

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

**Decision of the Authority Regulatory Meeting R 05-202
Held on December 15, 2005 in the Matter of Tariff Determination in
the Case of Orient Power Company (Pvt.) Ltd.**

The Authority considered the recent guidelines issued by the Federal Government "Guidelines for determination of tariff for IPP's pursuant to the decision of the ECC taken in the meeting of November 28, 2005 (guidelines). It is understood that the matter of rate of return on equity allowed to the two IPPs Orient Power Company (Pvt.) Limited (OPCL) and Star Power Generation (Pvt.) Limited (SPGCL) needs to be reconsidered to avoid discrimination with respect to the applicability of the guidelines between intending investors (new IPPs) and the two aforementioned companies. The Authority has therefore considered the matter suo-moto and revised its earlier decision made in respect of the two IPPs OPCL and SPGCL to incorporate the relevant requirement of the guidelines.

Therefore an allowance for equity funds used during construction needs to be incorporated in the return to account for return on equity invested prior to the commercial operation date (COD) so that the IRR on equity equates to the return level already determined

The equity injected prior to the Commercial Operation is expected to be 40% in the year -2 and 60% in the year -1. The allowance for return on equity prior to COD will be adjusted at the time of COD according to the actual equity investments made during the construction period. Incorporating the above changes the revised tariff for the purpose of sale to NTDC is approved.

We hereby recommend to the Federal Government that the modified order of the Orient Power Company (Pvt.) Ltd annexed to this decision as Annexure-I, II and II(a) hereby intimated for notification, in the official gazette in accordance with the provisions of Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997), read with Rule 16 of the NEPRA Tariff Standards and Procedure Rules, 1998.

(Nasiruddin Ahmed)
Member

(Abdul Rahim Khan)
Member

Lt. General (R) Saeed uz Zafar
Chairman

MODIFIED ORDER OF THE AUTHORITY
REGARING ORIENT POWER COMPANY (Pvt.) LIMITED
TO BE NOTIFIED IN THE OFFICIAL GAZETTE

Pursuant to Rule 6 of the NEPRA Licensing Generation Rules 2000, Orient Power Company (Pvt) Ltd is allowed to charge the following specified tariff for sale of electricity to Central Power Purchase Agency of NTDC on behalf of Ex-WAPDA Distribution Companies:

Description	First 10 years	Next 20 years
Capacity Charges	Rs./kW/Month	Rs./kW/Month
Fixed O&M	105.45	105.45
Insurance	33.25	33.25
Return on Equity	164.10	164.10
Debt Service	434.37	
Total Fixed Charges	737.17	302.81
a) Variable Charge A For 9 months in a year (Mar to Nov)	Rs./kWh	Rs./kWh
Fuel Cost	1.2699	1.2699
Variable O&M	0.099	0.0990
Total Variable Charge A	1.3689	1.3689
Dispatch Criterion will be the Variable Charge A for 9 months in a year (Mar to Nov)		
b) Variable Charge B For 3 months in a year (Jan, Feb & Dec)	Rs./kWh	Rs./kWh
Fuel Cost	4.2962	4.2962
Variable O&M	0.0990	0.0990
Total Variable Charge B	4.3952	4.3952
Dispatch Criterion will be the Variable Charge B for 3 months in a year (Jan, Feb & Dec)		
c) If gas is available for more than 9 months in a year, variable charge as well as dispatch criteria will be based on variable charge a for the energy generated on gas during Jan, Feb & Dec.		

* Capacity Charge Rs./kW/month applicable to dependable capacity

Note: The above tariff is applicable for a period of 30 years commencing from the date of Commercial Operation.

The following items on which costs have been based and which are expected to be varied during the tenure of the PPA are not in the control of the operator and therefore are considered pass-through item such that the sale purchase rate is varied to incorporate the variation in the relevant elements.

i) Indexation applicable to O&M

In future the 50% of Fixed O&M part of Capacity Charge will be adjusted on account of Inflation (WPI) and 50% on account of variation in dollar/Rupee exchange rate. WPI adjustment for inflation will be made on quarterly basis, on the basis of WPI as notified by the Federal Bureau of Statistics (FBS) for the month of August, November, February & May respectively. Indexation for variation in dollar/rupee exchange rate will be made on October 1, January 1, April 1 & July1 on the basis of revised TT & OD selling rate of US Dollar as notified by the National Bank of Pakistan. The mode of indexation for escalable component will be as under:

(a) Fixed O&M

$$F O\&M_{(RWPI)} = \text{Rs.}105.45 \text{ per kW per Month} * 50\% \\ \text{WPI}_{(REV)} / 111.37$$

60

$$F O\&M_{(RE)} = \text{Rs.}105.45 \text{ per kW per Month} * 50\% * ER_{(REV)} /$$

WHERE:

$F O\&M_{(RWPI)}$ = The revised applicable Fixed O&M Component of the Capacity Charge indexed with WPI

$F O\&M_{(RE)}$ = The revised applicable Fixed O&M Component of the Capacity Charge indexed with Currency fluctuation

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

Reference WPI = 111.37 wholesale price index (manufactures) of December 2004 notified by Federal Bureau of Statistics

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

Reference ER = the Revised Exchange Rate

(b) Variable O&M

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

$V O\&M_{(REV)}$ = Rs.0.0990 per kWh * $ER_{(REV)}$ / Rs.60 per \$

Where:

$V O\&M_{(REV)}$ = the revised applicable Variable O&M Component of Energy Charge

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

ii) Adjustment for KIBOR variation

The interest part of non-escalable 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 KIBOR according to the following formula;

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 4.4\%) / 4$$

Where:

ΔI = The variation in interest charges applicable corresponding to variation in KIBOR. ΔI can be positive or negative depending upon whether $KIBOR_{REV} >$ or $<$ 4.4%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each quarter under adjustment applicable on quarterly

P(REV) = is the outstanding principal (as indicated in the attached debt service schedule to this order) on a quarterly basis on the relevant quarterly calculations date. Period 1 shall commence on the date on which the 1st installment is due after availing the grace period.

(iii) Fuel Price Variation

The Variable Charge part of the tariff relating to fuel cost shall be adjusted on account of the fuel price variations as and when notified by the relevant authority, which in the instant case is the Oil & Gas Regulatory Authority. In this regard, the variation in OPCL's allowed rate relating to fuel cost shall be revised according to the following formula:

$$FCg(\text{Rev}) = \text{Rs.1.269 per kWh} * \frac{FP(\text{Rev})}{\text{Rs.190.499 per MMBTUs}}$$

Where:

$$FCg (\text{Rev}) = \text{Revised fuel cost component of Variable Charge on gas}$$

$$FPg (\text{Rev}) = \text{The new price of gas as notified by the relevant Authority per MMBTUs of fuel adjusted for LHV-HHV factor.}$$

$$FCd(\text{Rev}) = \text{Rs.4.296 per kWh} * \frac{FP(\text{Rev})}{\text{Rs.611 per MMBTUs}}$$

WHERE:

$$FCd (\text{Rev}) = \text{Revised fuel cost component of Variable Charge on diesel}$$

$$FPd(\text{Rev}) = \text{The new price of diesel as notified by the relevant Authority per MMBTUs of fuel adjusted for LHV-HHV factor.}$$

Adjustment on account of inflation, foreign exchange variation, KIBOR variation and fuel price variation will be approved and announced by the Authority within seven days of the applicable

date. OPCL may submit a request prior to the applicable date indicating the level of indexation estimated to NTDC within 7 working days of the notification of fuel price variation.

Terms and Condition of Tariff:

- i) Gas usage will be considered the primary fuel subject to (iii)
- ii) All equipment installed will be new and the plant will be of standard configuration.
- iii) Dispatch will be based on the variable charge applicable at the time as under:
 - a) Variable Charge A:

Variable charge during nine months in a year for operation on gas. Dispatch criterion for nine months in a year (March to November) will be the variable charge A.
 - b) Variable Charge B:

Variable charge for three months (January, February & December) in a year for operation on diesel. Dispatch criterion for three months in a year will be variable charge B.
 - c) If gas is available for more than nine months in a year the variable charge as well as dispatch criterion will be based on variable charge (a) for the energy generated on gas as fuel.
- iv) Diesel oil will be used only for startups and other contingent requirements save to the extent of usage allowed for variable charge application and dispatch criterion as per clause (iii) above. Use of Diesel oil as main fuel during the nine months in a year other than the months of January, February and December in case of non-availability of gas (except in Force Majeure conditions as declared by the Authority) dispatched on variable charge A during the period shall not entitle OPCL to claim a charge higher than variable charge A.

The above tariff and terms and conditions be incorporated as the specified tariff approved by the Authority pursuant to Rule 6 of the Generation Licencing Rules, in a Power Purchase Agreement between OPCL and NTDC.

Orient Power Company Ltd.
Specified Tariff

Year	Variable Charge (PKR/kWh)			Capacity Charge (PKR/kW/Month)							CPP/kWh at 60% PF	Total/kWh
	Fuel	Variable O&M	Total	Escalable	Insurance	Return on	Allowance for	Loan	Interest	Total		
				(Fixed O&M)		Equity	return on pre- operating equity	Repayment	Charges			
1	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	214.51	219.86	737.17	1.6830	3.0519
2	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	230.83	203.54	737.17	1.6830	3.0519
3	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	248.39	185.98	737.17	1.6830	3.0519
4	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	267.29	167.08	737.17	1.6830	3.0519
5	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	287.62	146.74	737.17	1.6830	3.0519
6	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	309.50	124.86	737.17	1.6830	3.0519
7	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	333.05	101.31	737.17	1.6830	3.0519
8	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	358.39	75.98	737.17	1.6830	3.0519
9	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	385.66	48.71	737.17	1.6830	3.0519
10	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	415.00	19.37	737.17	1.6830	3.0519
11	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
12	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
13	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
14	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
15	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
16	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
17	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
18	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
19	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
20	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
21	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
22	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
23	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
24	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
25	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
26	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
27	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
28	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
29	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
30	1.2699	0.0990	1.3689	105.4500	33.25	152.51	11.59	-	-	302.81	0.6913	2.0602
Levelized Tariff (1-30 Years)			1.3689							585.93	1.3377	2.7066

Orient Power Company Ltd.
Debt Servicing Schedule

KIBOR 4.40%
Premium 3.00%

Period	Principle Million \$	Repayment Million \$	Mark-Up Million \$	Balance Million \$	Debt Service Millin \$	Annual Principle Repayment \$ Million	Annual Interest \$ Million	Annual Principle Repayment Rs. Million	Annual Interest Rs. Million	Principal Repayment Rs./kW/ Month	Interest Rs./kW/ Month	Quarterly Markup Million Rs.
1	127.50	2.18	2.36	125.32	\$4.54							141.53
2	125.32	2.22	2.32	123.10	\$4.54							139.10
3	123.10	2.26	2.28	120.84	\$4.54							136.64
4	120.84	2.30	2.24	118.53	\$4.54	8.97	9.19	537.99	551.40	214.51	219.86	134.13
5	118.53	2.35	2.19	116.19	\$4.54							131.57
6	116.19	2.39	2.15	113.80	\$4.54							128.97
7	113.80	2.43	2.11	111.36	\$4.54							126.32
8	111.36	2.48	2.06	108.88	\$4.54	9.65	8.51	578.92	510.47	230.83	203.54	123.61
9	108.88	2.52	2.01	106.36	\$4.54							120.86
10	106.36	2.57	1.97	103.79	\$4.54							118.06
11	103.79	2.62	1.92	101.17	\$4.54							115.21
12	101.17	2.67	1.87	98.50	\$4.54	10.38	7.77	622.96	466.43	248.39	185.98	112.30
13	98.50	2.72	1.82	95.79	\$4.54							109.34
14	95.79	2.77	1.77	93.02	\$4.54							106.32
15	93.02	2.82	1.72	90.20	\$4.54							103.25
16	90.20	2.87	1.67	87.33	\$4.54	11.17	6.98	670.36	419.03	267.29	167.08	100.12
17	87.33	2.92	1.62	84.41	\$4.54							96.94
18	84.41	2.98	1.56	81.43	\$4.54							93.69
19	81.43	3.03	1.51	78.40	\$4.54							90.39
20	78.40	3.09	1.45	75.31	\$4.54	12.02	6.13	721.36	368.03	287.62	146.74	87.02
21	75.31	3.15	1.39	72.16	\$4.54							83.59
22	72.16	3.20	1.33	68.96	\$4.54							80.10
23	68.96	3.26	1.28	65.69	\$4.54							76.54
24	65.69	3.32	1.22	62.37	\$4.54	12.94	5.22	776.24	313.15	309.50	124.86	72.92
25	62.37	3.39	1.15	58.98	\$4.54							69.23
26	58.98	3.45	1.09	55.54	\$4.54							65.47
27	55.54	3.51	1.03	52.02	\$4.54							61.65
28	52.02	3.58	0.96	48.45	\$4.54	13.92	4.23	835.29	254.10	333.05	101.31	57.75
29	48.45	3.64	0.90	44.81	\$4.54							53.78
30	44.81	3.71	0.83	41.09	\$4.54							49.73
31	41.09	3.78	0.76	37.32	\$4.54							45.62
32	37.32	3.85	0.69	33.47	\$4.54	14.98	3.18	898.84	190.55	358.39	75.98	41.42
33	33.47	3.92	0.62	29.55	\$4.54							37.15
34	29.55	3.99	0.55	25.55	\$4.54							32.80
35	25.55	4.07	0.47	21.49	\$4.54							28.37
36	21.49	4.14	0.40	17.35	\$4.54	16.12	2.04	967.23	122.16	385.66	48.71	23.85
37	17.35	4.22	0.32	13.13	\$4.54							19.25
38	13.13	4.30	0.24	8.83	\$4.54							14.57
39	8.83	4.38	0.16	4.46	\$4.54							9.80
40	4.46	4.46	0.08	0.00	\$4.54	17.35	0.81	1,040.81	48.58	415.00	19.37	4.95