



National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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Registrar

No.NEPRA/R/TRF-106/NPGCL-2008/381-383

October 30, 2009

Subject: **Determination of the Authority in the matter of Northern Power Generation Company Ltd. for 150 MW Techno-e Power (Pvt.) Ltd. at 220 kV Grid Station Summundri Road Faisalabad and 150 MW Techno Engineering Services (Pvt.) Ltd. at 220/132 kV Grid Station Sahuwal Sialkot (Case No. NEPRA/TRF-106/NPGCL-2008) - Intimation of Determination of the Authority 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 & III (12 pages) in Case No. NEPRA/TRF-106/NPGCL-2008.

2. The Determination 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 (XL of 1997).

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

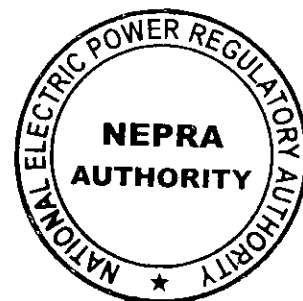
Enclosure: As above


(Arshad Mehmood)

The Secretary
Cabinet Division
Government of Pakistan
Cabinet Secretariat
Islamabad

CC:

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



NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
(NEPRA)

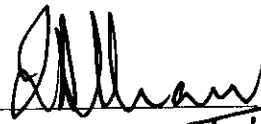
DETERMINATION OF THE AUTHORITY
IN THE MATTER OF NORTHERN POWER GENERATION COMPANY LIMITED
(NPGCL) FOR 150 MW TECHNO-E POWER (PVT.) LTD. AT 220 KV GRID
STATION SUMMUNDRI ROAD FAISALABAD AND 150 MW TECHNO
ENGINEERING SERVICES (PVT.) LTD. AT 220/132 KV GRID STATION
SAHUWAL SLALKOT (CASE NO. NEPRA/TRF-106/NPGCL-2008)

PETITIONER

Northern Power Generation Company Limited (NPGCL),
Mehmood Kot Road, TPS, Muzaffargarh

AUTHORITY

Zafar Ali Khan
Member


22/10/09


Ghiasuddin Ahmed
Member


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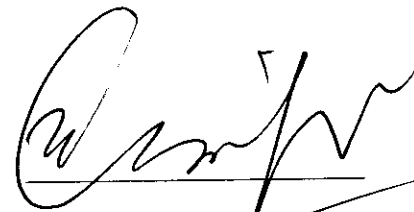
Shaukat Ali Kundi
Member

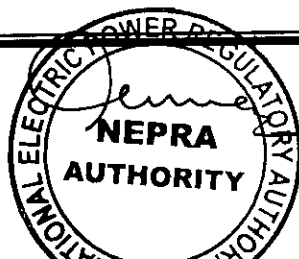
on leave

Maqbool Ahmad Khawaja
Member / Vice Chairman



Khalid Saeed
Chairman


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BACKGROUND

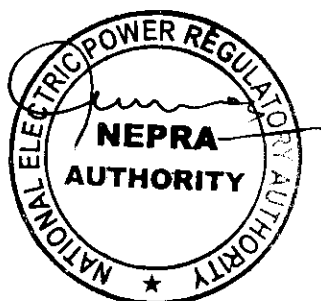
1. Northern Power Generation Company Limited (NPGCL) filed petition on June 7, 2008 for approval of generation tariff of two rental power plants i.e. 150 MW Techno-E Power (Pvt.) Ltd. at 220 kV Grid Station Summundri Road Faisalabad and 150 MW Techno Engineering Services (Pvt.) Ltd. at 220/132 kV Grid Station Sahuwal Sialkot stating therein that International Competitive Bidding (ICB) was carried out in accordance with the Prime Minister's decision dated June 26, 2007 and in pursuance of Order No. ECC-37/2008 dated February 15, 2008 of the Economic Coordination Committee of the Cabinet. Said tariff petition was admitted by the Authority for consideration on June 17, 2008. The Authority decided to process the petition for the approval of rental tariff under Tariff Standards and Procedure Rules, 1998 (hereinafter referred as Tariff Rules). Accordingly as required by sub rules 5 & 6 of rule 4 of the Tariff Rules, salient features of the petition were published in the national newspapers on June 20, 2008 for information of all the interested persons/stakeholders and to invite participation of the interested persons in the tariff-setting proceedings as interveners or commentators. Invitations were also sent to the concerned Federal & Provincial Government ministries, Chambers of Commerce and Industries, representatives of Professional bodies and Experts soliciting their views on the petition.
2. The applicant requested for the approval of the following generation tariff for three years term extendable to another one year, for the sale of power to Central Power Purchasing Agency (CPPA) within National Transmission and Dispatch Company (NTDC):

Summundri Road G/S Additional Block (RPP)

	Fuel	Year 1	Year 2	Year 3
Energy Purchase Price Rs. /kWh	RFO	6.2680	6.2680	6.2680
Capacity Purchase Price Rs. /kW/Month		2320.3498	1880.5344	1867.7734
Total Avg. Tariff (Rs./kWh)		9.4466	8.8441	8.8266
Total Avg. Tariff (Cents/kWh)		13.6907	12.8175	12.7922

Sahuwal G / S Additional Block (RPP)

	Fuel	Year 1	Year 2	Year 3	Year 4
Energy Purchase Price Rs. /kWh	RFO	6.5270	6.5270	6.5270	6.5270
	Gas	2.4339	2.4339	2.4339	2.4339
Capacity Purchase Price Rs. / kW/Month		2262.6999	1729.4324	1717.7347	1706.0371
Total Avg. Tariff (Rs./kWh)		9.6266	8.8961	8.8801	8.8640
Total Avg. Tariff (Cents/kWh)		13.9516	12.8929	12.8697	12.8464



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3. In addition to above tariff rental NPGCL also requested the following additional cost:

Summundri Road G/S Additional Block - Capacity Purchase Price (CPP)

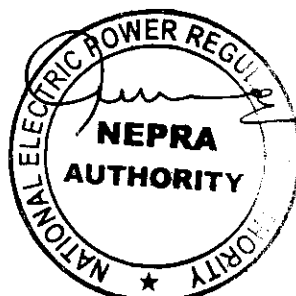
	Year 1 Mln. Rs.	Year 2 Mln. Rs.	Year 3 Mln.Rs.
Fixed O&M Cost:			
- Duties for consumable stores	25.00	25.00	25.00
- Financial Charges on duties of plant & equipment to be Re-exported	33.00	33.00	33.00
- Financial Charges on L/C	74.99	33.12	12.90
- NEPRA Fees	2.75		
- Insurance	-	-	-
- Depreciation (for ROA)	-	-	-
Fixed O&M Cost	135.74	91.12	70.9

Sahuwal G/S Additional Block - Capacity Purchase Price (CPP)

	Year 1 Mln. Rs.	Year 2 Mln. Rs.	Year 3 Mln.Rs.	Year 4 Mln.Rs.
Fixed O&M Cost:				
- Duties for consumable stores	18.75	18.75	18.75	18.75
- Financial Charges on duties of plant & equipment to be Re-exported	24.75	24.75	24.75	24.75
- Financial Charges on L/C	93.91	48.91	30.38	11.85
- NEPRA Fees	2.75			
- Insurance	-	-	-	-
- Depreciation (for ROA)	-	-	-	-
Fixed O&M Cost	140.16	92.41	73.88	55.35

4. According to the petitioner the plant availability will be 88% on RFO operation and 92% on gas operation. The petitioner stated that the proposed tariff was worked out on the basis of cash-flow requirements. The following were the major assumptions::

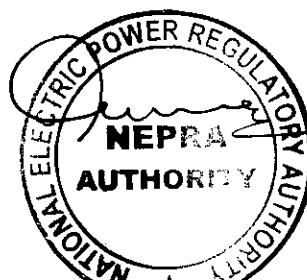
- i) Energy price consisting of fuel cost at RFO price of Rs. 26,000 per ton and gas at Rs. 231 per MMBTU.
- ii) Capacity price consisting of escalable and non-escalable components.



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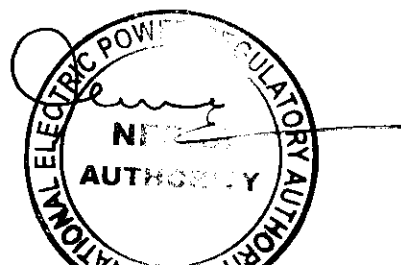
- iii) Escalable Component represents rental payments, custom duties for consumable stores, financial charges and NEPRA Fees. Non escalable component would cover the cost of working capital financing, if any.
- iv) Lump sum contract price for 150 MW M/S Techno-E Power (Pvt.) Ltd at 220 KV Grid Station Summundri Road Faisalabad is USD 135 million for 36 months and for 150 MW Techno Engineering Services (Pvt.) Limited at 220/132 KV Grid Station Sahuwal Sialkot is of USD 165 million for 48 months.
5. While considering the petition, the Authority decided to hold a hearing which was held on July 3, 2008. During the hearing the Authority observed;
- that the representative of NPGCL was not well prepared to answer the Authority's queries;
 - that the concerned professionals of NPGCL were also not present.
6. In view of the above the Authority adjourned the hearing and directed the representative of NPGCL to submit all the relevant documentary evidence for the consideration of the Authority. NPGCL did not comply with the direction of the Authority for provision of the necessary information without which the Authority could not finalize the case within six months (stipulated time period as per Rule 16(2) of the Tariff Standards and Procedure Rules, 1998). NPGCL was directed to submit the requisite information, which was again not provided by NPGCL. Accordingly, NPGCL vide letter No. NEPRA/R/TRF-106/NPGCL-2008/289 dated January 20, 2009 and NEPRA/R/TRF-106/NPGCL-2008/964 dated March 4, 2009 was again directed to comply with the Authority's direction for the provision of necessary information. In response NPGCL vide letter No. CEO/ FD/NPGCL/TRF-106/NPGCL-2008 (4)19287-92 dated March 24, 2009 submitted its information. On the basis of information provided by NPGCL, the Authority decided to reconvene the hearing on May 5, 2009 at NEPRA main office. Individual invitations in this regard were also sent to key stakeholders. The hearing was conducted on May 5, 2009 in which all the key stakeholders participated.
7. During the hearing, responding to the Authority's queries, NPGCL stated that the tariff was arrived at through International Competitive Bidding (ICB), which was initiated on Prime Minister's directive. All the process was completed by WAPDA Private Power Organization (WPPO). NPGCL further stated that for finalizing the tariff three different committees were constituted, one was tender opening committee, the 2nd was evaluation committee and the 3rd was a high level committee headed by MD PEPCO. As per NPGCL, the tariff was approved by the PEPCO board and the Commercial Operation





Date (COD) for these projects was fixed as October 8, 2008, however, the same could not be achieved due to following reasons;

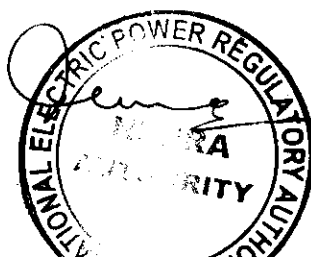
- i) Due to legal problems the Askari Commercial Bank took about five months to establish L/C which was to be established in April 2008;
 - ii) Refusal of banks from discounting the L/C without confirmation fee. The banks quoted 10% minimum of the rental charges for each year as confirmation fee. Over three years the NPGCL was required to bear 50% of this additional cost which was about 15% of the rental value.
 - iii) The Lessor was constrained to accept the L/C of National Bank of Pakistan due to foreign funding and the foreign banks did not accept NBP's L/C;
 - iv) Without Government help no bank was willing to offer its terms.
8. NPGCL stated that in view of above problems, it agreed with the Lessor an alternate arrangement according to which it would pay additional 7% advance payment to the Lessor. Through this arrangement NPGCL would pay 14% advance rental, 7% would be recovered in 18 months equal installment and the remaining 7% in 36 monthly installments. NPGCL accordingly was able to establish Stand By Letter of Credit (SBLC) in March 2009 instead of October 2008 and that was only with the involvement of Ministry of Finance. The new date of COD is now 30th July 2009. NPGCL further stated that up to June 30th, 2009 they will be able to get the power of 60 MW.
9. On the issue of achieving COD on 31st July 2009, the Project Coordinator informed that only 30% to 35% work was complete on Summundri road Faisalabad site. According to him the activity wise status is as follows;
- i) Out of 21 to 22 engines (two types i.e. Black Stone and MAN) six engines with generator are placed on foundation while 5 engines are at site.
 - ii) Auxiliary system of one engine is complete while for five it is in progress
 - iii) The construction of fuel storage system is yet to be started.
 - iv) Out of two storage tanks only one is complete.
 - v) For decanting of additional oil no work on additional decanting facility has been started.
 - vi) No work on cooling tower system has been initiated.
 - vii) No work on installation of transformers, breakers and isolators except for foundations has been done.
 - viii) In the control room there are lying containers and in the container there are only RP switches of panel.
 - ix) No work on central control room and protections has been done.



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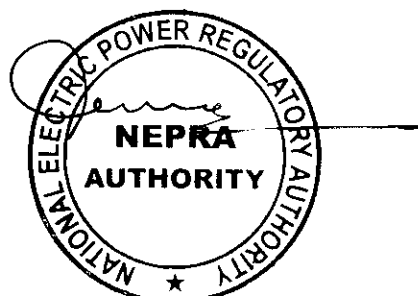
- x) Cooling network, fuel system, electrical system, protection system and cabling etc are rusted and require asset cleaning. For this job only one engineer has arrived.
10. On the basis of explanation given by the NPGCL's Coordinator, the Authority directed the Coordinator to send all the above details to the NPGCL's Chief Executive who would keep this in mind while giving additional 7% advance. In view of the information provided by the Project Coordinator, the Authority observed that on the face of it, the COD in July would not be possible. The representative from NPGCL, however, explained that project sponsor, in a meeting in Lahore assured for achieving COD in July 2009 for which they were speeding up their work through deploying additional manpower.
11. The Authority inquired about the terms and conditions of the agreement in case of delay in COD. The NPGCL stated that there is a penalty of USD 38,195 per day up to maximum of USD 3.4 million for a period of 90 days after which the contract is required to be renegotiated. Responding to the Authority's observation that against advance amount of USD 9.5 million the penalty of USD 3.4 million was much less, NPGCL stated that the amount in case of default is recoverable against bank guarantee. The financial advisor of Techno Engineering while justifying the upfront advance of 14% of rental value stated that NPGCL would pay confirmation charges @ 10% per annum and 30% over a period of three years which would further add to the NPGCL's cost. In the case of advance payments it was recoverable through the adjustment in rental without any additional cost.
12. NPGCL informed that the amendment for additional 7% advance with respect to 150 MW rental power plant at Sahuwal is under consideration and Arif Habib Bank has been mandated for the establishment of SBLC. NPGCL further informed that another rental power project of 192 MW was planned at Piranghaib Multan for which no advance payment was made as yet, because no bank had given confirmed offer for this project. The Authority noted that the financial cost of 14% advance rental payment was not taken into consideration, the benefit of which needs to be passed on to the power purchaser. The Authority has therefore decided to adjust the monthly rental payable at 3-month KIBOR plus 3% according to the working indicated at Annex-I.
13. Having considered all the documents and the evidence, the Authority observed that the average rental tariff of RPP Techno Summundri Road and Techno Sahuwal Grid after adjusting for additional costs requested by NPGCL, financing cost of 14% advance rental, exchange rate of Rs. 80/US\$, RFO price of Rs. 26,000 Ex-GST and 60% plant factor works out as Rs. 10.8063/kWh and Rs. 10.6406/kWh respectively. This was higher than first 10 years tariff of Rs.9.9562/kWh and Rs.10.0306/ kWh determined in the cases of Hub Power and Liberty Power having similar technology respectively but was comparable with Rs. 10.7554/kWh determined for Grange Power based on GT Technology. The proposed rental tariff although is higher than the tariff determined by the Authority in the cases of





IPPs with the similar technology but the tariff is comparatively lower as compared to the tariff approved in the cases of rental projects through ICB carried out by PPIB. The main reason for the rental tariff being comparatively higher for the first ten years, as determined by the Authority in the cases of IPPs, having similar technology is the lower efficiency of the rental plants.

14. The Authority considers that the thermal efficiency is the major consideration for accepting any technology. The Authority also considers that through its determinations it has already established benchmark efficiencies for different technologies and any deviation from these benchmarks needs to be justified through provision of verifiable documentary evidence from the manufacturer. This becomes even more important in view of scarce foreign currency resources, volatility in the oil prices in the international market, more dependence on oil based generation and continuous decline in the purchasing power of a common man. The Authority further considers that the induction of capacity with lower efficiency will adversely affect the efforts being made towards bringing in the efficiency in the power sector as envisaged in the NEPRA Act. According to the analysis the thermal efficiency of the reciprocating engine technology on open cycle operation is around 42% as against 33%-35% efficiency of the rental plants, which means that the fuel cost component of the rental plants would be about 17% higher if calculated on the basis of reference fuel price of Rs. 26,000/M.Ton. This gap would further increase with increase in oil prices. In view of the aforementioned financial implications the Authority cannot ignore the issue of thermal efficiency. The Authority therefore decides to carry out heat rate test at the time of COD. In case a higher efficiency as against the proposed efficiency is established subsequent to heat rate tests the reference fuel cost component will be adjusted and the revised fuel cost component will be considered as the reference for future adjustments for fuel price variation.
15. The Authority while examining the case of a Sumundari road Faisalabad and Sahuwal Sialkot observed that while entering into contract with the sponsor the GENCO has violated a number of provisions of the relevant NEPRA Rules and Regulations. The Authority also considered that in view of the violations which also affected the process of transparency in awarding these rental projects the request for tariff determination could be declined.
16. The GENCO and PEPCO should have approached NEPRA before signing of Rental Services Contract with the respective sponsors. The Authority considers that at this belated stage when the construction of the plant at Sammundri is about to complete while the machinery of rental plant at Sahuwal has also arrived; therefore denying approval of these project would further aggravate the power shortage in the country. The Authority further considers that in view of the current energy crisis in the country due to



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power shortage, the consumer should not suffer due to incompetence and not following the procedure by the GENCO and PEPCO. Since the tariff being sought although is higher than the tariff earlier determined for IPPs but still is lower than the tariffs which were arrived through ICB by PPIB. therefore the Authority has decided to approve the rental tariff for Summundri Road Faisalabad and Sahuwal Sialkot as per the Annexes II & III respectively.

17. Fuel cost component of Sahuwal and Summundri will be adjusted on account of fuel price variations, according to the following mechanism:

$$FCC_{(Rev)} = FCC_{(Ref)} * FP_{(Rev)} / FP_{(Ref)}$$

Where:

$FCC_{(Ref)}$ = Reference fuel cost component established at the time of COD on the basis of Heat Rate Test. Incase the net Thermal Efficiency is established higher than the minimum determined , which is (34.7% in case of Sammundri , while in case of Sahuwal 33.32% on RFO operations & 32.38% on Gas operations) , the reference fuel component will be adjusted accordingly.

$FCC_{(Rev)}$ = the applicable fuel cost component as revised in accordance with the revised fuel prices

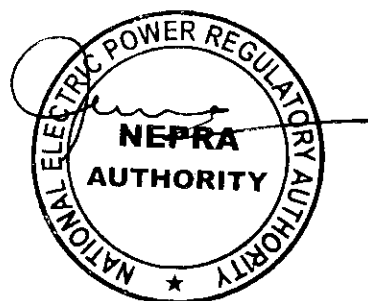
$FP_{(Rev)}$ = the fuel price as notified by the relevant authority per unit of fuel (residual fuel oil and natural gas)

$FP_{(Ref)}$ = the reference fuel price per unit of fuel (residual fuel oil and natural gas) as mentioned below:

Gas	Rs. 231/MMBTU
Residual Furnace Oil	Rs. 26,000/M.Ton (including freight)

18. While approving the above tariff in order to ensure transparency in the process the Authority is issuing the following guidelines which must be adhered to in letter and spirit in future by all the licensees;

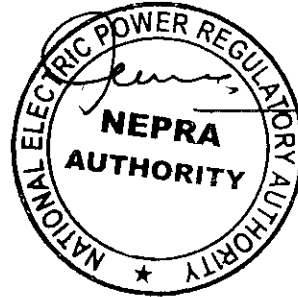
- i) Before initiating the bidding process by the Lessee, Request for Proposal (RFP) shall be approved by the Authority;
- ii) The bidder while submitting the bids should clearly indicate the plant details i.e. equipment supplier, make, model, useful life and reference technical parameters;





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- iii) Documentary evidence of financial soundness of the sponsor indicating capability of setting up of the proposed plant;
 - iv) The bids should be evaluated strictly in accordance with the terms of RFP;
 - v) All the bids not fulfilling any of the term of RFP should be declared non-responsive;
 - vi) The bid evaluation report along with the complete record shall be submitted to the Authority for approval;
 - vii) The draft Rental Service Contract shall be got approved from the Authority;
 - viii) Cost of financing @KIBOR +3% on advance rental, if any, shall be adjusted against the monthly rental payments in addition to the adjustment of advance rental;
 - ix) ICB, if required, should be done after observing the relevant law of Government of Pakistan;
 - x) The petition for approval of tariff should be filed in accordance with the NEPRA Tariff Standards and Procedure Rules and in case of approval of Contract for procurement of power, necessary procedure envisaged in the Interim Power Procurement Regulations, 2005 should be strictly adhered to.
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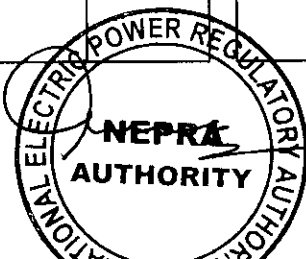


Northern Power Generation Compay Limited

Advance \$ 18.90 Million
 Term 36 Months
 3- Month KIBOR October 19, 2009
 12.60%
 Premium 3.00%

\$ 23.10 Million
 48 Months
 12.60%
 3.00%

Month	Sammundri Road Faisalabad			Sahuwal Sialkot		
	Advance Outstanding Million US\$	Advance Adjustment Million US\$	Interest Charges Million US\$	Advance Outstanding Million US\$	Advance Adjustment Million US\$	Interest Charges Million US\$
1	18.9000	0.5250	0.2457	23.1000	0.4813	0.3003
2	18.3750	0.5250	0.2389	22.6188	0.4813	0.2940
3	17.8500	0.5250	0.2321	22.1375	0.4813	0.2878
4	17.3250	0.5250	0.2252	21.6563	0.4813	0.2815
5	16.8000	0.5250	0.2184	21.1750	0.4813	0.2753
6	16.2750	0.5250	0.2116	20.6938	0.4813	0.2690
7	15.7500	0.5250	0.2048	20.2125	0.4813	0.2628
8	15.2250	0.5250	0.1979	19.7313	0.4813	0.2565
9	14.7000	0.5250	0.1911	19.2500	0.4813	0.2503
10	14.1750	0.5250	0.1843	18.7688	0.4813	0.2440
11	13.6500	0.5250	0.1775	18.2875	0.4813	0.2377
12	13.1250	0.5250	0.1706	17.8063	0.4813	0.2315
13	12.6000	0.5250	0.1638	17.3250	0.4813	0.2252
14	12.0750	0.5250	0.1570	16.8438	0.4813	0.2190
15	11.5500	0.5250	0.1502	16.3625	0.4813	0.2127
16	11.0250	0.5250	0.1433	15.8813	0.4813	0.2065
17	10.5000	0.5250	0.1365	15.4000	0.4813	0.2002
18	9.9750	0.5250	0.1297	14.9188	0.4813	0.1939
19	9.4500	0.5250	0.1229	14.4375	0.4813	0.1877
20	8.9250	0.5250	0.1160	13.9563	0.4813	0.1814
21	8.4000	0.5250	0.1092	13.4750	0.4813	0.1752
22	7.8750	0.5250	0.1024	12.9938	0.4813	0.1689
23	7.3500	0.5250	0.0956	12.5125	0.4813	0.1627
24	6.8250	0.5250	0.0887	12.0313	0.4813	0.1564
25	6.3000	0.5250	0.0819	11.5500	0.4813	0.1502
26	5.7750	0.5250	0.0751	11.0688	0.4813	0.1439
27	5.2500	0.5250	0.0683	10.5875	0.4813	0.1376
28	4.7250	0.5250	0.0614	10.1063	0.4813	0.1314
29	4.2000	0.5250	0.0546	9.6250	0.4813	0.1251
30	3.6750	0.5250	0.0478	9.1438	0.4813	0.1189
31	3.1500	0.5250	0.0410	8.6625	0.4813	0.1126
32	2.6250	0.5250	0.0341	8.1813	0.4813	0.1064
33	2.1000	0.5250	0.0273	7.7000	0.4813	0.1001
34	1.5750	0.5250	0.0205	7.2188	0.4813	0.0938
35	1.0500	0.5250	0.0137	6.7375	0.4813	0.0876
36	0.5250	0.5250	0.0068	6.2563	0.4813	0.0813
37				5.7750	0.4813	0.0751
38				5.2938	0.4813	0.0688
39				4.8125	0.4813	0.0626
40				4.3313	0.4813	0.0563
41				3.8500	0.4813	0.0501
42				3.3688	0.4813	0.0438
43				2.8875	0.4813	0.0375
44				2.4063	0.4813	0.0313
45				1.9250	0.4813	0.0250
46				1.4438	0.4813	0.0188
47				0.9625	0.4813	0.0125
48				0.4813	0.4813	0.0063



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Northern Power Generation Company Limited
Reference Rental Tariff RFO/Gas
Sahuwal Sialkot

Description	Lump sum \$ Million	Year1	Year2	Year3	Year4
a) Rental	165.00				
1) Rental for 48 Months	23.10				
2) Advance Rental@14% of 48 months Rental		41.25	41.25	41.25	41.25
3) Annual Rental - Million US\$		(3.19)	(2.29)	(1.39)	(0.49)
5) Adjustment of Financing of advance Rental - Million US\$		38.06	38.96	39.86	40.76
6) Annual Adjusted Rental - Million US\$		2.90	2.97	3.03	3.10
7) Rental US Cents/kW/Hr		4.83	4.94	5.06	5.17
8) Rental at 60% notional Plant Factor US Cents/kW/h		3.86	3.95	4.04	4.14
9) Rental at 60% notional Plant Factor at Exchange rate of Rs.80/US\$ -Rs./kWh					
b) Additional Costs *					
1) Duties for consumable stores Maximum - Rs. Million		18.75	18.75	18.75	18.75
2) Financial Charges on duties of plant & Equipment to be re-exported Maximum - Rs. Million		24.75	24.75	24.75	24.75
3) Financial Charges on L/C maximum - Rs. Million		93.91	48.91	30.38	11.85
4) NEPRA Fee - Rs. Million		2.75	-	-	-
Total Additional Cost - Rs. Million		140.16	92.41	73.88	55.35
5) Additional Cost - Rs./kW/Hr		0.11	0.07	0.06	0.04
6) Additional Cost at notional 60% plant factor - Rs./kW/Hr		0.18	0.12	0.09	0.07
c) Total Cost (a9 + b6)		4.0397	4.0706	4.1385	4.2064
d) Fuel Cost Component at minimum thermal efficiency of 33.32% and Fuel Price of Rs.26,000		6.5268	6.5268	6.5268	6.5268
e) Fuel Cost Component at minimum thermal efficiency of 32.38% and Gas Price of Rs.231/MMBTUs		2.4338	2.4338	2.4338	2.4338
f) Total Average Tariff on RFO (c + d) - Rs./kWh		10.5665	10.5974	10.6653	10.7332
g) Total Average Tariff on Gas (c + d) - Rs./kWh		6.4735	6.5044	6.5723	6.6402
Tariff equivalent to US Cents at Exchange rate of Rs.80/US\$ - RFO		13.2082	13.2467	13.3316	13.4165
- Gas		8.0919	8.1305	8.2154	8.3002

Net Capacity at mean site conditions - MW 150

Availability - RFO 88%

- Gas 92%

Net Thermal Efficiency - RFO 33.32%

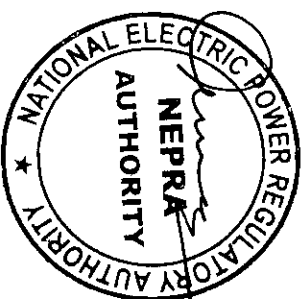
Net Thermal Efficiency - Gas 32.38%

Exchange Rate Rs. 80/US\$

Fuel Price including freight Ex-GST Rs.26,000/M.Ton

Gas Price Rs. 231.00 MMBTUs

* These Additional Costs would be allowed, subject to the provision of verifiable documents.



Northern Power Generation Company Limited
Reference Rental Tariff RFO/Gas
Sahuwal Sialkot

Description	Lump sum \$ Million	Year1	Year2	Year3	Year4
a) Rental					
1) Rental for 48 Months	165.00				
2) Advance Rental@14% of 48 months Rental	23.10				
3) Annual Rental - Million US\$		41.25 (3.19)	41.25 (2.29)	41.25 (1.39)	41.25 (0.49)
5) Adjustment of Financing of advance Rental - Million US\$		38.06	38.96	39.86	40.76
6) Annual Adjusted Rental - Million US\$		2.90	2.97	3.03	3.10
7) Rental US Cents/KW/Hr		4.83	4.94	5.06	5.17
8) Rental at 60% notional Plant Factor US Cents/KW/h		3.86	3.95	4.04	4.14
9) Rental at 60% notional Plant Factor at Exchange rate of Rs.80/US\$ -Rs./KWh					
b) Additional Costs *					
1) Duties for consumable stores Maximum - Rs. Million		18.75	18.75	18.75	18.75
2) Financial Charges on duties of plant & Equipment to be re-exported Maximum - Rs. Million		24.75	24.75	24.75	24.75
3) Financial Charges on L/C maximum - Rs. Million		93.91	48.91	30.38	11.85
4) NEPRA Fee - Rs. Million		2.75	-	-	-
Total Additional Cost - Rs. Million		140.16	92.41	73.88	55.35
5) Additional Cost - Rs./KW/Hr		0.11	0.07	0.06	0.04
6) Additional Cost at notional 60% plant factor - Rs./KW/Hr		0.18	0.12	0.09	0.07
c) Total Cost (a9 + b6)		4.0397	4.0706	4.1385	4.2064
d) Fuel Cost Component at minimum thermal efficiency of 33.32% and Fuel Price of Rs.26,000		6.5268	6.5268	6.5268	6.5268
e) Fuel Cost Component at minimum thermal efficiency of 32.38% and Gas Price of Rs.231/MMBTUs		2.4338	2.4338	2.4338	2.4338
f) Total Average Tariff on RFO (c + d) - Rs./KWh		10.5665	10.5974	10.6653	10.7332
g) Total Average Tariff on Gas (c + d) - Rs./KWh		6.4735	6.5044	6.5723	6.6402
Tariff equivalent to US Cents at Exchange rate of Rs.80/US\$ - RFO		13.2082	13.2467	13.3316	13.4165
- Gas		8.0919	8.1305	8.2154	8.3002

Net Capacity at mean site conditions - MW 150
 Availability - RFO 88%
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 Net Thermal Efficiency - Gas 32.38%
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