



Registrar

National Electric Power Regulatory Authority
Islamic Republic of Pakistan

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


No. NEPRA/TRF-100/Upfront-Coal/ 5597-03
January 11, 2008

Subject: **Indicative Tariff for Coal Based Power Plants**

Dear Sir,

Enclosed please find herewith NEPRA Decision on Indicative Tariff for Coal Based Power Plants in compliance with the directions of Economic Coordination Committee of Cabinet in its decision No. ECC-187/2007 dated 12.12.2007.

Encl: As above.


11.01.08
(Mahjood Ahmad Mirza)

Secretary
Cabinet Division
Government of Pakistan
Cabinet Secretariat
Islamabad



CC:

1. Honourable Minister for Water & Power, Ministry of Water & Power, 'A' Block, Pak Secretariat, Islamabad.
2. Secretary, Ministry of Water & Power, 'A' Block, Pak Secretariat, Islamabad.
3. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.
4. Member (Power), WAPDA, 738 - WAPDA House, Shahrah-e-Quaid-e-Azam, Lahore.
5. Managing Director, Private Power & Infrastructure Board, 50-Naizimuddin Road, F-7/4, Islamabad.
6. Managing Director, Pakistan Electric Power Company (Pvt.) Ltd. (PEPCO), 721-WAPDA House, Shahrah-e-Quaid-e-Azam, Lahore.

Authority Meeting # 08-21 dated 10th January 2008
Decision on "Indicative Tariff for Coal Based Power Plants"

In compliance with the directions of the Economic Coordination Committee (ECC) of the Cabinet # ECC-187/15/2007 dated 12th December 2007, NEPRA has formulated an indicative tariff for Indigenous Coal Based Power Plants.

2. In absence of detailed power project feasibilities, which shall be required at the time of final tariff determination of respective power projects, NEPRA has calculated an indicative tariff, relying upon the RWE International study of Thar Coal Power Project, commissioned by the Sindh Coal Authority, appended herewith. In addition, the Authority also considered international indicators relating to Coal Power projects and the tariff arrived at by M/s Shinhua Group of China.

3. In order to restrict the possibility of any further escalation, the Authority has decided to assume the initial feasibility study estimates, notwithstanding that, generally such studies are 10-15% higher than actual market price. Further, compared to international indicators, the RWE study estimates also include 10%-20% contingency costs, in different cost components. The aforesaid decision shall cater all unforeseen cost increases and will also provide incentives to potential investors. Pursuant to this, Authority has arrived at a levelized indicative tariff 7.8055 cents/kWh.

4. The detailed assumptions underlying this tariff calculation are attached. This tariff is specific for Thar Coal power projects. For projects situated at Lakhra, Badin and Sonda, the aforesaid tariff would be applicable subject to appropriate modifications which shall be made keeping in view their respective fuel costs. Costs incurred for additional water, if so required, will not be borne by the Sponsors.

Authority

Abdul Rahim Khan
Member

Abdul Rahim Khan
11/1/08

Nasiruddin Ahmed
Member

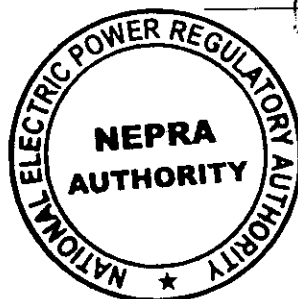
Nasiruddin Ahmed

Maqbool Ahmad Khawaja
Member

Maqbool Ahmad Khawaja
10/1/08

Zafar Ali Khan
Acting Chairman/Member

Zafar Ali Khan
10/1/08



Zafar Ali Khan

THAR COAL POWER GENERATION

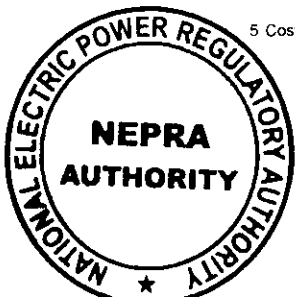
INDICATIVE TARIFF FOR INTEGRATED OPERATION OF POWER PLANT AND MINE

RWE Estimates updated for 2007

| Year | Variable Charge (Rs./kWh) | | | Capacity Charge (Rs./kW/HR) @ 1100 MW Installed Capacity | | | | | | | | | | | Total Capacity Charge | | Total Tariff | |
|-------------------------------|---------------------------|--------------|--------|--|-----------------------------|-----------|------------------|--------|-----------------------|-----------|------------------------|----------------------|-----------------------|---------------------|-----------------------|-------------|------------------|-----------|
| | Fuel | Variable O&M | Total | Escalable (Fixed O&M) Foreign | Escalable (Fixed O&M) Local | Insurance | Return on Equity | ROEDC | Withholding Tax @7.5% | Sub Total | Debt Servicing Foreign | Debt Servicing Local | IDC Servicing Foreign | IDC Servicing Local | Total Debt Servicing | (Rs./kW/HR) | Rs./kWh @ 60% PF | Rs. / kWh |
| 1 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | 0.5349 | 0.3566 | 0.1361 | 0.0907 | 1.1184 | 1.7564 | 2.9273 | 5.4104 |
| 2 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | 0.5349 | 0.3566 | 0.1361 | 0.0907 | 1.1184 | 1.7564 | 2.9273 | 5.4104 |
| 3 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | 0.5349 | 0.3566 | 0.1361 | 0.0907 | 1.1184 | 1.7564 | 2.9273 | 5.4104 |
| 4 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | 0.5349 | 0.3566 | 0.1361 | 0.0907 | 1.1184 | 1.7564 | 2.9273 | 5.4104 |
| 5 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | 0.5349 | 0.3566 | 0.1361 | 0.0907 | 1.1184 | 1.7564 | 2.9273 | 5.4104 |
| 6 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | 0.5349 | 0.3566 | 0.1361 | 0.0907 | 1.1184 | 1.7564 | 2.9273 | 5.4104 |
| 7 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | 0.5349 | 0.3566 | 0.1361 | 0.0907 | 1.1184 | 1.7564 | 2.9273 | 5.4104 |
| 8 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | 0.5349 | 0.3566 | 0.1361 | 0.0907 | 1.1184 | 1.7564 | 2.9273 | 5.4104 |
| 9 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | 0.5349 | 0.3566 | 0.1361 | 0.0907 | 1.1184 | 1.7564 | 2.9273 | 5.4104 |
| 10 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | 0.5349 | 0.3566 | 0.1361 | 0.0907 | 1.1184 | 1.7564 | 2.9273 | 5.4104 |
| 11 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 12 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 13 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 14 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 15 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 16 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 17 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 18 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 19 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 20 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 21 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 22 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 23 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 24 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 25 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 26 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 27 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 28 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 29 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| 30 | 2.1204 | 0.3626 | 2.4830 | 0.1523 | 0.0653 | 0.0672 | 0.2519 | 0.0825 | 0.0189 | 0.6380 | | | | | 0.6380 | 1.0633 | 3.5464 | |
| Levelized Tariff (1-30 Years) | | | 2.4830 | | | | | | | | | | | | 1.3670 | 2.2783 | 4.7613 | |

Assumptions: RWE Estimates updated for 2007 Plant Size 3x370 MW Levelized cents/kWh 7.8055

- 1 Debt / Equity Ratio 75/25
- 2 Project Cost 1263.04 USD Million
The project cost includes EPC cost, IDC cost and financing fees.
It is also inclusive of emission control equipment cost
- 3 Return on Equity (ROE) 15%
- 4 Return on Equity During Construction (ROEDC) 86 USD Million
- 5 Cost of Debt 12%
- 6 Variable O&M 5.95 (\$/MWh)
- 7 Fixed O&M 5.95 (\$/MWh)
- 8 Annual US Inflation 3.50% 2004-2007
- 9 Loans % of Total Debt
Local Loans 40%
Foreign Loans 60%
- 10 Taxes will be reimbursed on the basis of actual payment
- 11 Fixed O&M Distribution
Local 30%
Foreign 70%
- 12 Fuel/Calorific Value (GJ/Ton) 10.47
- 13 Fuel Price (USD/GJ) 3.87
- 14 Fuel Price (USD/Ton) 40.47
- 15 USD - Rs. Exchange Rate 61
- 16 If water is provided through a canal, this additional cost will be a pass-through item.



Handwritten signature: NADIR ANSARI, CRL.

Handwritten signature: Kamran Riaz