



# National Electric Power Regulatory Authority

Islamic Republic of Pakistan

2nd Floor, OPF Building, G-5/2, Islamabad

Ph : 9206500, 9207200, Fax : 9210215

E-mail: registrar@nepra.org.pk

**Registrar**

No.NEPRA//TRF-147/CPGCL-2009/959-961

November 26, 2009

**Subject: Determination of the Authority in the matter of Petition filed by Central Power Generation Company Ltd. for Approval of Generation Tariff for 50 MW Rental Power Project at Naudero (Unsolicited) [Case # NEPRA/TRF-147/CPGCL(Naudero-II)-2009]**

Intimation of Determination 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 Determination of the Authority along with Annexure-I & II (09 pages) in Case No. NEPRA/TRF-147/CPGCL(Naudero-II)-2009.

2. The Determination 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) and Rule 16(11) of the National Electric Power Regulatory Authority Tariff (Standards and Procedure) Rules, 1998.

3. Please note that only Annexure-I & II of the Determination 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.

  
Registrar



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

\*\*\*

November 26, 2009

**DETERMINATION OF THE AUTHORITY IN THE MATTER OF PETITION FILED BY  
CENTRAL POWER GENERATION COMPANY LIMITED (CPGCL) (GL-02/2002) FOR  
APPROVAL OF GENERATION TARIFF FOR 50 MW RENTAL POWER PROJECT AT  
NAUDERO (UNSOLICITED)**

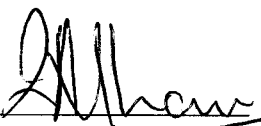
**(Case No. NEPRA/TRF-147/CPGCL(NAUDERO-II)-2009)**

**PETITIONER**

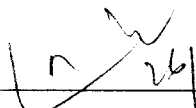
Central Power Generation Co. Ltd. (CPGCL)

**AUTHORITY**

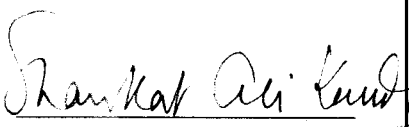
Zafar Ali Khan  
Member

  
26/11/09


Maqbool Ahmad Khawaja  
Member

  
26/11/09

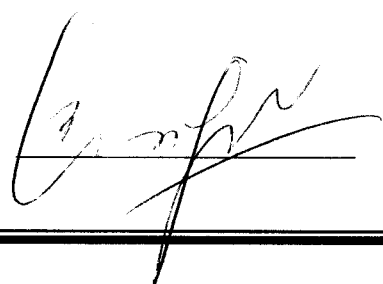
Shaukat Ali Kundi  
Member

  
26.11.09

Ghiasuddin Ahmed  
Member /Vice Chairman

  
26/11/09

Khalid Saeed  
Chairman







## **BACKGROUND**

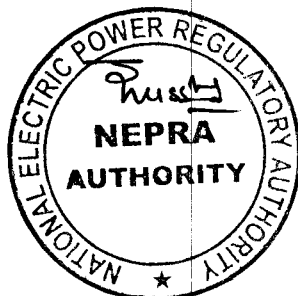
1. Central Power Generation Company Limited (hereinafter the "Petitioner") filed a tariff petition (hereinafter the "Petition") on October 2, 2009 requesting the National Electric Power Regulatory Authority (hereinafter the Authority) to determine Generation Tariff for 50 MW Naudero Rental Power Project (Unsolicited). The Petitioner submitted that the petition was filed in accordance with the decision taken in Economic Coordination Committee of Cabinet (hereinafter the "ECC") and Cabinet Meeting on Rental Power Projects. The extract of the ECC's decision No. ECC-121/15/2009 dated August 21, 2009 at Sr. No. iii is given hereunder:

*"The approved, unsolicited projects shall be required to obtain approval of their proposed tariff from NEPRA within the minimum period prescribed."*

2. The Authority admitted the petition on October 12, 2009. Pursuant to rule 9 of the NEPRA Tariff Standards and Procedure Rules, 1998 (hereinafter the "tariff rules") notice of admission/public hearing was published on October 17, 2009 in order to invite participation of the stakeholders in tariff setting process. Individual letters were also sent to the stakeholders inviting them to assist the Authority in arriving at just and informed decision. In response to the advertisement and letters no comments/intervention request was received. Hearing in the matter was held on November 2, 2009 at NEPRA main office in which representatives of Ministry of Water & Power, Central Power Purchase Agency (hereinafter the "Power Purchaser"), petitioner, and other stakeholders participated.
3. The Petitioner while justifying the rental power project stated that in order to overcome the power crises, various options were considered by WAPDA/PEPCO to meet immediate future requirement of power demand of the country. In this regard in order to mitigate the shortage of power, Rental Power Project was considered as one of the options, being a short-term solution accepted in the power sector internationally. In this regard the Petitioner referred the ECC's decision dated 10<sup>th</sup> September 2008 wherein it was decided that:

*"In case any of the approved projects fail to achieve crucial milestones as per agreement towards timely project implementation, then the project be immediately cancelled with penalties. The deficit power generation capacity be then expeditiously arranged through addition of IPP/Rental Power Project both solicited and unsolicited on fast track basis."*

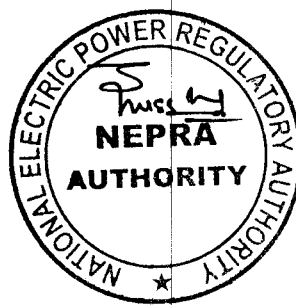
4. The Petitioner also referred the Ministry of Water & Power (MoW&P) letter dated 17.8.2009 whereby the following ECC decision was taken:



*[Handwritten signature]*

*"the ECC has accorded approval for a total of 2700 MW in its meeting held on 10.09.2008 including 1500 MW rental/fast track IPPs to be established through PEPCO and PPIB which are likely to be commissioned by December 2009".*

5. Accordingly, projects of 2,216 MW emerged at advance stage thereby leaving an unfilled gap of 484 MW due to likely slippages on the part of certain projects on account of financial constraints. The Petitioner submitted that the MoW&P received unsolicited proposals of 50 MW, gas based project entitled as Naudero-II.
6. The Petitioner submitted that M/s Walters Power International (hereinafter "WPI") in its letter dated 24.06.2009 proposed to install about 50MW additional capacity Fast Track Rental Power Project for a five years rental term on the same rental charges and site as for Naudero-I. According to the Petitioner WPI submitted a revised offer on 05.10.2009 for Naudero-II for installed capacity of net to grid 45MW at mean site conditions using 1 LM6000 Aero-derivative/FT8 Twin Pack Pratt & Whitney make gas turbine or equivalent with lump sum contract price US\$ 72,532,800 indicative Rental Tariff 4.00 US Cent/kWh). The said offer was further revised on 06.10.2009 wherein it was offered for a net to grid installed capacity of 50MW at mean site conditions using one(1) LM 6000 Aero-derivative gas turbine of GE make and 2x3.1MW, JGS 620F Jenbacher make reciprocating gas engines with lump sum contract price US\$ 80,592,000 (indicative Rental Tariff 4.00 US US Cent/kWh). On basis of last revised offer by WPI on 06.10.2009 the Petitioner had filed the Petition on 06.10.2009 for determination of Tariff for 50MW Unsolicited Rental Power Projects, Naudero-II. The Petitioner submitted that Minister for Water & Power (Chairman PPIB) approved 50MW Fast Track Rental Power Plant Project at Naudero, Sindh on Natural Gas. The said approval was conveyed vide MoW&P letter dated 20.01.2009 directing PEPCO to finalize Tariff, Site, Power Interconnection arrangement and Rental Services Contract (hereinafter "RSC") on urgent basis. According to the Petitioner, PPIB through letters dated 14.02.2009 and 21.02.2009 informed that SSGC has placed 12 MMCFD gas for 5 years at the disposal of MoW&P/PPIB which could be utilized for the Fast Track Rental Power Project.
7. The Petitioner stated that PEPCO could not open Standby Letter of Credit (SBLC) in favour of WPI due to financial constraints. Subsequently WPI proposed revised funding mechanism vide letter dated 18.05.2009 to accept sovereign Guarantee from GoP to secure Rental Payments and confirmation of the Petitioner of its ability to provide 14% Mobilization Advance against which WPI would submit a Bank Guarantee. The Petitioner further stated that subsequently meetings were held between WAPDA Private Power Organisation, the Petitioner and WPI in Wapda House Lahore on 26.05.2009 & 28.05.2009 to negotiate amendment in RSC keeping in view the allocation of 12 MMCFD gas to CPGCL (instead of WPI) by MoW&P, change of Heat Rate and provision of GoP Guarantee in lieu of SBLC. The



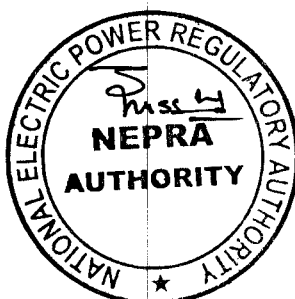
46 2



Petitioner signed Amended & Restated RSC on June 4, 2009 for 51MW Rental Power Project with WPI for installation, commissioning, operation and maintenance based on gas fuel at Naudero, Sindh. The Petitioner further submitted that for ensuring full load operation of plants (Naudero-I&II), ECC approval is solicited for required 30.5 MMCFD Gas for 5 years on round the year basis.

8. The Petitioner submitted to the Authority that Earth filling, grading and compaction work has been completed. Pilling work for foundations of the Plant as per revised and modified design is under progress. Erection of 132kV double circuits Transmission Line from project site to 132kV Rato Dero Grid Station is completed. The Petitioner submitted that the efficiency and availability standards for these power plants are the same as International Competitive Bidding Projects.
9. The Petitioner submitted Reference Rental Tariff has been proposed in two (2) parts: (i) Capacity Purchase Price (CPP); and (ii) Energy Purchase Price (EPP). Moreover, Supplemental Charges/Pass-Through Items have also been proposed. The Petitioner submitted that in CPP Escalable Component comprises of rental payments, pipeline cost, administration cost, Authority's fees and Non-Escalable Component of Interest Charges while Energy Purchase Price comprises of Fuel cost component. The Petitioner submitted that net capacity at mean site conditions for Naudero-II is 45.468 MW. The Petitioner requested the Authority for approval of the following proposed generation tariff for Nauder-II:

	Year 1	Year 2	Year 3	Year 4	Year 5
Guaranteed Available Electric Output @ 92%	46	46	46	46	46
<b>i. Non-Escalable Components</b>					
Fixed O&M Cost	Mln Rs.	Mln Rs.	Mln Rs.	Mln Rs.	Mln Rs.
- Rental Payments	2,087.01	1,150.53	1,150.53	1,150.53	1,150.53
- Pipeline Cost	174.23				
- Financial Charges on duties of plant & equipment to be re-exported					
- Financial charges on L/C					
- Administration Cost	3.00	5.00	6.00	6.00	7.00
- NEPRA Fees	6.37	0.39	0.43	0.46	0.50
- Insurance					
- Duties etc.					
Total Fixed O&M Cost	2,270.61	1,155.93	1,156.96	1,156.99	1,158.03
<b>Total CPP- Non-Escalable (Rs./kW/Month)</b>	<b>4,113.417</b>	<b>2,094.069</b>	<b>2,095.938</b>	<b>2,096.00</b>	<b>2,097.878</b>
<b>i. Escalable Components</b>					
- Cost of working capital	0.00	0.00	0.00	0.00	0.00
- Interest Charge	128	116	84	52	20
- Principal Repayment	0	0	0	0	0





Total CPP-Escalable (Rs./kW/Month)	231.7896	210.0395	152.5287	94.1447	36.1973
<b>Total CPP (Rs./kW/Month)</b>	<b>4,345.21</b>	<b>2,304.11</b>	<b>2,248.47</b>	<b>2,190.14</b>	<b>2,134.08</b>
Generation Plant Factor (92%)	402.96	402.96	402.96	402.96	402.96
CPP Rs./kWh	5.9523	3.1563	3.0801	3.0002	2.9234
EPP Rs./kWh	3.0566	3.0566	3.0566	3.0566	3.0566
Total Average Tariff Rs./kWh	9.0090	6.2129	6.1367	6.0568	5.9800
US Cents./kWh	10.8542	7.4855	7.3936	7.2974	7.2048

10. The project details as provided by the petitioner are given hereunder:

- |                            |                                        |
|----------------------------|----------------------------------------|
| a. Capacity at MSD         | 50 MW                                  |
| b. Plant                   | LM 6000 Aero-derivative gas turbine of |
| General Electric make and  |                                        |
|                            | 2 x 3.1 MW, JGS 620 F Jen              |
|                            | Bacher Make reciprocating gas engines. |
| c. Fuel                    | Natural Gas                            |
| d. Heat Rate               | 9500 BTU/kWh LHV                       |
| e. Guaranteed Availability | 92%                                    |
| f. Gas Consumption         | 15 MMCFD                               |
| g. Efficiency              | 35.9%                                  |
| h. Term (Duration)         | 60 months                              |
| i. Total Contact Value     | US\$ 91,657,282 /-                     |

#### DECISION OF THE AUTHORITY

11. The Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (hereinafter the Act) requires the Authority to determine tariff primarily on a cost plus basis wherein the Authority allows the generating companies (GENCOs) and IPPs all prudently incurred costs in connection with the generation facility. For that purpose the Authority has laid down elaborate criteria and procedures including but not limited to insistence on a firm EPC contract price and quotations from O&M contractors and evidence for other costs incurred on setting up the project. In the case of rentals, however, the Act, Rules and Regulations of the Authority do not provide for any elaborate procedure or guideline for evaluation of the offers made and determination of tariff for rental project through unsolicited offers. The Authority discussed the case in detail and decided that in the absence of the applicability of the criteria for the new plants of GENCOs and IPPs the following benchmarks or criteria will act as guidelines for the Authority while determining the tariffs being requested by the sponsors of the IPPs:

- The ECC in its decision ECC-37/03/2008 dated 15.02.2008 clearly laid down a guiding principle that efforts should be made that the tariffs being allowed to these rental plants should be below the first ten years tariffs for the same technology given to IPPs.



*De 2*

- Recently PPIB has also conducted ICB for rental power projects on 16.02.2009 and the tariffs which were accepted by the Government therein and subsequently also approved by the Authority are also available for reference.
  - Likewise PEPCO had also invited rental projects proposals on 21.11.2007 and 10.12.2007 through the process of bidding. The tariff obtained through this bidding could also be taken into account as a reference.
12. In the case of gas based projects, the petition for Naudero II, for 50 MW has been submitted before the Authority. The capacity charge for gas based projects in the case of IPPs as already determined by the Authority indicate that for the first ten years the capacity charge allowed ranges between US Cents 3.12/kW/hr to US Cents 3.45/kW/hr (for bringing at par these charges are adjusted on the bases of common parameters) for the latest three determinations.
13. However in an earlier case of the Star Power, a higher capacity charge of US Cents 3.7/kW/hr had also been determined keeping in view the peculiar features of the project. In the instant case the sponsor has asked for US Cents 3.6/kWh. The Authority also discussed the issue regarding the age of the plant being offered for rental project for Naudero-II. The Authority observed that despite the recommendations given by the Authority in its determination No. NEPRA/TRF-106/NPGCL-2009 dated April 13, 2009 wherein it was desired that in future no plants older than ten years or sixty thousands hours whichever was less should be inducted for rental power projects, The information provided by the Petitioner indicated that Unit-1 of the plant was manufactured in 1995 and had operated 11,182 hours since start. On the Authority's query the sponsor explained that the plant was a standby therefore it has operated for less hours.
14. The Authority was assured by the sponsors that the project was giving guaranteed availability of 92% as against the 90% in the cases of IPPs and any default on this account the sponsor was liable to be penalized by the Power Purchaser. The Authority therefore considers that it will be entirely the responsibility of the Power Purchaser to ensure that the plant is maintained in a proper condition and it makes available the guaranteed power supply. For future however the Authority directs PEPCO and all the GENCOs to ensure that the observations already made in the determination dated April 13, 2009 are strictly adhered to and no agreement for any rental power projects should be entered into where the life of the plant was more than ten years or it had operated more than sixty thousands hours.
15. In view of the above, US Cents 3.60/kWh as proposed by the Petitioner is hereby approved. The rental charges shall be adjusted in the monthly rental, in addition to the adjustment for 14% advance rental, on account of financing cost i.e. 3-months KIBOR plus 3% margin according to the schedule at **Annex-I**. The supplemental charges and pass-through shall be

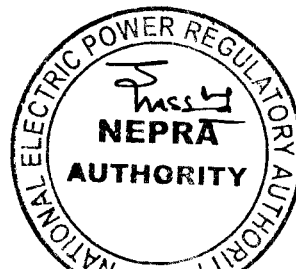


*Signature* 2



allowed based on the actual provision of verifiable documentary evidence subject to the maximum as proposed by the Petitioner. The reference rental tariff is given at **Annex-II**. In case of delay on the part of the sponsors of rental project in achieving the agreed COD, the relevant penalties clause of the Rental Service Agreement must be invoked by the Power Purchaser without any further extension. In pursuance of the Section 31 of the Regulation of Generation, Transmission and Distribution of electric power Act, 1997, the Annex-I & II of this determination are required to be notified in the official gazette.

2/14

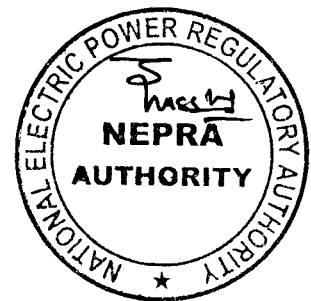




**Central Power Generation Company  
Limited**

Advance \$ 9.93 Million  
Term 60 Months  
3- Month KIBOR November 23, 2009 12.65%  
Premium 3.00%

Month	Nodero-II 45 MW Rental Power Plant		
	Advance	Advance	Financing Cost
	Outstanding Million US\$	Adjustment Million US\$	Million US\$
1	9.9338	0.1656	0.1296
2	9.7683	0.1656	0.1274
3	9.6027	0.1656	0.1252
4	9.4371	0.1656	0.1231
5	9.2716	0.1656	0.1209
6	9.1060	0.1656	0.1188
7	8.9405	0.1656	0.1166
8	8.7749	0.1656	0.1144
9	8.6093	0.1656	0.1123
10	8.4438	0.1656	0.1101
11	8.2782	0.1656	0.1080
12	8.1126	0.1656	0.1058
13	7.9471	0.1656	0.1036
14	7.7815	0.1656	0.1015
15	7.6159	0.1656	0.0993
16	7.4504	0.1656	0.0972
17	7.2848	0.1656	0.0950
18	7.1193	0.1656	0.0928
19	6.9537	0.1656	0.0907
20	6.7881	0.1656	0.0885
21	6.6226	0.1656	0.0864
22	6.4570	0.1656	0.0842
23	6.2914	0.1656	0.0821
24	6.1259	0.1656	0.0799
25	5.9603	0.1656	0.0777
26	5.7947	0.1656	0.0756
27	5.6292	0.1656	0.0734
28	5.4636	0.1656	0.0713
29	5.2980	0.1656	0.0691
30	5.1325	0.1656	0.0669
31	4.9669	0.1656	0.0648
32	4.8014	0.1656	0.0626
33	4.6358	0.1656	0.0605
34	4.4702	0.1656	0.0583
35	4.3047	0.1656	0.0561
36	4.1391	0.1656	0.0540
37	3.9735	0.1656	0.0518
38	3.8080	0.1656	0.0497
39	3.6424	0.1656	0.0475
40	3.4768	0.1656	0.0453
41	3.3113	0.1656	0.0432
42	3.1457	0.1656	0.0410
43	2.9802	0.1656	0.0389
44	2.8146	0.1656	0.0367
45	2.6490	0.1656	0.0345
46	2.4835	0.1656	0.0324
47	2.3179	0.1656	0.0302
48	2.1523	0.1656	0.0281
49	1.9868	0.1656	0.0259
50	1.8212	0.1656	0.0238
51	1.6556	0.1656	0.0216
52	1.4901	0.1656	0.0194
53	1.3245	0.1656	0.0173
54	1.1589	0.1656	0.0151
55	0.9934	0.1656	0.0130
56	0.8278	0.1656	0.0108
57	0.6623	0.1656	0.0086
58	0.4967	0.1656	0.0065
59	0.3311	0.1656	0.0043
60	0.1656	0.1656	0.0022



2

2

**Central Power Generation Company Limited**  
**Reference Rental Tariff Gas**  
**Nodero-II 45 MW**

Description	Lump sum \$ Million	Year1	Year2	Year3	Year4	Year5	Average
<b>a) Rental</b>							
1) Rental for 60 Months	70.96						
2) Advance Rental@14% of 60 months Rental	9.93	14.19	14.19	14.19	14.19	14.19	70.96
3) Annual Rental - Million US\$		(1.41)	(1.10)	(0.79)	(0.48)	(0.17)	(3.95)
4) Adjustment of financing of advance Rental - Million US\$		12.78	13.09	13.40	13.71	14.02	67.00
5) Annual Adjusted Rental - Million US\$		3.60	3.60	3.60	3.60	3.60	3.60
6) Rental US\$Cents/kW/Hour		3.24	3.32	3.40	3.48	3.56	3.40
7) Adjusted Rental for financing of Advance Payment US\$Cents/kW/Hour		2.69	2.76	2.82	2.89	2.95	2.82
8) Rental Rs./kW/Hour							
<b>b) Additional Costs *</b>							
1) Administration Cost - Rs.Million		7.00	8.00	9.00	10.00	10.00	44.00
2) NEPRA Fee - Rs.Million		7.00	0.40	0.50	0.60	0.70	9.20
<b>Total Additional Cost - Rs.Million</b>		<b>14.00</b>	<b>8.40</b>	<b>9.50</b>	<b>10.60</b>	<b>10.70</b>	<b>53.20</b>
3) Additional Cost - Rs./kW/Hr		0.04	0.02	0.02	0.03	0.03	0.03
c) Rental + Additional Cost (a8 + b4) Rs./kW/hr		2.7262	2.7774	2.8457	2.9140	2.9797	2.8486
d) Fuel Cost Component - Rs./kWh		3.0566	3.0566	3.0566	3.0566	3.0566	3.0566

Net Capacity at mean site conditions - MW

45

Availability -Gas

92%

Exchange Rate - Rs./USD

83

Gas Price - Rs./MMBTU

321.75

Net Thermal Efficiency

35.90%

\* Additional costs will be subject to documentary evidence.

