



Registrar

# National Electric Power Regulatory Authority Islamic Republic of Pakistan

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No. NEPRA/TRF-72/EPQL-2007/8644-8646  
June 9, 2016

**Subject: Decision of the Authority in the matter of Notification of Authority's Tariff Adjustment Decisions at Commercial Operations Date of Engro Powergen Qadirpur Ltd. (Case No. NEPRA/TRF-72/EPQL-2007)**

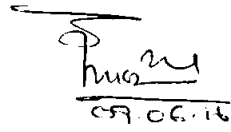
Dear Sir,

Please find enclosed herewith the subject decision of the Authority along with Orders of the Authority's Decisions dated 01.04.2011, 17.09.2013 and 10.12.2014 (22 pages) in Case No. NEPRA/TRF-72/EPQL-2007.

2. The decision is being intimated to the Federal Government for the purpose of notification in the official Gazette pursuant to Section 31 (4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

3. The instant Decision along with Orders of the Authority's Decisions dated 01.04.2011, 17.09.2013 and 10.12.2014 needs to be notified in the official Gazette.

Enclosure: As above

  
( Syed Safeer Hussain )

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

CC:

1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.

**DECISION OF THE AUTHORITY IN THE MATTER OF NOTIFICATION OF AUTHORITY 'S TARIFF ADJUSTMENT  
DECISIONS AT COMMERCIAL OPERATIONS DATE OF ENGRO POWERGEN QADIRPUR LIMITED**

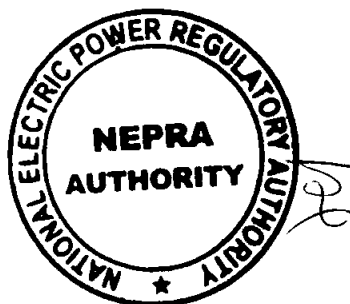
**1. Background of the case:**

A single tariff determination on permeate gas, HSD and mixed fuel operations of Engro Powergen Qadirpur Limited's (EPQL) formerly known as Engro Energy Limited (EEL), was issued by the Authority on 19 July 2007. The tariff of EPQL as per the said determination was required to be adjusted at commercial operations date (COD). Due to its peculiar operations, the tariff at COD was adjusted through separate decisions for each fuel i.e. Permeate gas, HSD and mixed fuel operations. Below is the brief summary of Authority's decision issued for the tariff adjustment of EPQL at COD;

S.No	Description	Date of decision	Fuel	Remarks
1.	Tariff Determination by the Authority incorporating tariff on each fuel i.e. permeates gas, HSD, mixed fuel.	19 July 2007	Permeate Gas/HSD/ Mixed Fuel	To be adjusted at time of COD
2.	Decision of the Authority in the matter of Tariff Adjustment on Permeate Gas at COD.	3 Nov 2010	Permeate Gas	Tariff adjustment decision at COD on permeate gas
3.	Decision of the Authority in the matter of Motion for leave for Review filed against the Authority's COD Decision on Permeate Gas.	1 April 2011	Permeate Gas	Review motion tariff adjustment decision at COD on permeate gas
4.	Decision of the Authority in the matter of Tariff Adjustment on High Speed Diesel at COD	26 Aug 2011	HSD	Tariff adjustment decision at COD on HSD
5.	Decision of the Authority in the matter of Tariff Adjustments on High Speed Diesel at COD (Revised in view of initial dependable capacity test).	17 Sep 2013	HSD	Revised tariff adjustment decision at COD on HSD
6.	Decision of the Authority in the matter of Tariff Adjustments on Mixed Fuel Operations at COD.	10 Dec 2014	Mixed Fuel	Tariff adjustment decision at COD on mixed fuel

**2. Notification of above referred decisions:**

2.1 In pursuance of Section 31(4) of the NEPRA Act, Federal Government is required to notify the decision of the Authority. The following decisions among the aforementioned decisions were notified by Federal Government;



*[Handwritten signature]*

S.NO	Description	Date of decision	Fuel	SRO No issued by MOWP	Date	Issued by MOWP in supression of
1	Tariff Determination by the Authority incorporating tariff on each fuel i.e. permeates gas, HSD, mixed fuel.	19-Jul-07	Permeate gas, HSD and mixed fuel	366(I)/2010	19-May-10	
2	Decision of the Authority in the matter of Tariff Adjustment on Permeate Gas at COD.	3-Nov-10	Permeate gas	02(I)/2011	3-Jan-11	366(I)/2010
3	Decision of the Authority in the matter of Motion for leave for Review filed against the Authority's COD Decision on Permeate Gas.	1-Apr-11	Permeate gas	711(I)/2011	15-Jul-11	02(I)/2011
4	Decision of the Authority in the matter of Tariff Adjustment on High Speed Diesel at COD	26-Aug-11	HSD	09(I)/2012	3-Jan-12	711(I)/2011

2.2 As reflected above the original tariff determination was notified by MOWP vide SRO No 366 (I)/2010. Later, the Authority issued its decision on tariff adjustment at COD on permeate gas which was notified by MOWP through a fresh notification No 02(I)/2011 in supersession of earlier notification No 366 (I)/2010. Subsequently, the Authority's decision on motion for leave for review filed by Engro Powergen Qadirpur Limited (EPQL) against the COD adjustment on permeate gas was notified by MOWP vide SRO No 711(I)/2011 in supersession of SRO No 02(I)/2011.

2.3 Later, the Authority issued its decision at COD for HSD operations which was notified by MOWP vide SRO No 09(I)/2012 wrongly mentioned that it was in supersession of SRO No 711(I)/2011 issued for operation on permeate gas whereas the COD adjustment decision on permeate gas is still applicable.

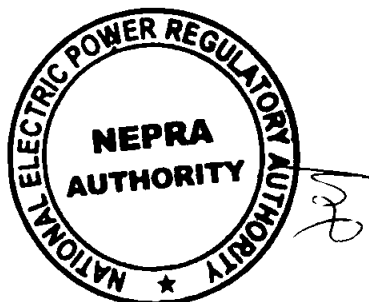
### 3. Current request of MOWP:

MOWP vide its letter dated February 02, 2015 has requested NEPRA for;

- a) Final vetting of the Authority's decision regarding tariff adjustment at commercial operation date of EPQL on HSD issued after the IDC test.

MOWP intends to notify this decision of the Authority in supersession of Authority's earlier decisions on HSD notified vide SRO No 02(I)/2012 dated 3 Jan 2012.

- b) Final vetting of the Authority's decision regarding tariff adjustment at commercial operation date of EPQL on mixed fuel operation at commercial operations date.



*H*

MOWP intends to notify this decision of the Authority in supersession of Authority's earlier decisions on permeate gas notified vide SRO No 02(I)/2011 dated 3 Jan 2012.

**4. Matter under consideration:**

The Authority has observed that the above referred decision cannot be notified in supersession of SRO No 09(I)/2012 dated Jan 03, 2012 and SRO No 02(I)/2011 dated 15 July 2011 as these are still applicable. Further the decision of the Authority on permeate gas dated April 01, 2011 that has been supersession by MOWP vide SRO no 711(I)/2011 dated 15 July 2011 needs to be restored.

**5. Decisions that remain applicable:**

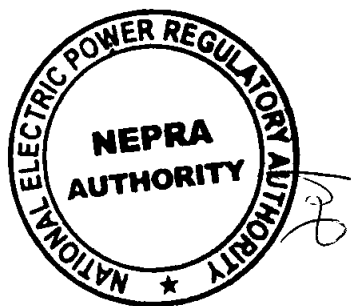
5.1 A meeting to clarify the issue to MOWP was held on August 04, 2015 at MOWP wherein it was elaborated by NEPRA's representatives that due to peculiar nature of operations of EPQL aforementioned three decisions have to remain applicable. MOWP requested that instead of three SRO of the same company at a time, a fresh decision should be issued by NEPRA incorporating all the three already issued decisions of the Authority. MOWP will accordingly issue one SRO for the tariff on different fuel operations.

5.2 In view of foregoing it is hereby clarified that following decisions of the Authority should remain applicable over the operations of Engro Powergen Qadirpur Limited;

S.No	Description	Dated	Fuel
i)	Decision of the Authority in the matter of Motion for leave for Review filed by Engro Powergen Qadirpur Ltd. (formerly Engro Energy Ltd.) against the Authority's COD Decision dated November 03, 2010	April 01, 2011	Permeate gas
ii)	Decision of the Authority in the matter of Engro Powergen Qadirpur Limited Tariff Adjustments on High Speed Diesel and Mixed Fuel Operations at Commercial Operations Date	Sep 17, 2013	HSD
iii)	Decision of the Authority in the matter of Engro Powergen Qadirpur Limited Tariff Adjustments on Mixed Fuel Operations at Commercial Operation Date	Dec 10, 2014	Mixed fuel operations

**6. Order:**

In view of foregoing the Authority has decided to issue a single decision consolidating and incorporating all the three already issued decisions of the Authority. i.e. part (a) for the Authority's COD adjustment

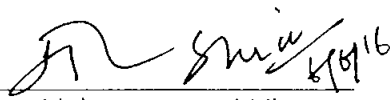



decision issued on April 01, 2011 on permeate gas, part (b) for the Authority's COD adjustment decision issued on Sep 17, 2013 on HSD and part (c) for the Authority's COD adjustment decision issued on Sep 17, 2013 on mixed fuel operations.


The instant decision along with aforementioned decisions dated April 01, 2011 (Part a), September 17, 2013 (Part b) and Dec 10, 2014 (Part c) attached to this decision is intimated to the Federal Government for notification in the Official Gazette in accordance with Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

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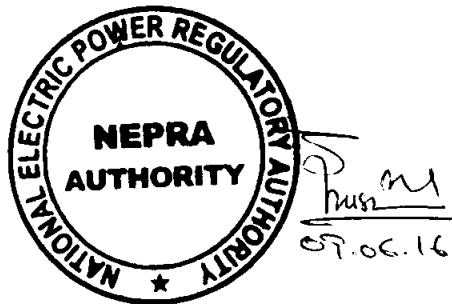
**AUTHORITY**

  
(Maj (R) Haroon Rashid)  
Member

  
(Syed Masood Ul Hassan Nagvi)  
Member

  
(Himayat Ullah Khan)  
Member/VC

  
(Brig (R) Tariq Saddozai)  
Chairman



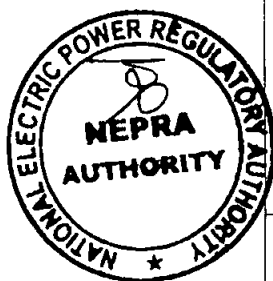


4. **ORDER** April 1, 2011 (Dail a - Permeate Gas)

Pursuant to Rule 16(11) of the NEPRA Tariff Standards & Procedures Rules, 1998 Engro Powergen Qadirpur Limited (formerly Engro Energy Limited) [EEL] is allowed to charge, on the basis of revised net dependable capacity established on the basis of test jointly carried out by the Central Power Purchasing Agency (CPPA) of the National Transmission and Despatch Company Limited (NTDC) and EEL at the time of COD, the following tariff for delivery of electricity to the CPPA of the NTDC:

**REFERENCE TARIFF**

Tariff Components	Year 1 to 10	Year 11 to 25	Indexation
Capacity Charge (PKR/kW/Hour)			
Fixed O&M - Foreign	0.0096	0.0096	US\$/PKR & US CPI
- Local	0.1366	0.1366	WPI
Insurance	0.0630	0.0630	Nil
Cost of working capital	0.0537	0.0537	KIBOR
Debt service	0.7422		LIBOR
Return on equity	0.3438	0.3438	US\$/PKR
Return on equity during construction	0.1265	0.1265	US\$/PKR
<b>Total Capacity Charge</b>	<b>1.4754</b>	<b>0.7332</b>	
Energy Charge Rs./kWh			
Fuel cost component (Gas)	2.7628	2.7628	Fuel price
Variable O&M - Foreign	0.1917	0.1917	US\$/PKR & US CPI
- Local	0.0381	0.0381	WPI



Note:

- Capacity Charge Rs./kW/hour is applicable to dependable capacity at the delivery point.
- Dispatch criterion will be the Energy Charge.
- The above tariff is applicable for a period of 25 years commencing from the date of the Commercial Operations.
- Component wise tariff for operation on permeate gas is indicated at Annex-I and Debt Service Schedule at Annex-II.

I) **Adjustment in Insurance Component**

Insurance component of reference tariff shall be adjusted as per actual on yearly basis upon production of authentic documentary evidence by EEL according to the following formula:

$$\text{Insurance Component (Revised)} = \text{Rs.}0.0630 \text{ per kW per hour} / (1.35\% \times \text{US\$ } 154.413 \text{ million}) \times \text{AP}$$

Where:

$$\text{AP} = \text{Actual Premium subject to maximum of 1.35\% of the adjusted EPC}$$

II) **Pass-Through Items**

No provision for income tax has been accounted for in the tariff. If EEL is obligated to pay any tax on its income, the exact amount paid by the company shall be reimbursed by NTDC to EEL on production of original receipts. This payment will be considered as a pass-through (as

Rs./kW/hour) hourly payment spread over a 12 months period in addition to the capacity purchase price proposed in the reference tariff. Furthermore, in such a scenario, EEL shall also submit to NTDC details of any tax shield savings and NTDC shall deduct the amount of these savings from its payment to EEL on account of taxation.

Withholding tax is also a pass-through item just like other taxes as indicated in the government guidelines for the determination of tariff for new IPPs. In revised tariff table withholding tax number is indicated as reference and 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% of reference equity i.e. hourly payment (Rs./kW/hour) spread over 12 months.

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 payout.

### III) Indexations

The following indexations shall be applicable to reference tariff:

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

In future fixed O&M part of capacity charge shall be adjusted on account of local inflation as per wholesale price index (WPI) and variation in US CPI and dollar-rupee exchange rate parity. Quarterly adjustment for local inflation, foreign inflation and exchange rate variation shall be made on 1<sup>st</sup> July, 1<sup>st</sup> October, 1<sup>st</sup> January and 1<sup>st</sup> April based on the latest available information with respect to WPI notified by the Federal Bureau of Statistics, US CPI notified by the 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

$$F O\&M_{(LREV)} = \text{Rs. } 0.1366 \text{ per kW per hour} \times WPI_{(REV)} / 159.31$$

$$F O\&M_{(FREV)} = \text{Rs. } 0.0096 \text{ per kW per hour} \times US CPI_{(REV)} / 216.741 \times ER_{(REV)} / 84.20$$

Where:

$F O\&M_{(LREV)}$	=	The revised applicable fixed O&M local component of the capacity charge indexed with WPI
$F O\&M_{(FREV)}$	=	The revised applicable fixed O&M foreign component of the capacity charge indexed with US CPI and exchange rate variations
$WPI_{(REV)}$	=	The revised wholesale price index (manufacturers)
$WPI_{(REF)}$	=	159.31 wholesale price index (manufacturers) of February 2010 notified by the Federal Bureau of Statistics
$US CPI_{(REV)}$	=	The revised US CPI (all urban consumers)
$US CPI_{(REF)}$	=	216.741 US CPI (all urban consumers) for the month of February 2010 as notified by the US Bureau of Labor Statistics





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

Note:- The above revised reference O&M cost components of tariff shall be adjusted on quarterly basis for variations in WPI, US CPI and US\$/Rs. exchange rate variation.

ii) Variable O&M

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

$$V O\&M_{(LREV)} = \text{Rs. } 0.0381 \text{ per kW per hour} * WPI_{(REV)} / 159.31$$

$$V O\&M_{(PREV)} = \text{Rs. } 0.1917 \text{ per kW per hour} * US CPI_{(REV)} / 216.741 * ER_{(REV)} / 84.20$$

Where:

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

$V O\&M_{(PREV)}$  = The revised applicable variable O&M foreign component of the energy charge indexed with US CPI and exchange rate variations

$WPI_{(REV)}$  = The revised wholesale price index (manufacturers)

$WPI_{(REF)}$  = 159.31 wholesale price index (manufacturers) of February 2010 notified by the Federal Bureau of Statistics

$US CPI_{(REV)}$  = The revised US CPI (all urban consumers)

$US CPI_{(REF)}$  = 216.741 US CPI (all urban consumers) for the month of February 2010 as notified by the US Bureau of Labor Statistics

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

Note:- The above revised reference O&M cost components of tariff shall be adjusted on quarterly basis for variations in WPI, US CPI and US\$/Rs. exchange rate variation.

b) Adjustment for LIBOR variation

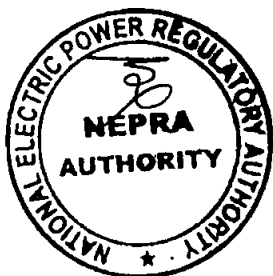
The interest part of fixed charge component will remain unchanged throughout the term except for the adjustment due to variations in interest rate as a result of variation in quarterly LIBOR according to the following formula:

$$\Delta I = P_{(REV)} * (LIBOR_{(REV)} - 1.16\%) / 4$$

Where:

$\Delta I$  = The variation in interest charges applicable corresponding to variation in LIBOR.  $\Delta I$  can be positive or negative depending upon whether  $LIBOR_{(REV)}$  is > or < 1.16%. The interest payment obligation will be enhanced or reduced to the extent of  $\Delta I$  for each quarter under adjustment on quarterly basis.

$P_{(REV)}$  = The outstanding principal (as indicated in the attached debt service schedule to this order) on a quarterly basis on the relevant quarterly calculations date.





Cost of working capital component will be adjusted on the basis of quarterly variation in reference KIBOR (12.36%) with spread (200 basis points) remaining the same.

c) Fuel Price Variation

The variable charge part of the tariff relating to fuel cost shall be adjusted on account of the fuel price variations. In this regard, the variation in EEL's allowed rate relating to fuel cost shall be revised according to the following formula:

$$FC_{(Rev)} = (Rs. 2.7628 \text{ per Kwh} * FP_{(Rev)}) / Rs. 368.67 \text{ per MMBTU}$$

Where:

$$FC_{(Rev)} = \text{Revised fuel cost component of variable charge on permeate gas}$$

$$FP_{(Rev)} = \text{Revised fuel price}$$

d) Adjustment in Return on Equity (ROE)

ROE component of tariff shall be adjusted on account of exchange rate variation according to the following formula:

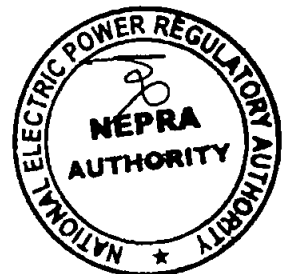
$$ROE_{(Rev)} = Rs.0.3438 \text{ per kW per hour} * ER_{(Rev)} / ER_{(Ref)}$$

Where:

$$ROE_{(Rev)} = \text{The revised ROE component of the capacity purchase price}$$

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

$$ER_{(Ref)} = \text{The reference exchange rate of PKR 84.20 = 1 US\$}$$



e) Adjustment on Return on Equity during Construction (ROEDC)

ROEDC component of tariff shall be adjusted on account of exchange rate variation according to the following formula:

$$ROEDC_{(Rev)} = Rs.0.1265 \text{ per kW per hour} * ER_{(Rev)} / ER_{(Ref)}$$

Where:

$$ROEDC_{(Rev)} = \text{The revised ROEDC component of the capacity purchase price}$$

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

$$ER_{(Ref)} = \text{The reference exchanges rate of PKR 84.20 = 1 US\$}$$

Adjustments on account of local inflation, foreign inflation, exchange rate variation, KIBOR/LIBOR variation and fuel price variation will be approved and announced by the Authority for immediate application in accordance with the requisite indexation mechanism stipulated herein.



IV) Terms and Conditions of Tariff:

- i) Use of permeate gas will be considered as primary fuel.
- ii) Dispatch criterion will be based on the energy charge.
- iii) General assumptions of EEL, which are not covered in this and earlier determinations, may be dealt with according to standard terms of PPA.

*Dissenting note is attached*

AUTHORITY

(Zafar Ali Khan)  
Member

*[Signature]*  
29/3  
(Ghiasuddin Ahmed)  
Member

(Maqbool Ahmad Khawaja)  
Member

*\* Dissent note on admission of Motion for leave for Review is annexed, which is dated 10.12.10*  
(Shaukat Ali Kundi) *Shaukat Ali Kundi*  
Vice Chairman/Member  
18.03.2011

*NOTE attached*

*[Signature]*  
(Khalid Saeed) 1/4/2011  
Chairman

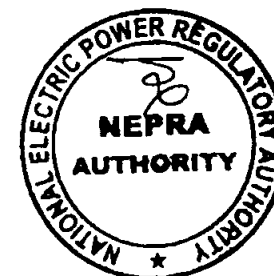


**ENGRO POWERGEN QADIRPUR LIMITED**  
**Tariff Table at COD**

Year	Variable Charge (PKR/kWh)				Capacity Charge (PKR/kW/Hour)									Total
	Fuel	Variable O&M Local	Variable O&M Foreign	Total	Fixed O&M Local	Fixed O&M Foreign	Insurance	Financing Cost on Working Capital	Return on Equity	Return on Equity for Construction Period	Withholding Tax @7.5%	Loan Repayment	Interest Charges	
1	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353	0.4986	0.2436	1.5105
2	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353	0.5196	0.2225	1.5105
3	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353	0.5416	0.2006	1.5105
4	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353	0.5644	0.1778	1.5105
5	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353	0.5882	0.1539	1.5105
6	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353	0.6131	0.1291	1.5105
7	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353	0.6389	0.1032	1.5105
8	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353	0.6659	0.0763	1.5105
9	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353	0.6940	0.0482	1.5105
10	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353	0.7233	0.0189	1.5105
11	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
12	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
13	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
14	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
15	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
16	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
17	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
18	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
19	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
20	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
21	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
22	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
23	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
24	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
25	2.7628	0.0381	0.1917	2.9926	0.1366	0.0096	0.0630	0.0537	0.3438	0.1265	0.0353			0.7684
<b>Levelized Tariff (1-25 Years)</b>				<b>2.9926</b>	<b>0.1366</b>	<b>0.0096</b>	<b>0.0630</b>	<b>0.0537</b>	<b>0.3438</b>	<b>0.1265</b>	<b>0.0353</b>	<b>0.3964</b>	<b>0.1060</b>	<b>1.2708</b>

Net Capacity at COD  
 Exchange Rate at COD  
 Fuel Price (Inclusive of Freight)  
 US CPI  
 WPI (Manufacturers)  
 Levelized Tariff at 60% plant factor

217.298 MW  
 84.20 Rs./US \$  
 368.67 Rs./MMBTU  
 216.74  
 159.31  
 Rs.5.1106 per kWh (or US Cent 6.0696)

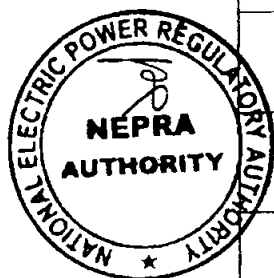


**ENGRO POWERGEN QADIRPUR LIMITED**  
**Debt Servicing Schedule at COD**

LIBOR  
Premium

1.16%  
3.00%

Period	Principal Million \$	Repayment Million \$	Mark-Up Million \$	Balance Million \$	Debt Service Millin \$	Annual Principal Repayment \$ Million	Annual Interest \$ Million	Annual Principal Repayment Rs. Million	Annual Interest Rs. Million	Principal Repayment Rs./kW/ Hour	Interest Rs./kW/ Hour	Annual Debt Service Rs/kW/Hour
1	136.7218	2.7745	1.4202	133.9474	4.1946							
2	133.9474	2.8033	1.3914	131.1441	4.1946							
3	131.1441	2.8324	1.3623	128.3117	4.1946							
4	128.3117	2.8618	1.3328	125.4499	4.1946	11.2719	5.5067	949.0958	463.6620	0.4986	0.2436	0.7422
5	125.4499	2.8915	1.3031	122.5584	4.1946							
6	122.5584	2.9216	1.2731	119.6368	4.1946							
7	119.6368	2.9519	1.2427	116.6849	4.1946							
8	116.6849	2.9826	1.2121	113.7023	4.1946	11.7476	5.0310	989.1494	423.6083	0.5196	0.2225	0.7422
9	113.7023	3.0136	1.1811	110.6887	4.1946							
10	110.6887	3.0449	1.1498	107.6439	4.1946							
11	107.6439	3.0765	1.1182	104.5674	4.1946							
12	104.5674	3.1085	1.0862	101.4589	4.1946	12.2434	4.5352	1,030.8934	381.8643	0.5416	0.2006	0.7422
13	101.4589	3.1407	1.0539	98.3182	4.1946							
14	98.3182	3.1734	1.0213	95.1448	4.1946							
15	95.1448	3.2063	0.9883	91.9385	4.1946							
16	91.9385	3.2396	0.9550	88.6988	4.1946	12.7601	4.0185	1,074.3991	338.3587	0.5644	0.1778	0.7422
17	88.6988	3.2733	0.9214	85.4255	4.1946							
18	85.4255	3.3073	0.8874	82.1182	4.1946							
19	82.1182	3.3416	0.8530	78.7766	4.1946							
20	78.7766	3.3764	0.8183	75.4002	4.1946	13.2986	3.4800	1,119.7407	293.0170	0.5882	0.1539	0.7422
21	75.4002	3.4114	0.7832	71.9888	4.1946							
22	71.9888	3.4469	0.7478	68.5419	4.1946							
23	68.5419	3.4827	0.7120	65.0593	4.1946							
24	65.0593	3.5188	0.6758	61.5404	4.1946	13.8598	2.9188	1,166.9959	245.7618	0.6131	0.1291	0.7422
25	61.5404	3.5554	0.6393	57.9850	4.1946							
26	57.9850	3.5923	0.6023	54.3927	4.1946							
27	54.3927	3.6296	0.5650	50.7631	4.1946							
28	50.7631	3.6673	0.5273	47.0957	4.1946	14.4447	2.3339	1,216.2454	196.5124	0.6389	0.1032	0.7422
29	47.0957	3.7054	0.4892	43.3903	4.1946							
30	43.3903	3.7439	0.4507	39.6463	4.1946							
31	39.6463	3.7828	0.4118	35.8635	4.1946							
32	35.8635	3.8221	0.3725	32.0414	4.1946	15.0543	1.7243	1,267.5732	145.1845	0.6659	0.0763	0.7422
33	32.0414	3.8618	0.3328	28.1796	4.1946							
34	28.1796	3.9019	0.2927	24.2776	4.1946							
35	24.2776	3.9425	0.2522	20.3352	4.1946							
36	20.3352	3.9834	0.2112	16.3518	4.1946	15.6896	1.0890	1,321.0672	91.6905	0.6940	0.0482	0.7422
37	16.3518	4.0248	0.1699	12.3270	4.1946							
38	12.3270	4.0666	0.1280	8.2604	4.1946							
39	8.2604	4.1088	0.0858	4.1515	4.1946							
40	4.1515	4.1515	0.0431	0.0000	4.1946	16.3518	0.4268	1,376.8188	35.9390	0.7233	0.0189	0.7422



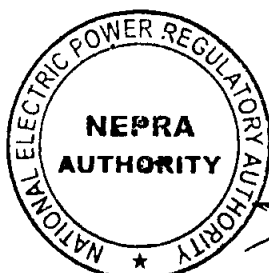


5. The Authority observed that NTDC vide its letter no. COO(CPPA)/Dir (Tech-I)/EQPL/0389-93 dated December 17, 2012, has also informed the Authority that initial dependable capacity test of EPQL for operations on HSD was carried out on October 26, 2012 and deemed initial tested capacity on HSD was established as 212.861 MW as per relevant provisions of the power purchase agreement.
6. The Authority after consideration of the aforementioned facts and in the light of opinion of its technical professionals has decided to approve the results of the test carried out by the petitioner and the power purchaser. Consequently, all the relevant tariff components which were subject to adjustment on the basis of revised net dependable capacity established for operations on HSD at the time of COD, have been revised.
7. **ORDER** *21.11.2012, 12.11.2012 b- HSD*

Pursuant to Rule 16 (11) of the NEPRA Tariff Standards & Procedures Rules, 1998 read with section 31 (4) of Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 Engro Powergen Qadirpur Limited (EPQL) is allowed to charge with effect from the Commercial Operations Date (COD) for operations on high speed diesel (HSD), the following tariff for delivery of electricity to the CPPA of the NTDC :

**REFERENCE TARIFF**

Tariff Components	Year 1 to 10	Year 11 to 25	Indexation
<b>Capacity Charge (PKR/kW/Hour)</b>			
Fixed O&M - Foreign	0.0098	0.0098	US\$/PKR & US CPI
- Local	0.1394	0.1394	WPI
Insurance	0.0643	0.0643	Nil
Cost of working capital	0.0549	0.0549	KIBOR
Debt service	0.7270	-	LIBOR
Return on equity	0.3510	0.3510	US\$/PKR
Return on equity during Construction	0.1291	0.1291	US\$/PKR
<b>Total Capacity Charge</b>	<b>1.4755</b>	<b>0.7485</b>	
<b>Energy Charge Rs./kWh</b>			
Fuel cost component (HSD)	14.2314	14.2314	Fuel price
Variable O&M - Foreign	0.1957	0.1957	US\$/PKR & US CPI
- Local	0.0389	0.0389	WPI
	<b>14.4660</b>	<b>14.4660</b>	



Note:

- i) Capacity Charge Rs./kW/hour is applicable to dependable capacity at the delivery point.
- ii) Dispatch criterion will be the Energy Charge.
- iii) The above tariff is applicable for a period of 25 years commencing from the date of the Commercial Operations.
- iv) Component wise tariff for operations on HSD is indicated at **Annex-I** and Debt Service Schedule at **Annex-II**.

I) **Adjustment in Insurance Component**

Insurance component of the reference tariff will be adjusted as per actually incurred prudent costs, subject to maximum of 1.35% of the approved EPC cost, on annual basis upon production of authentic documentary evidence by the petitioner.

II) **Pass-Through Items**

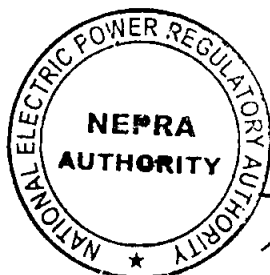
No provision for income tax has been accounted for in the tariff. If EPQL is obligated to pay any tax on its income, the exact amount paid by the company shall be reimbursed by NTDC to EPQL on production of original receipts. This payment will be considered as a pass-through (as Rs./kW/hour) hourly payment spread over a 12 months period in addition to the capacity purchase price proposed in the reference tariff. Furthermore, in such a scenario, EPQL shall also submit to NTDC details of any tax shield savings and NTDC shall deduct the amount of these savings from its payment to EPQL on account of taxation.

Withholding tax on dividend is also a pass-through item just like other taxes as indicated in the government guidelines for the determination of tariff for new IPPs. In revised tariff table withholding tax number is indicated as reference and 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% of reference equity i.e. hourly payment (Rs./kW/hour) spread over 12 months.

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 payout.

III) **Indexations**

The following indexations shall be applicable to reference tariff:





a) Indexation applicable to O&M

In future fixed O&M part of capacity charge on HSD operations shall be adjusted on account of local inflation as per wholesale price index (WPI) and variation in US CPI and dollar/rupee exchange rate parity. Quarterly adjustment for local inflation, foreign inflation and exchange rate variation shall be made on 1<sup>st</sup> July, 1<sup>st</sup> October, 1<sup>st</sup> January and 1<sup>st</sup> April based on the latest available information with respect to WPI notified by the Federal Bureau of Statistics, US CPI notified by the 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

$$F O\&M(d)_{(LREV)} = \text{Rs. } 0.1394 \text{ per kW per hour} \cdot WPI_{(REV)} / 159.31$$

$$F O\&M(d)_{(FREX)} = \text{Rs. } 0.0098 \text{ per kW per hour} \cdot US CPI_{(REV)} / 216.741 \cdot ER_{(REV)} / 84.20$$

Where:

$F O\&M(d)_{(LREV)}$  = The revised applicable fixed O&M local component on HSD operations of the capacity charge indexed with WPI

$F O\&M(d)_{(FREX)}$  = The revised applicable fixed O&M foreign component on HSD operations of the capacity charge indexed with US CPI and exchange rate variations

$WPI_{(REV)}$  = The revised wholesale price index (manufacturers)

$WPI_{(REF)}$  = 159.31 wholesale price index (manufacturers) of February 2010 notified by the Federal Bureau of Statistics

$US CPI_{(REV)}$  = The revised US CPI (all urban consumers)

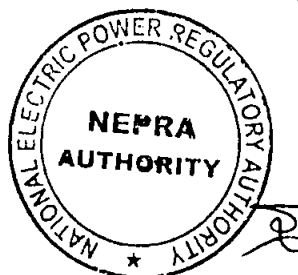
$US CPI_{(REF)}$  = 216.741 US CPI (all urban consumers) for the month of February 2010 as notified by the US Bureau of Labor Statistics

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

Note:- The above revised reference O&M cost components of tariff shall be adjusted on quarterly basis for variations in WPI, US CPI and US\$/Rs. exchange rate variation.

ii) Variable O&M

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





$$V O\&M(d)_{(LREV)} = \text{Rs. } 0.0389 \text{ per kW per hour} * WPI_{(REV)} / 159.31$$

$$V O\&M(d)_{(FREV)} = \text{Rs. } 0.1957 \text{ per kW per hour} * US CPI_{(REV)} / 216.741 * ER_{(REV)} / 84.20$$

Where:

$V O\&M(d)_{(LREV)}$  = The revised applicable variable O&M local component on HSD operations of the energy charge indexed with WPI

$V O\&M(d)_{(FREV)}$  = The revised applicable variable O&M foreign component on HSD operations of the energy charge indexed with US CPI and exchange rate variations

$WPI_{(REV)}$  = The revised wholesale price index (manufacturers)

$WPI_{(REF)}$  = 159.31 wholesale price index (manufacturers) of February 2010 notified by the Federal Bureau of Statistics

$US CPI_{(REV)}$  = The revised US CPI (all urban consumers)

$US CPI_{(REF)}$  = 216.741 US CPI (all urban consumers) for the month of February 2010 as notified by the US Bureau of Labor Statistics

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

Note:- The above revised reference O&M cost components of tariff shall be adjusted on quarterly basis for variations in WPI, US CPI and US\$/Rs. exchange rate variation.

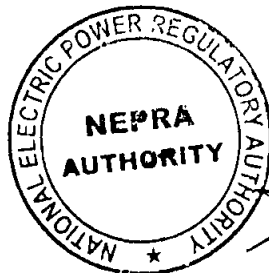
b) Adjustment for LIBOR variation

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 LIBOR according to the following formula:

$$\Delta I = P_{(REV)} * (LIBOR_{(REV)} - 0.29\%) / 4$$

Where:

$\Delta I$  = The variation in interest charges applicable corresponding to variation in LIBOR.  $\Delta I$  can be positive or negative depending upon whether  $LIBOR_{(REV)}$  is > or < 0.29%. The interest payment obligation will be enhanced or reduced to the extent of  $\Delta I$  for each quarter under adjustment on quarterly basis.







$P_{(REV)}$  = The outstanding principal (as indicated in the attached debt service schedule to this order) on a quarterly basis on the relevant quarterly calculations date.

Cost of working capital component will be adjusted on the basis of quarterly variation in reference KIBOR (12.36%) with spread (200 basis points) remaining the same.

c) **Fuel Price Variation**

The variable charge part of the tariff relating to fuel cost shall be adjusted on account of the fuel price variations. In this regard, the variation in EPQL's allowed rate relating to fuel cost shall be revised according to the following formula:

$$FC(d)_{(REV)} = (Rs. 14.2314 \text{ per kWh} * FP_{(d)(REV)}) / Rs. 63.84 \text{ per Litre}$$

Where:

$FC(d)_{(REV)}$  = Revised fuel cost component of variable charge on HSD operations

$FP(d)_{(REV)}$  = Revised fuel price (HSD)

d) **Adjustment in Return on Equity (ROE)**

ROE component of tariff on HSD operations shall be adjusted on account of exchange rate variation according to the following formula:

$$ROE(d)_{(REV)} = Rs.0.3510 \text{ per kW per hour} * ER_{(REV)} / ER_{(REF)}$$

Where:

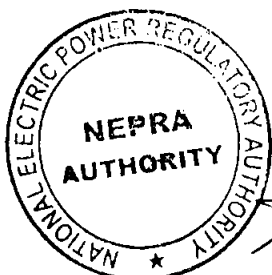
$ROE(d)_{(REV)}$  = The revised ROE component of the capacity purchase price on HSD operations

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

$ER_{(REF)}$  = The reference exchange rate of PKR 84.20 = 1 US\$.

e) **Adjustment on Return on Equity during Construction (ROEDC)**

ROEDC component of tariff on HSD operations shall be adjusted on account of exchange rate variation according to the following formula:





$$ROEDC(d)_{(Rev)} = Rs.0.1291 \text{ per kW per hour} \cdot ER_{(Rev)} / ER_{(Ref)}$$

Where:

$ROEDC(d)_{(Rev)}$  = The revised ROEDC component of the capacity purchase price on HSD operations

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

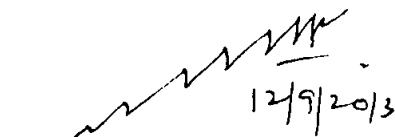
$ER_{(Ref)}$  = The reference exchange rate of PKR 84.20= 1 US\$.


Adjustments on account of local inflation, foreign inflation, exchange rate variation, KIBOR/LIBOR variation and fuel price variation will be approved and announced by the Authority for immediate application in accordance with the requisite indexation mechanism stipulated herein.

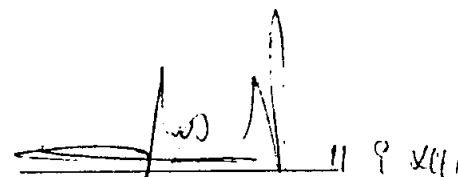
**IV) Terms and Conditions of Tariff:**

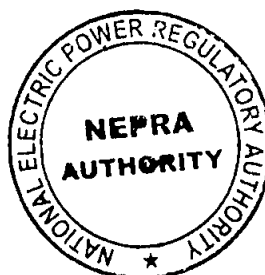
- i) Use of permeate gas will be considered as primary fuel.
- ii) The terms and conditions stipulated in the earlier determinations of the Authority, for operations of HSD, need to be adhered to by EPQL.
- iii) Dispatch criterion will be based on the energy charge.
- iv) General assumptions of EPQL, which are not covered in this and earlier determinations, may be dealt with according to standard terms of PPA.

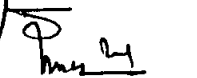
**AUTHORITY**

  
12/9/2013  
(Habibullah Khilji)  
Member

  
14/9/13  
(Maj (R) Haroon Rashid)  
Member

  
11/9/11  
(Khawaja Muhammad Naeem)  
Vice Chairman/Member



  
17-09-13

**ENGRO POWERGEN QADIRPUR LIMITED**  
Specified Tariff (HSD)

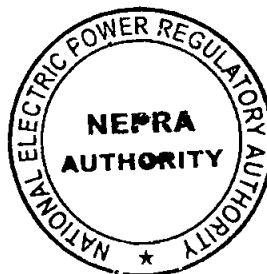
Annexure I

Year	Variable Charge (PKR/kWh)			
	Fuel	Variable O&M Local	Variable O&M Foreign	Total
1	14.2314	0.0389	0.1957	14.4660
2	14.2314	0.0389	0.1957	14.4660
3	14.2314	0.0389	0.1957	14.4660
4	14.2314	0.0389	0.1957	14.4660
5	14.2314	0.0389	0.1957	14.4660
6	14.2314	0.0389	0.1957	14.4660
7	14.2314	0.0389	0.1957	14.4660
8	14.2314	0.0389	0.1957	14.4660
9	14.2314	0.0389	0.1957	14.4660
10	14.2314	0.0389	0.1957	14.4660
11	14.2314	0.0389	0.1957	14.4660
12	14.2314	0.0389	0.1957	14.4660
13	14.2314	0.0389	0.1957	14.4660
14	14.2314	0.0389	0.1957	14.4660
15	14.2314	0.0389	0.1957	14.4660
16	14.2314	0.0389	0.1957	14.4660
17	14.2314	0.0389	0.1957	14.4660
18	14.2314	0.0389	0.1957	14.4660
19	14.2314	0.0389	0.1957	14.4660
20	14.2314	0.0389	0.1957	14.4660
21	14.2314	0.0389	0.1957	14.4660
22	14.2314	0.0389	0.1957	14.4660
23	14.2314	0.0389	0.1957	14.4660
24	14.2314	0.0389	0.1957	14.4660
25	14.2314	0.0389	0.1957	14.4660
Levelized Tariff (1-25 Years)				14.4660

Capacity Charge (PKR/kW/Hour)									
Fixed O&M Local	Fixed O&M Foreign	Insurance	Financing Cost on Working Capital	Return on Equity	Return on Equity for Construction Period	Withholding Tax @7.5%	Loan Repayment	Interest Charges	Total
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.5304	0.1965	1.5115
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.5481	0.1789	1.5115
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.5663	0.1606	1.5115
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.5852	0.1418	1.5115
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.6047	0.1223	1.5115
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.6248	0.1022	1.5115
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.6456	0.0814	1.5115
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.6671	0.0599	1.5115
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.6893	0.0377	1.5115
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.7123	0.0147	1.5115
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360			0.7846
0.1394	0.0098	0.0643	0.0549	0.3510	0.1291	0.0360	0.4074	0.0847	1.2767

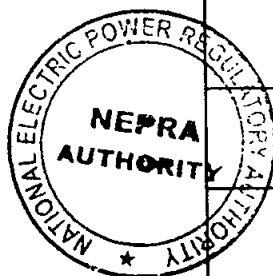
Net Capacity at COD  
Exchange Rate at COD  
Fuel Price (Inclusive of Freight)  
US CPI  
WPI (Manufacturers)  
Levelized Tariff at 60% plant factor

212.861 MW  
84.20 Rs./US \$  
63.83 Rs./Litre (excluding sales tax)  
216.74  
159.31  
Rs.16.5937 per kWh (or US Cent 19.7075)



**ENGRO POWERGEN QADIRPUR LIMITED**  
Debt Servicing Schedule on HSD

Period	LIBOR Premium	0.29% 3.00%	Mark-Up	Balance	Debt Service	Annual Principle Repayment	Annual Interest \$	Annual Principle Repayment	Annual Interest Rs.	Principal Repayment Rs./kW/ Month	Interest Rs./kW/ Month	Annual Debt Service
	Million \$	Million \$				\$ Million	Million	Rs. Million	Million	Month	Month	Rs/kW/Hour
1	136.7218	2.9007	1.1241	133.8212	4.0248							
2	133.8212	2.9245	1.1003	130.8967	4.0248							
3	130.8967	2.9485	1.0762	127.9481	4.0248							
4	127.9481	2.9728	1.0520	124.9754	4.0248	11.7465	4.3526	989.0536	366.4856	0.5304	0.1965	0.7270
5	124.9754	2.9972	1.0275	121.9781	4.0248							
6	121.9781	3.0219	1.0029	118.9563	4.0248							
7	118.9563	3.0467	0.9780	115.9095	4.0248							
8	115.9095	3.0718	0.9530	112.8378	4.0248	12.1376	3.9615	1,021.9844	333.5548	0.5481	0.1789	0.7270
9	112.8378	3.0970	0.9277	109.7408	4.0248							
10	109.7408	3.1225	0.9023	106.6183	4.0248							
11	106.6183	3.1482	0.8766	103.4701	4.0248							
12	103.4701	3.1740	0.8507	100.2961	4.0248	12.5417	3.5573	1,056.0117	299.5275	0.5663	0.1606	0.7270
13	100.2961	3.2001	0.8246	97.0959	4.0248							
14	97.0959	3.2264	0.7983	93.8695	4.0248							
15	93.8695	3.2530	0.7718	90.6165	4.0248							
16	90.6165	3.2797	0.7450	87.3368	4.0248	12.9593	3.1398	1,091.1720	264.3672	0.5852	0.1418	0.7270
17	87.3368	3.3067	0.7181	84.0301	4.0248							
18	84.0301	3.3339	0.6909	80.6962	4.0248							
19	80.6962	3.3613	0.6635	77.3349	4.0248							
20	77.3349	3.3889	0.6358	73.9460	4.0248	13.3908	2.7083	1,127.5029	228.0363	0.6047	0.1223	0.7270
21	73.9460	3.4168	0.6080	70.5292	4.0248							
22	70.5292	3.4449	0.5799	67.0844	4.0248							
23	67.0844	3.4732	0.5516	63.6111	4.0248							
24	63.6111	3.5018	0.5230	60.1094	4.0248	13.8366	2.2624	1,165.0435	190.4957	0.6248	0.1022	0.7270
25	60.1094	3.5305	0.4942	56.5788	4.0248							
26	56.5788	3.5596	0.4652	53.0193	4.0248							
27	53.0193	3.5888	0.4359	49.4304	4.0248							
28	49.4304	3.6183	0.4064	45.8121	4.0248	14.2973	1.8017	1,203.8340	151.7052	0.6456	0.0814	0.7270
29	45.8121	3.6481	0.3767	42.1640	4.0248							
30	42.1640	3.6781	0.3467	38.4859	4.0248							
31	38.4859	3.7083	0.3164	34.7776	4.0248							
32	34.7776	3.7388	0.2859	31.0387	4.0248	14.7733	1.3257	1,243.9160	111.6232	0.6671	0.0599	0.7270
33	31.0387	3.7696	0.2552	27.2692	4.0248							
34	27.2692	3.8006	0.2242	23.4686	4.0248							
35	23.4686	3.8318	0.1930	19.6368	4.0248							
36	19.6368	3.8633	0.1615	15.7735	4.0248	15.2652	0.8338	1,285.3326	70.2066	0.6893	0.0377	0.7270
37	15.7735	3.8951	0.1297	11.8784	4.0248							
38	11.8784	3.9271	0.0977	7.9513	4.0248							
39	7.9513	3.9594	0.0654	3.9919	4.0248							
40	3.9919	3.9919	0.0328	0.0000	4.0248	15.7735	0.3255	1,328.1282	27.4110	0.7123	0.0147	0.7270





Authority has noted that 39,090.73 MMBTU are required per day for full generation on aforesaid dependable capacity (217,298 dependable capacity x 24 hours x 7,495.61 heat rate allowed in the original determination/ 1,000,000). Keeping in view the mechanism given in the original determination and for the purpose of clarity, the Authority has approved formula mentioned in **Annex-I** for the adjustment of fuel cost component of tariff.

- 1.7 The Authority has also noted that in addition to fuel cost component, other tariff components viz. capacity charge tariff components and variable O & M tariff components, for operations on mixed fuel also need to be determined. The Authority has considered it just and fair to allow the adjustment of other tariff components during the mixed fuel operations, on pro-rata basis, keeping in view the latest determined tariff for the operations on primary fuel i.e. permeate gas and secondary fuel i.e. HSD and actual mix of abovementioned fuels.

2. **ORDER** Dec 30, 2011 (Pawc - Mixed Fuel Operations)

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 NEPRA Tariff Standards & Procedures Rules, 1998 Engro Powergen Qadirpur Limited (formerly Engro Energy Limited) [EPQL] is allowed to charge, the tariff on mixed fuel operations from the date of COD for delivery of electricity to the CPPA of the NTDC on the following basis:

**I) Fuel cost component of tariff**

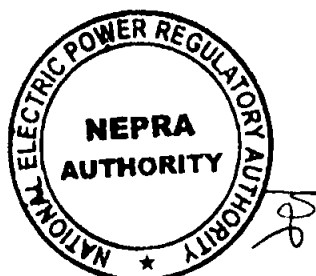
The fuel price shall be adjusted on the basis of actual mix of both fuels, namely, HSD and permeate gas on the basis of actual fuel prices using the formula mentioned in Annex-I, subject to the maximum of latest notified fuel cost component on RFO operations of Attock Gen Limited.

**II). Other tariff components:**

All other tariff components shall be adjusted on pro-rata basis; keeping in view the latest determined tariff for the operations on primary fuel i.e. permeate gas and secondary fuel i.e. HSD and actual mix of abovementioned fuels.

**III) Terms and Conditions of Tariff:**

- a. Use of permeate gas will be considered as primary fuel.

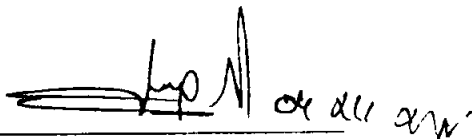




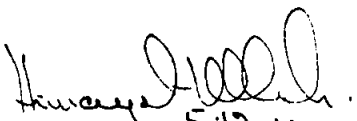
- b. The fuel cost component of tariff of EPQL, on mixed fuel operations, shall in any case not exceed the latest notified fuel cost component on RFO operations of Attock Gen Limited.
- c. The reference calorific value of permeate gas, of 654 BTU / SCF (LHV) shall be adjusted on the basis of actual calorific value, based on the authentic data to be submitted by EPQL.
- d. Dispatch criterion will be based on the energy charge.
- e. General terms and conditions, which are not covered in this determination, may be dealt with according to earlier tariff determinations namely, determination of the Authority in the matter of tariff Petition filed by EPQL dated July 19, 2007 and decision of the Authority in the matter of EPQL tariff adjustments at commercial operations date dated November 03, 2010.

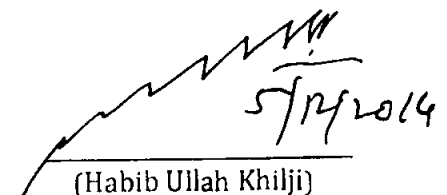
IV) The above order of the Authority along with Annex-I, shall be notified in the official gazette in accordance with Section 31(4) of the Act.

**AUTHORITY**

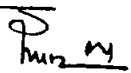
  
(Khawaja Muhammad Naeem)  
Member

(On Tour)  
(Haroon Rashid)  
Member

  
(Himayat Ullah Khan)  
Member

  
(Habib Ullah Khilji)  
Vice Chairman / Member



  
10.12.14

**Engro Powergen Qadirpur Limited**

Formula for adjustment of fuel cost component of Tariff in Mixed Mode Operations

$$\text{Fuel cost component on mixed fuel operations} = \frac{A + B}{217,298 \text{ (dependable capacity per hour)}}$$

Where:

$$A \quad \text{Total cost of gas} = \frac{BBB \times BBC \times \text{unit price of gas Rs./MMBTU}}{24}$$

Note : Total cost of gas as per A above, which in any case should not be higher than the actual cost of gas consumed

$$B \quad \text{Total cost of HSD} = B1 \times \text{unit price of HSD Rs./liter}$$

B1 Lower of actual HSD consumed in liters and BA

$$BA \quad \text{Quantity of HSD required in liters} = \frac{BB \times 10^6}{BC}$$

$$BB \quad \text{Additional heat required in MMBTU to meet shortfall of gas} = \frac{(BBA - BBB) \times BBC}{24}$$

$$BBA \quad \text{Quantity of gas required in mmscfd for full operations} = 39,090.7314 / BBC$$

BBB Quantity of gas available in mmscfd

BBC Calorific value of permeate gas (LHV) BTU/cft.

BC Calorific value of HSD i.e. 34,470 BTU/litre

