for local inflation and exchange rate variation will be made on 1<sup>st</sup> July, 1<sup>st</sup> October, 1<sup>st</sup> January & 1<sup>st</sup> April respectively on the basis of the latest available information with respect to WPI (notified by the Federal Bureau of Statistics) The mode of indexation will be as under:

#### (i) Fixed O&M

$$F O\&M_{(\text{LREV})} = \text{Rs } 152.7062/\text{kW/M} * WPI_{(\text{REV})}/137.80$$

Where:

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



*Signature*

*Signature*

*Signature*

## Charges indexed with WPI

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

$WPI_{(REF)}$  = 137.80 Wholesale Price Index (manufactures) of December 2008 notified by the Federal Bureau of Statistics.

(ii) Variable O&M

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

$V O\&M_{(LREV)}$  = Rs 0.0400/kWh \*  $WPI_{(REV)}/137.80$

Where:

$V O\&M_{(LREV)}$  = The revised variable O&M local component of the variable charge indexed with WPI.

$WPI_{(REV)}$  = Wholesale Price Index (manufactures) as notified by the Federal Bureau of Statistics.

$WPI_{(REF)}$  = 137.80, Wholesale Price Index (manufactures) of December 2008 notified by the Federal Bureau of Statistics.

(b) Water Use Charge

Water Use Charge will be paid on units delivered basis and will be indexed with Wholesale Price Index (WPI) annually from the date of COD. The first such adjustment shall be due after one year of commercial operation from COD, according to the formula;

$WUC_{(REV)}$  = Rs 0.1500/kWh \*  $WPI_{(REV)}/WPI_{(REF)}$

Where;

$WUC_{(REV)}$  = The revised Water Use Charge component indexed with Whole Sale Price Index (WPI)

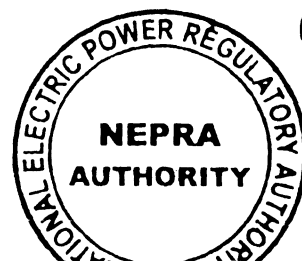
$WPI_{(REV)}$  = The Revised wholesale Price Index (manufactures)

$WPI_{(REF)}$  = Reference wholesale Price Index (manufactures) of the latest available month preceding to the date of COD as notified by the Federal Bureau of Statistics

(c) Insurance

Insurance cost component of tariff, in case of its payment by the company in foreign currency, will be adjusted on account of PKR/US\$ exchange rate variation at COD and thereafter on an annual basis at actual subject to the maximum of 1.35% of the EPC cost according to the following formula:

$I_{(REV)}$  = Rs 72.4799/kW/M \*  $ER_{(REV)}/79.00$



Where;

$I_{(REV)}$  = Revised Insurance cost component of tariff adjusted with the exchange rate variation (PKR/US\$)

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

(d) Adjustment for LIBOR variation

The interest part of fixed charge component will remain unchanged throughout the term except for the adjustment due to variation in interest rate as a result of quarterly variation in three (3) month LIBOR, while premium over LIBOR remaining the same i.e 3.0%, according to the following formula:

$$\Delta I = P_{(REV)} * (LIBOR_{(REV)} - 4.00\%) / 4$$

Where:

$\Delta I$  = the variation in interest charges applicable corresponding to variation in three month LIBOR.  $\Delta I$  can be positive or negative depending upon whether  $LIBOR_{(REV)} > \text{or} < 4.00\%$ . The interest payment obligation will be enhanced or reduced to the extent of  $\Delta I$  for each quarter under adjustment applicable on quarterly basis.

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

Note:-

In case of Local borrowing KIBOR adjustment will be made on quarterly basis according to the above mentioned mechanism. The maximum limit of the premium over KIBOR shall be 3% (300 basis points over KIBOR).

e) Return on Equity

Return on equity as well as Return on equity during construction (ROEDC) component of tariff shall be adjusted for variation in PKR/US\$ exchange rate. Such adjustment will be allowed at the end of every year after the Commercial Operation Date (COD) according to the following formula;

$$ROE_{(REV)} = ROE_{(REF)} * ER_{(REV)} / ER_{(REF)}$$

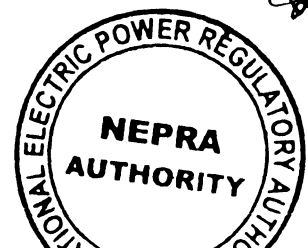
$$ROEDC_{(REV)} = ROEDC_{(REF)} * ER_{(REV)} / ER_{(REF)}$$

Where;

$ROE_{(REV)}$  = Revised Return on Equity component of tariff expressed in Rs/kW/Month adjusted with exchange rate variation (PKR/US\$).

11 9

2



$ROEDC_{(REV)}$	=	Revised Return on equity during construction component of tariff expressed in Rs/kW/Month adjusted with exchange rate variation (PKR/US\$)
$ROE_{(REF)}$	=	Reference ROE component of tariff expressed in Rs/kW/Month as adjusted at COD.
$ROEDC_{(REF)}$	=	Reference ROE component of tariff expressed in Rs/kW/month as adjusted at COD.
$ER_{(REF)}$	=	Reference TT&OD selling rate (PKR/US\$) available at the time of COD.
$ER_{(REV)}$	=	Revised TT and OD selling rate (PKR/US\$) as notified by the National Bank of Pakistan for the latest available month.

Note:-

Adjustment on account of inflation, exchange rate variation and LIBOR/KIBOR variation will be approved and announced by the Authority within fifteen working days after receipt of CPPA's request for adjustment in accordance with the requisite indexation mechanism stipulated hereinabove.

#### V. Other Terms and Conditions of Tariff:

##### Design & Manufacturing Standards:

Hydropower Generation system shall be designed, manufactured and tested in accordance with the latest IEC standards or other equivalent standards. All plant and equipment shall be new and of standard quality.

##### Power Curve of the Hydropower Complex:

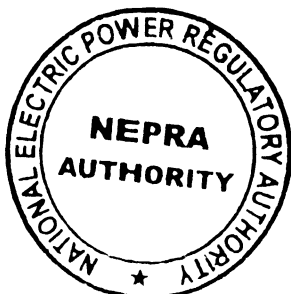
The power curve of the Hydropower plant shall be verified by the Power Purchaser, as part of the Commissioning tests according to the latest IEC standards and shall be used to measure the performance of the hydro generating units.

##### Delivery Point:

The power producer shall deliver power at 132 kV/220 kV or any other voltage level, as agreed with the power purchaser at the door step of its generating facility. Up-gradation of generation voltage up to 132 kV or 220 kV will be the responsibility of MPL.

##### Emissions Trading/Carbon Credits:

MPL would process and obtain emissions/carbon credits expeditiously and credit the proceeds to the Power Purchaser as per the policy issued by the Federal Government and agreed terms between the generator and the purchaser.



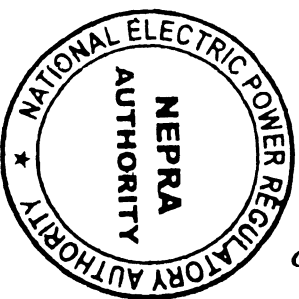
*[Handwritten signature]*

*[Handwritten mark]*

**MIRA PAKISTAN LIMITED (Kotli Hydropower Project)**  
**ADVANCE TARIFF**

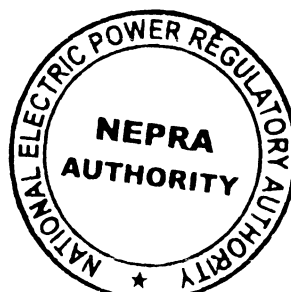
Year	Variable O&M	Water Use Charge	Fixed O&M	Insurance	Return on Equity	ROE During Construction	Withholding Tax @ 7.5%	Loan Repayment	Interest Charges	Total Tariff
	Rs./kWh	Rs./kWh	Rs. / kWh/M	Rs. / kWh/M	Rs. / kWh/M	Rs. / kWh/M	Rs. / kWh/M	Rs. / kWh/M	Rs./kWh/M	Rs. / kWh
1	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	477.3826	592.0055	5.0080
2	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	511.6869	557.7012	5.0080
3	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	548.4562	520.9319	5.0080
4	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	587.8677	481.5204	5.0080
5	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	630.1113	439.2767	5.0080
6	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	675.3905	393.9576	5.0080
7	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	723.9234	345.4647	5.0080
8	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	775.9438	293.4442	5.0080
9	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	831.7024	237.6856	5.0080
10	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	891.4677	177.9203	5.0080
11	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	955.5278	113.8603	5.0080
12	0.0400	0.1500	152.7062	72.4799	489.2402	135.4554	46.8522	1,024.1911	45.1970	5.0080
13	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
14	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
15	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
16	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
17	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
18	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
19	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
20	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
21	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
22	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
23	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
24	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
25	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
26	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
27	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
28	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
29	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
30	0.0400	0.1500	152.7062	72.4799	520.0509	135.4554	49.1630	-	-	2.4686
Levelized Tariff	0.0400	0.1500	152.7062	72.4799	497.7812	135.4554	47.4927	480.9717	291.9727	4.3041

Levelized Tariff (1-30 years) discounted at 10% per annum = US Cents 5.4482/kWh at reference exchange rate of 1US\$=Rupees 79.00.



**MIRA PAKISTAN LIMITED (Kotli Hydropower Project)**  
**Debt Servicing Schedule**

Foreign Debt						Annual Principal Repayment	Annual Interest	Annual Debt Servicing
Period	Principal Million \$	Repayment Million \$	Mark-Up Million \$	Balance Million \$	Debt Service Millin \$	Rs./kW/Month	Rs./kW/Month	Rs./kW/Month
	127.21	1.71	2.23	125.50	3.9391			
	125.50	1.74	2.20	123.75	3.9391			
	123.75	1.77	2.17	121.98	3.9391			
	121.98	1.80	2.13	120.18	3.9391			
1	127.21	7.03	8.72	120.18	15.7566	477.3826	592.0055	1,069.3881
	120.18	1.84	2.10	118.34	3.9391			
	118.34	1.87	2.07	116.47	3.9391			
	116.47	1.90	2.04	114.57	3.9391			
	114.57	1.93	2.00	112.64	3.9391			
2	120.18	7.54	8.22	112.64	15.7566	511.6869	557.7012	1,069.3881
	112.64	1.97	1.97	110.67	3.9391			
	110.67	2.00	1.94	108.67	3.9391			
	108.67	2.04	1.90	106.63	3.9391			
	106.63	2.07	1.87	104.56	3.9391			
3	112.64	8.08	7.68	104.56	15.7566	548.4562	520.9319	1,069.3881
	104.56	2.11	1.83	102.45	3.9391			
	102.45	2.15	1.79	100.30	3.9391			
	100.30	2.18	1.76	98.12	3.9391			
	98.12	2.22	1.72	95.89	3.9391			
4	104.56	8.66	7.09	95.89	15.7566	587.8677	481.5204	1,069.3881
	95.89	2.26	1.68	93.63	3.9391			
	93.63	2.30	1.64	91.33	3.9391			
	91.33	2.34	1.60	88.99	3.9391			
	88.99	2.38	1.56	86.61	3.9391			
5	95.89	9.28	6.47	86.61	15.7566	630.1113	439.2767	1,069.3881
	86.61	2.42	1.52	84.19	3.9391			
	84.19	2.47	1.47	81.72	3.9391			
	81.72	2.51	1.43	79.21	3.9391			
	79.21	2.55	1.39	76.66	3.9391			
6	86.61	9.95	5.81	76.66	15.7566	675.3905	393.9976	1,069.3881
	76.66	2.60	1.34	74.06	3.9391			
	74.06	2.64	1.30	71.42	3.9391			
	71.42	2.69	1.25	68.73	3.9391			
	68.73	2.74	1.20	65.99	3.9391			
7	76.66	10.67	5.09	65.99	15.7566	723.9234	345.4647	1,069.3881
	65.99	2.78	1.15	63.21	3.9391			
	63.21	2.83	1.11	60.37	3.9391			
	60.37	2.88	1.06	57.49	3.9391			
	57.49	2.93	1.01	54.56	3.9391			
8	65.99	11.43	4.32	54.56	15.7566	775.9438	293.4442	1,069.3881
	54.56	2.98	0.95	51.57	3.9391			
	51.57	3.04	0.90	48.54	3.9391			
	48.54	3.09	0.85	45.45	3.9391			
	45.45	3.14	0.80	42.30	3.9391			
9	54.56	12.25	3.50	42.30	15.7566	831.7024	237.6856	1,069.3881
	42.30	3.20	0.74	39.11	3.9391			
	39.11	3.25	0.68	35.85	3.9391			
	35.85	3.31	0.63	32.54	3.9391			
	32.54	3.37	0.57	29.17	3.9391			
10	42.30	13.14	2.62	29.17	15.7566	891.4677	177.9203	1,069.3881
	29.17	3.43	0.51	25.74	3.9391			
	25.74	3.49	0.45	22.25	3.9391			
	22.25	3.55	0.39	18.70	3.9391			
	18.70	3.61	0.33	15.09	3.9391			
11	29.17	14.08	1.68	15.09	15.7566	955.5278	113.8603	1,069.3881
	15.09	3.68	0.26	11.42	3.9391			
	11.42	3.74	0.20	7.68	3.9391			
	7.68	3.80	0.13	3.87	3.9391			
	3.87	3.87	0.07	0.00	3.9391			
12	15.09	15.09	0.67	0.00	15.7566	1,024.1911	45.1970	1,069.3881



*Signature*