



**ORDER OF THE AUTHORITY
IN CASE NO. NEPRA/TRF-83/SECL-2007
TO BE NOTIFIED IN THE OFFICIAL GAZETTE**

The Authority has assessed the project cost as per the breakup given hereunder;

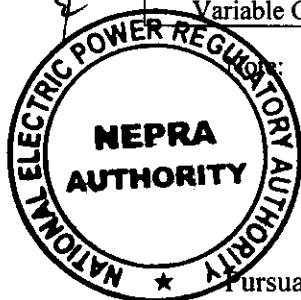
i)	EPC;	Million US\$
	Supply Contract	138.85
	Construction Contract	20.00
	Reference Rupee/Dollar parity	60
ii)	Non-EPC	16.714
iii)	Withholding Tax on Local Services	1.806
iv)	Financial Advisory Fee	2.927
v)	Custom Duties	6.943
vi)	IDC	15.557

Based upon the above assessment of Project Cost the Reference Tariff determined by the Authority is indicated in the following table;

Reference Tariff

Tariff Components	Year 1 to 10	Year 11 to 30	Indexation
Capacity Charge (PKR/kW/Hour)			
O&M Foreign	0.0652	0.0652	US\$ to Rupee
O&M Local	0.0434	0.0434	WPI
Cost of Working Capital *	0.0163	0.0163	KIBOR
Insurance	0.0703	0.0703	US\$ to Rupee
Debt Service	0.8626	-	KIBOR
Return on Equity	0.2492	0.2492	US\$ to Rupee
ROE during Construction	0.0228	0.0228	US\$ to Rupee
Total Capacity Charge	1.3297	0.4671	
* In case of HSD plant operation on HSD cost of working capital shall be paid on 15 days inventory level basis as Rs. 0.0351/kW/hour			
A) Energy Charge on Operation on Gas Rs./kWh			
Fuel Cost Component	1.7787	1.7787	Fuel Price
Variable O&M	0.1746	0.1746	\$ to Rupee
B) Energy Charge on Operation on HSD Rs./kWh			
Fuel Cost Component	6.7151	6.7151	Fuel Price
Variable O&M	0.2520	0.2520	\$ to Rupee

- i) Capacity Charge Rs./kW/hour applicable to dependable capacity at the delivery point.
- ii) Dispatch criterion will be Energy Charge.
- iii) The above tariff is applicable for a period of 30 years commencing from the date of the Commercial Operation.
- iv) Component wise tariff for operation on Gas and HSD is indicated at Annex-I & II.



Pursuant to Rule 6 of the NEPRA Licensing (Generation) Rules 2000, Sapphire Electric Company (Pvt.) Ltd. is allowed to charge, subject to adjustment of Capacity Purchase Price on account of net dependable capacity as determined by test jointly carried out by Central Power Purchasing Agency (CPPA) and the petitioner, the above mentioned tariff



for delivery of electricity to CPPA of NTDC for procurement on behalf of Ex-WAPDA Distribution Companies. The following indexations shall be applicable to reference tariff;

I. One Time Adjustment

a) Adjustment due to variation in net capacity

The reference tariff has been determined on the basis of minimum net capacity of 209 MW at delivery point at mean site conditions. All the tariff components except fuel cost component shall be adjusted at the time of COD based upon the IDC tests to be carried out for determination of contracted capacity for operation on both fuels i.e. Gas & HSD. If the IDC is established higher than 209 MW, the adjustments shall be made according to the following formula:

i) O&M Foreign	=	0.0652/tested IDC x 209MW
ii) O&M Local	=	0.0434/tested IDC x 209MW
iii) Insurance	=	0.0703/tested IDC x 209MW
iv) Cost of Working Capital-Gas	=	0.0163/tested IDC x 209MW
v) Cost of Working Capital-HSD	=	0.0349/tested IDC x 209MW
vi) Debt Service	=	0.8626/tested IDC x 209MW
vii) Return on Equity	=	0.2492/tested IDC x 209MW
viii) ROE during Construction	=	0.0228/tested IDC x 209MW
ix) Variable O&M - Gas	=	0.0218+0.1528/tested IDC x 209MW
x) Variable O&M - HSD	=	0.0218+0.2302/tested IDC x 209MW

b) Debt Service, Return on Equity (ROE) and Return on Equity during Construction (ROEDC) shall be adjusted at COD as per actual based upon the authentic documentary evidence to be provided by SECL on account of following variations;

- i) Financial Advisory Fee (subject to the maximum of 1.2% of the borrowing);
- ii) Custom Duties & Taxes
- iii) Interest During Construction;
- iv) Change in Financing Structure due to change debt-equity ratio.

c) Adjustment in Insurance as per actual

The actual insurance cost for the minimum cover required under contractual obligations with the Power Purchaser not exceeding 1.35% of the EPC cost will be treated as pass-through. Insurance component of reference tariff shall be adjusted as per actual on yearly basis upon production of authentic documentary evidence by SECL according to the following formula;

$$\text{Insurance (Revised)} = \text{AIC}/\$2.144 \text{ million} \times \text{AP}$$

Where;

- AIC = Adjusted Insurance Component as per IDC Test
AP = Actual Premium



II. Pass-Through Items

No provision for income tax has been accounted for in the tariff. If SECL is obligated to pay any tax on its ROE, the exact amount paid by the company may be reimbursed by



CPPA to SECL on production of original receipts. This payment may be considered as pass-through (as Rs./kW/hour) hourly payment spread over a 12 months period in addition to the capacity purchase price in the Reference Tariff. Furthermore, in such a scenario, SECL may also submit to CPPA details of any tax shield savings and CPPA will deduct the amount of these savings from its payment to SECL on account of taxation.

Withholding tax is also a pass-through item just like other taxes as indicated in the government guidelines for determination of tariff for new IPPs. Withholding tax shall be paid on return @ 15% of the reference equity. CPPA (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% equity according to the following formula:

$$\text{Withholding Tax Payable} = [\{ 15\% * (E_{(REF)} - E_{(Red)}) \}] * 7.5\%$$

Where:

$E_{(REF)}$ = Reference Equity (US\$ 50.699 million x 60)

$E_{(Red)}$ = Equity Redeemed

$ROEDC_{(REF)}$ = Reference Return on Equity During Construction

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 as a pass-through from the Power Purchaser in future on the basis of the total dividend pay out.

III. Indexations:

The following indexation shall be applicable to the reference tariff as follows;

a) Indexation applicable to O&M

In future the 40% of Fixed O&M part of Capacity Charge will be adjusted on account of average quarterly local Inflation (WPI) and 60% on account of variation in average quarterly US CPI and dollar/Rupee exchange rate. Quarterly adjustment for local inflation, foreign inflation and exchange rate variation will be made on 15th July, 15th October, 15th January and 15th April based on the average of the available information with respect to average WPI notified by the Federal Bureau of Statistics (FBS), average US CPI issued by 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

$$F O\&M\text{-Local}_{(REV)} = \text{Rs. } 0.0434/\text{kW}/\text{Hour} * WPI_{(REV)} / 117.45$$

$$F O\&M\text{-Foreign}_{(REV)} = \text{Rs. } 0.0652/\text{kW}/\text{Hr} * US\text{CPI}_{(REV)} / * ER_{(REV)} / 60$$

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)
 $WPI_{(REF)}$ = 117.45 average quarterly wholesale price index (manufacturers)
for the quarter ending April 2006 notified by Federal Bureau of
Statistics
 $US\ CPI_{(REV)}$ = The revised average quarterly US CPI
 $US\ CPI_{(REF)}$ = 200 (average quarterly US CPI for the quarter ending April 2006
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 reference numbers indicated above shall be replaced by the revised numbers
after incorporating the required adjustments at COD.

$WPI_{(REV)}$ = The Revised wholesale Price Index (manufactures)
Reference WPI = 117.45 average quarterly wholesale price index (manufactures) for
the quarter ending April 2006 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

Note: The reference numbers indicated above shall be replaced by the revised numbers after
incorporating the required adjustments at COD.

(ii) Variable O&M

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

$$V\ O\&M\text{-Gas}_{(REV)} = \text{Rs. } 0.1746 \text{ per kWh} * US\ CPI_{(REV)}/200 * ER_{(REV)} / 60$$

$$V\ O\&M\text{-HSD}_{(REV)} = \text{Rs. } 0.2520 \text{ per kWh} * US\ CPI_{(REV)}/200 * ER_{(REV)} / 60$$

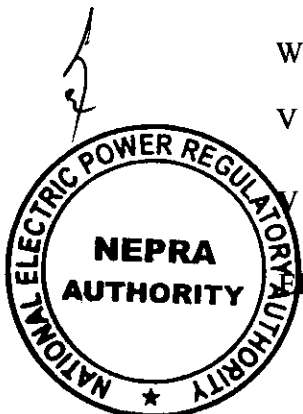
Where:

$V\ O\&M\text{-Gas}_{(REV)}$ = The revised applicable Variable O&M Component of the Energy
Charge indexed with US CPI and Exchange rate variations
 $V\ O\&M\text{-HSD}_{(REV)}$ = The revised applicable Variable O&M Component of the Energy
Charge indexed with US CPI and Exchange rate variations
 $US\ CPI_{(REV)}$ = The revised average quarterly US CPI
 $US\ CPI_{(REF)}$ = 200 (average quarterly US CPI for the quarter ending April 2006
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 reference VO&M indicated above shall be replaced with the revised number
at COD after incorporating the required adjustment based upon the IDC Test.

Where:

$V\ O\&M\text{-Gas}_{(REV)}$ = The revised applicable Variable O&M Component of Energy
Charge indexed with currency fluctuation.
 $V\ O\&M\text{-HSD}_{(REV)}$ = The revised applicable Variable O&M Component of Energy
Charge indexed with currency fluctuation.
 $ER_{(REV)}$ = the Revised TT & OD selling rate of US dollar as notified by the
National Bank of Pakistan





Note: The reference VO&M indicated above shall be replaced with the revised number at COD after incorporating the required adjustment based upon the IDC Test.

b) Adjustment for KIBOR 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 KIBOR according to the following formula;

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 9.0\%) / 4$$

Where:

ΔI = the variation in interest charges applicable corresponding to variation in quarterly KIBOR. ΔI can be positive or negative depending upon whether KIBOR REV > or < 9.05%. 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.

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 as and when notified by the relevant authority, which in the instant case is the Oil & Gas Regulatory Authority (OGRA). In this regard, the variation in SECL's allowed rate relating to fuel cost shall be revised according to the following formula:

$$FC\text{-Gas}_{(REV)} = \text{Rs. } 1.7787 \text{ per kWh} * FP_{(REV)} / \text{Rs. } 266.83 \text{ per MMBTU}$$

Where:

$FC\text{-Gas}_{(REV)}$ = Revised fuel cost component of Variable Charge on gas

$FP\text{-Gas}_{(REV)}$ = The new price of gas as notified by the relevant Authority per MMBTU of fuel adjusted for LHV-HHV factor.

$$FCd_{(REV)} = \text{Rs. } 6.7153 \text{ per kWh} * [FPd_{(REV)} \text{ Rs.per MMBTUs}] / \text{Rs. } 954.27 \text{ per MMBTU (Excl-GST)}$$

Where:

$FCd_{(REV)}$ = Revised fuel cost component of Variable Charge on diesel

$FPd_{(REV)}$ = The new price of diesel as notified by the relevant Authority per Litre of fuel adjusted for NCV-GCV factor, Specific gravity and Calorific value (Gross)

Reference values used in the calculations;

HSD Fuel price with GST (GCV)	Rs. 37.29 per litre
GST	15%
HSD fuel Price without GST (GCV)	Rs. 32.43 per liter
HHV-LHV Adjustment Factor	1.06
HSD Fuel Price without GST (NCV)	Rs. 34.37 per litre





HSD Fuel Price without GST Rs. 954.27 per MMBTU*
* Calculated by using the following reference values
Reference Specific Gravity @ 15 °C or 15.6 °C 0.84
Reference Calorific Value (Gross) 42,880 BTUs/Kg

- ii). In case of adjustment in HSD fuel component, SECL shall submit request for adjustment duly supported with the supplier's certificate indicating flash point, specific gravity and calorific value duly verified by the power purchaser. The Power Purchaser shall make all necessary arrangements to satisfy it regarding the Authenticity and validity of the information provided by SECL. In case of any dispute or discrepancy the power purchaser shall seek third party verification which for technical issues shall be HDIP and for price issues shall be OGRA. SECL shall be allowed immediate adjustment by the Authority within 7 days of such request with requisite certificates and verifications.
- iii). Adjustment on account of inflation, foreign exchange variation, KIBOR variation and fuel price variation will be approved and announced by the Authority within seven working days after receipt of SECL's request for adjustment in accordance with the requisite indexation mechanism stipulated herein.
- iv). Any change or modification regarding application of US CPI on foreign component of O&M cost and application of local CPI instead of WPI on local component of O&M cost made through GOP Policy shall also be applicable to SECL. However the change or modification shall be applicable from the date of issue of such Policy and shall not be applicable retrospectively.

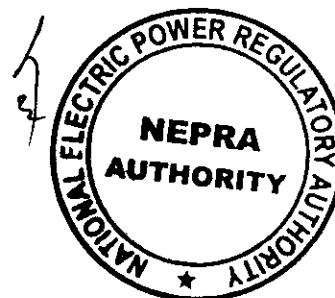
Incentive for Early Commissioning

In case SECL achieves Commercial Operation Date (COD) prior to October 31st, 2008, an incentive equivalent to Rs. 0.1795 per kW per hour shall be paid in addition to the normal capacity payment during the period commencing from COD till October 31st, 2008.

Terms and Conditions of Tariff:

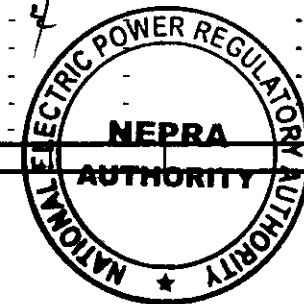
- i) Use of Gas only will be considered as primary fuel.
- ii) All new equipment will be installed and the plant will be of standard configuration.
- iii) Dispatch criterion will be based on the Energy Charge.
- iv) Diesel oil will be used only for startups and other contingent requirements. Use of Diesel oil shall be allowed in accordance with the GOP's fuel policy announced from time to time.
- v) General assumptions of SECL which are not covered in this determination may be dealt with in the PPA according to its standard terms.

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



SPECIFIED TARIFF- SAPPHERE ELECTRIC COMPANY LIMITED
PLANT OPERATION ON GAS

Year	Energy Charge (Rs/kWh)			Capacity Charge Rs/kW per Hour										Total Tariff		
	Fuel	Variable O&M	Total	Fixed O&M	Insurance	W.C	ROE DC	ROE	Withholding tax on div	Sub Total	Debt Servicing Foreign	Debt Servicing Local	Total Debt Servicing	Total Capacity charge		Rs/kWh
														Rs/kW/hr	Rs/kW/hr @60% PF	
1	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
2	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
3	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
4	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
5	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
6	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
7	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
8	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
9	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
10	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
11	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
12	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
13	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
14	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
15	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
16	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
17	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
18	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
19	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
20	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
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22	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
23	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
24	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
25	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
26	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
27	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
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30	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
Levelised	1.7787	0.1746	1.9533											1.0498	1.7496	3.7029

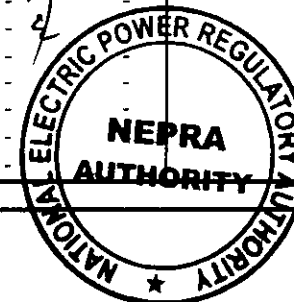


Cents

6.1714

SPECIFIED TARIFF - SAPPHIRE ELECTRIC COMPANY LIMITED
PLANT OPERATION ON DIESEL

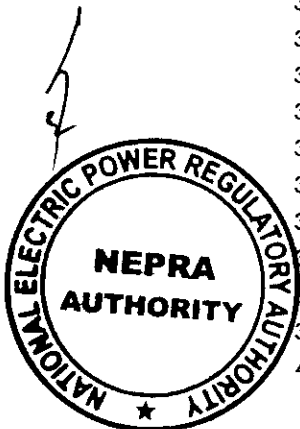
Year	Energy Charge (Rs/kWh)			Capacity Charge Rs/kW per Hour										Total Capacity charge		Total Tariff Rs/kWh
	Fuel	Variable O&M	Total	Fixed O&M	Insurance	W.C	ROE DC	ROE	Withholding tax on div	Sub Total	Debt Servicing Foreign	Debt Servicing Foreign	Total Debt Servicing	Rs/kW/Hr	Rs/kWh at 60% LF	
1	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
2	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
3	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
4	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
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6	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
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9	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
10	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
11	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
12	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
13	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
14	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
15	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
16	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
17	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
18	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
19	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
20	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
21	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
22	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
23	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
24	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
25	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
26	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
27	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
28	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
29	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
30	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
Levelised			6.9671											1.0684	1.7806	8.7478



Loan Repayment		(Quarterly)	
LOAN AMOUNT		PKR	9,125,854
PERIOD			10
NO. OF INSTALLMENTS			40
NO. OF INSTALLMENT / YEAR			4
DEBT SERVICE RESERVE ACCOUNT / INSTALLMENTS			0
RATE OF INTEREST (%) per Annum			12.00%

DETAILED REPAYMENT SCHEDULE

QUARTER	YEAR	Principal Repayment	Interest	Principal Outstanding	Installment	Installment per Month
Repayment Schedule				9,125,854		
1	1	121,031	273,776	9,004,823	394,806	131,602
2		124,661	270,145	8,880,162	394,806	131,602
3		128,401	266,405	8,751,761	394,806	131,602
4		132,253	262,553	8,619,507	394,806	131,602
5	2	136,221	258,585	8,483,286	394,806	131,602
6		140,308	254,499	8,342,979	394,806	131,602
7		144,517	250,289	8,198,462	394,806	131,602
8		148,852	245,954	8,049,610	394,806	131,602
9	3	153,318	241,488	7,896,292	394,806	131,602
10		157,917	236,889	7,738,374	394,806	131,602
11		162,655	232,151	7,575,720	394,806	131,602
12		167,535	227,272	7,408,185	394,806	131,602
13	4	172,561	222,246	7,235,624	394,806	131,602
14		177,737	217,069	7,057,887	394,806	131,602
15		183,070	211,737	6,874,818	394,806	131,602
16		188,562	206,245	6,686,256	394,806	131,602
17	5	194,218	200,588	6,492,037	394,806	131,602
18		200,045	194,761	6,291,992	394,806	131,602
19		206,046	188,760	6,085,946	394,806	131,602
20		212,228	182,578	5,873,718	394,806	131,602
21	6	218,595	176,212	5,655,124	394,806	131,602
22		225,152	169,654	5,429,971	394,806	131,602
23		231,907	162,899	5,198,064	394,806	131,602
24		238,864	155,942	4,959,200	394,806	131,602
25	7	246,030	148,776	4,713,170	394,806	131,602
26		253,411	141,395	4,459,759	394,806	131,602
27		261,013	133,793	4,198,746	394,806	131,602
28		268,844	125,962	3,929,902	394,806	131,602
29	8	276,909	117,897	3,652,993	394,806	131,602
30		285,216	109,590	3,367,776	394,806	131,602
31		293,773	101,033	3,074,004	394,806	131,602
32		302,586	92,220	2,771,418	394,806	131,602
33	9	311,664	83,143	2,459,754	394,806	131,602
34		321,014	73,793	2,138,740	394,806	131,602
35		330,644	64,162	1,808,096	394,806	131,602
36		340,563	54,243	1,467,533	394,806	131,602
37	10	350,780	44,026	1,116,753	394,806	131,602
38		361,304	33,503	755,450	394,806	131,602
39		372,143	22,663	383,307	394,806	131,602
40		383,307	11,499	(0)	394,806	131,602



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

No. NEPRA/TRF-83/SECL-2007

November 22, 2007

Petitioner

Sapphire Electric Company Limited (SECL)
7-A/K, Main Boulevard, Gulberg-II, Lahore

AUTHORITY

Nasiruddin Ahmed
Member

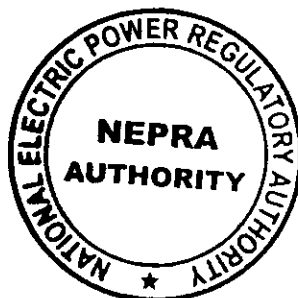
Nasiruddin Ahmed

Zafar Ali Khan
Member

Zafar Ali Khan
23/11/07

Abdul Rahim Khan
Acting Chairman

Abdul Rahim Khan
23/11/07





Background

- 1.1 Sapphire Electric Company Limited (hereinafter referred to as “SECL”), a locally incorporated specific purpose company, intends to set up 225 MW (Gross ISO) 209 MW (Net), thermal power plant at Muridke, near Lahore, under the Policy for Power Generation Projects 2002 (hereinafter referred to as the “Policy”). The primary source of the aforesaid dual-fuel project is pipeline quality gas. The electricity generated will be purchased by Central Power Purchasing Agency (hereinafter referred to as the “CPPA”) of National Transmission and Despatch Company (hereinafter referred to as the “NTDC”). SECL has been issued Generation Licence No. IGSECL/05/2006 on 21st June 2006.
- 1.2 SECL filed first tariff petition on February 14, 2006, which was determined by the Authority on June 15, 2006 (hereinafter referred to as “Original Determination”). Decision on the motion for leave for review was given on 3rd August 2006. SECL submitted its new tariff petition on 7th September 2007 (hereinafter referred to as the “New Tariff Petition”) for revision of its previous generation tariff. This New Tariff Petition was admitted for the consideration of the Authority on 18th September 2007 and was assigned case number NEPRA/TRF-83/SECL-2007. Salient features of the New Tariff Petition were advertised in the newspapers on 24th September, 2007 to inform all the interested persons/stakeholders and to invite views and participation in the tariff-setting proceedings through their comments or by becoming a party to the proceedings as interveners.
- 1.3 A public hearing on the New Tariff Petition was held on 1st October 2007 in NEPRA’s main office. This hearing was participated by the applicant, stakeholders and commentators as well as members of general public.

2. Relief Sought

2.1 Summarized, SECL made the following submissions in its petition:

2.1.1 The existing tariff should be modified by increasing the fixed Engineering Procurement and Construction Costs (hereinafter referred to as the “EPC Cost”) to US\$ 158.85 Million, which comprises US\$ 138.85 Million for Offshore Contract and US\$ 20 Million for Onshore Contract.

2.1.2 The Custom Duty amount should be changed accordingly by using the mechanism provided in the Original Determination (i.e. 5% of the Offshore Contract price), while any increase in such amount should be a “Pass-Through” item to the CPPA of the NTDC on behalf of Ex-WAPDA Discos (hereinafter referred to as the “Power Purchaser”).

2.1.3 The formula for calculation of Withholding Tax on Return on Equity (hereinafter referred to as the “ROE”) should be modified to reflect the actual calculation method of the tax authorities.

2.2 The debt to equity ratio of the project may change from its current value of 75:25 on account of non-availability of hedging cover, as under the financing documents SECL will cover the debt gap, which may arise due to change in the US \$-Rupee parity. The appropriate change on this account should be allowed at the Commercial Operations Date (hereinafter referred to as the “COD”) on actual basis.



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2.3 The following indexations recently approved by the Economic Coordination Committee of the Cabinet (hereinafter referred to as the "ECC") should be allowed to the SECL in addition to the previously allowed indexations:

- On account of US Consumer Price Index (hereinafter referred to as the "CPI") Indexation on Foreign Operations and Maintenance Costs (hereinafter referred to as the "O&M Costs")
- ROE and Return of Equity during Construction (hereinafter referred to as the "ROEDC") receivable on Local and Foreign Equity to be indexed to US\$ - Rupee parity.

2.4 SECL has proposed the following comparative schedule with relevant existing tariff costs;

EXISTING		PROPOSED		
1.	EPC Costs	US \$ 143.900 Million	EPC Cost Offshore Contract Onshore Contract	US\$138.85 Million US\$ 20 Million
2.	Non-EPC Cost	US\$ 22.257 Million	Non-EPC Cost	US\$ 22.257 Million
3.	Custom Duties	US\$ 5.037 Million	Custom Duties	US\$ 6.943 Million
4.	Cost Before Interest Before Construction ("IDC")	US\$ 171.194 Million	Cost Before IDC	US\$ 188.050 Million
5.	IDC To be calculated at COD on actual basis for Calculation Purpose	US\$ 14.538 M	IDC To be calculated at COD on actual basis for Calculation Purpose	US\$ 15.826 M

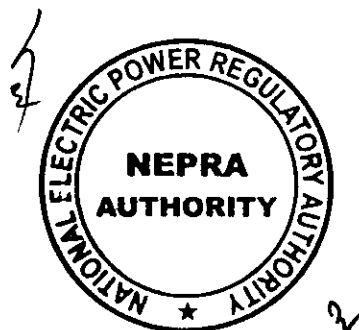
2.5 The comparative table provided by SECL of existing and proposed indexation is as under;

Tariff Component	Existing Indexation	Proposed Indexation
1. O&M Foreign	US\$/PKR	US\$/PKR + US CPI
2. O&M Local	Wholesale Price Index ("WPI")	WPI + US\$/PKR
3. Cost of Working Capital	KIBOR Adjustment	KIBOR Adjustment
4. Insurance	US\$/PKR	US\$/PKR
5. Debt Servicing	KIBOR Adjustment	KIBOR Adjustment
6. ROE	US\$/PKR	US\$/PKR
7. ROEDC	US\$/PKR	US\$/PKR
8. Fuel Cost Component	Fuel Price	Fuel Price
9. Variable O&M	US\$/PKR	US\$/PKR + US CPI

3. Issues

3.1 The following main issues have emerged from the proceedings on this ~~1000~~ Tariff Petition;

- EPC price
- Customs Duty
- Withholding Tax Calculations
- Change in Debt to Equity ratio
- Bringing in local equity
- ECC approved indexations





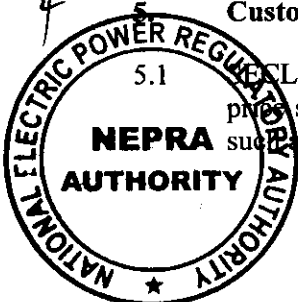
4. **EPC Price**

- 4.1 SECL was given a tariff by NEPRA in June 2006 which was later amended in August 2006 on request of SECL. Subsequent to that, after negotiating with short-listed parties, SECL signed an EPC contract (off-shore part) with Skoda Export Co. of Czech Republic on 17th October 2006 for a value of US\$ 130 million with a validity period till 30th November 2006.
- 4.2 SECL could not achieve Financial Close within the aforesaid validity period of the EPC Contract. Therefore, on 6th November 2006, both parties amended the original EPC contract specifying the mechanism for adjusting the contract price for US inflation and change in US\$-Euro parity.
- 4.3 SECL successfully achieved Financial Close in June 2007 and both parties entered into a second amendment to the original EPC contract and again revised the off-shore contract cost to US\$ 138.85 Million in accordance with the previously agreed adjustment mechanism and seeking reduction during renegotiation.
- 4.4 SECL claimed that it agreed to keep the overall cost of the EPC contract fixed and/or close to US\$ 150 Million. However the change in US\$-Euro parity and USCPI, from February 2007 onwards, exceeded its anticipated estimates made at the time of original tariff petition and than at the time of signing EPC contract.
- 4.5 SECL submitted that its EPC contractor, under the provision of amended EPC contract, was legitimate to claim the EPC Cost revised to US\$ 166.4 Million, however, it successfully manage to limit the increase to US\$ 158.85 Million through better renegotiations.
- 4.6 Having heard the arguments and evaluated the evidence in support thereof, the Authority determines that the delay and resultant increase in the EPC Costs is exclusively and solely attributable to SECL and, the Power Purchaser, as a result of this, is being penalized without any fault. The Authority is of the view that had SECL made the payment to its EPC contractor as per its agreed terms, there would have been no increase in EPC Costs, although there was a sharp appreciation of Euro against US\$ which adversely impacted the EPC Cost. The Authority observed that subsequent to the aforesaid delay, SECL managed to firm the EPC Costs and prevented the possibility of any further escalation by making the down payment upon successfully achieving Financial Close.
- 4.7 Notwithstanding the aforesaid, however, keeping in view the acute shortage and dire need of electricity in the country, the Authority has to give due consideration to the matter of urgency of the proposed induction therefore, it approves the increase in EPC Costs, as requested by SECL.

5. **Customs Duty**

5.1

SECL has requested that the Customs Duty amount which is 5% of the Offshore Contract price should be changed accordingly with the revised contract price while any increase in such amount should be a Pass-Through item to the Power Purchaser.





5.2 The aforesaid request for the revision in Customs Duty is accepted subject to adjustment as per actual at COD.

6. Withholding Tax Calculations

6.1 SECL has argued that the tax authorities calculate the Withholding Tax on dividends on a gross-up basis. The tax amount calculated in this way remains on the higher side as compared to the amount calculated by direct application of tax percentage to the base amount to be taxed. This apparent disparity between the two calculation methods for withholding tax needs to be rectified.

6.2 The Authority during hearing asked the petitioner to provide a detailed analysis after taking into account the benefit of advance monthly payment of return. The petitioner did not provide such an analysis. The Authority considers that since the petitioner failed to substantiate its case as advised by it; the Authority has therefore decided to maintain its earlier decision in this regard.

7. Change in Debt to Equity ratio

7.1 SECL has requested that it may be allowed to adjust its debt to equity ratio at the COD on actual basis. It has submitted that due to non-availability of hedging cover and because of the conditions imposed by lenders, its share of equity would rise to 29.6% instead of 25% based on estimates of rupee depreciation.

7.2 There is no ceiling on the amount of equity invested in a power project, but as per the Tariff Guidelines issued by the Government of Pakistan (hereinafter referred to as the "GOP"), minimum limit for equity is indicated as 20%. The Authority considers that for a plant size of 225 MW (Gross Capacity) about 29.6% equity investment can be a reasonable amount. The Authority has therefore decided to accept SECL's request in this regard.

8. Bringing in local Equity

8.1 As per SECL's Original Determination, the equity allowed for the project was in foreign currency. Now, SECL has requested the Authority to allow it to bring in local equity as well.

8.2 According to the recently approved ECC Guidelines for Tariff Determination, both foreign and local equity will be adjusted for variation in Rupee-US\$ exchange rate. Since now there is no differentiation in local and foreign equity as far as return is concerned; therefore the Authority accepts SECL's request in this regard.

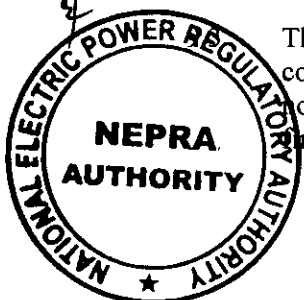
9. ECC Approved Indexations

9.1 SECL has requested that it should be allowed the following indexations recently approved by the ECC:

- a. US CPI indexation on foreign O&M Costs
- b. Indexation to Rupee-US\$ parity of ROE and ROEDC on local and foreign equity

9.2 The request being in line with the decision of the ECC and therefore SECL's request is accepted in this respect.

The Authority while determining SECL's previous tariff of dated 3rd August 2006 allowed cost for O&M during construction (mobilization cost to O&M contractor) separately under on-EPC head. The Authority considers that this cost is part of O&M contract therefore it finds no justification to allow this cost separately. The Authority during hearing directed



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SECL to provide copy of the O&M contract, which SECL did not provide. The Authority has therefore decided to disallow US\$1.053 million, which was allowed in the previous determination of August 2006 as it failed to substantiate by documentary evidence.

9.4 Similarly the cost of first fill of lubes & chemicals is the responsibility of EPC contractor, therefore US\$0.5 million previously allowed in the non-EPC portion of project cost is being disallowed.

10. ORDER

The Authority has assessed the project cost as per the breakup given hereunder;

i)	EPC;	Million US\$
	Supply Contract	138.85
	Construction Contract	20.00
	Reference Rupee/Dollar parity	60
ii)	Non-EPC	16.714
iii)	Withholding Tax on Local Services	1.806
iv)	Financial Advisory Fee	2.927
v)	Custom Duties	6.943
vi)	IDC	15.557

Based upon the above assessment of Project Cost the Reference Tariff determined by the Authority is indicated in the following table;

Reference Tariff

Tariff Components	Year 1 to 10	Year 11 to 30	Indexation
Capacity Charge (PKR/kW/Hour)			
O&M Foreign	0.0652	0.0652	US\$ to Rupee
O&M Local	0.0434	0.0434	WPI
Cost of Working Capital *	0.0163	0.0163	KIBOR
Insurance	0.0703	0.0703	US\$ to Rupee
Debt Service	0.8626	-	KIBOR
Return on Equity	0.2492	0.2492	US\$ to Rupee
ROE during Construction	0.0228	0.0228	US\$ to Rupee
Total Capacity Charge	1.3297	0.4671	
* In case of HSD plant operation on HSD cost of working capital shall be paid on 15 days inventory level basis as Rs. 0.0351/kW/hour			
A) Energy Charge on Operation on Gas			
Rs./kWh			
Fuel Cost Component	1.7787	1.7787	Fuel Price
Variable O&M	0.1746	0.1746	\$ to Rupee
B) Energy Charge on Operation on HSD			
Rs./kWh			
Fuel Cost Component	6.7151	6.7151	Fuel Price
Variable O&M	0.2520	0.2520	\$ to Rupee

- Note: i) Capacity Charge Rs./kW/hour applicable to dependable capacity at the delivery point.
ii) Dispatch criterion will be Energy Charge.
iii) The above tariff is applicable for a period of 30 years commencing from the date of the Commercial Operation.
iv) Component wise tariff for operation on Gas and HSD is indicated at Annex-I & II.



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Pursuant to Rule 6 of the NEPRA Licensing (Generation) Rules 2000, Sapphire Electric Company (Pvt.) Ltd. is allowed to charge, subject to adjustment of Capacity Purchase Price on account of net dependable capacity as determined by test jointly carried out by Central Power Purchasing Agency (CPPA) and the petitioner, the above mentioned tariff for delivery of electricity to CPPA of NTDC for procurement on behalf of Ex-WAPDA Distribution Companies. The following indexations shall be applicable to reference tariff;

I. One Time Adjustment

a) Adjustment due to variation in net capacity

The reference tariff has been determined on the basis of minimum net capacity of 209 MW at delivery point at mean site conditions. All the tariff components except fuel cost component shall be adjusted at the time of COD based upon the IDC tests to be carried out for determination of contracted capacity for operation on both fuels i.e. Gas & HSD. If the IDC is established higher than 209 MW, the adjustments shall be made according to the following formula:

- i) O&M Foreign = 0.0652/tested IDC x 209MW
- ii) O&M Local = 0.0434/tested IDC x 209MW
- iii) Insurance = 0.0703/tested IDC x 209MW
- iv) Cost of Working Capital-Gas = 0.0163/tested IDC x 209MW
- v) Cost of Working Capital-HSD = 0.0349/tested IDC x 209MW
- vi) Debt Service = 0.8626/tested IDC x 209MW
- vii) Return on Equity = 0.2492/tested IDC x 209MW
- viii) ROE during Construction = 0.0228/tested IDC x 209MW
- ix) Variable O&M - Gas = 0.0218+0.1528/tested IDC x 209MW
- x) Variable O&M - HSD = 0.0218+0.2302/tested IDC x 209MW

b) Debt Service, Return on Equity (ROE) and Return on Equity during Construction (ROEDC) shall be adjusted at COD as per actual based upon the authentic documentary evidence to be provided by SECL on account of following variations;

- i) Financial Advisory Fee (subject to the maximum of 1.2% of the borrowing);
- ii) Custom Duties & Taxes
- iii) Interest During Construction;
- iv) Change in Financing Structure due to change debt-equity ratio.

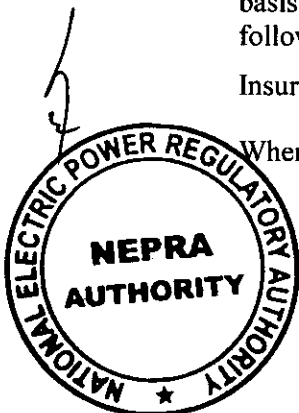
c) Adjustment in Insurance as per actual

The actual insurance cost for the minimum cover required under contractual obligations with the Power Purchaser not exceeding 1.35% of the EPC cost will be treated as pass-through. Insurance component of reference tariff shall be adjusted as per actual on yearly basis upon production of authentic documentary evidence by SECL according to the following formula;

$$\text{Insurance (Revised)} = \text{AIC}/\$2.144 \text{ million} \times \text{AP}$$

Where;

- AIC = Adjusted Insurance Component as per IDC Test
- AP = Actual Premium



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II. Pass-Through Items

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

Withholding tax is also a pass-through item just like other taxes as indicated in the government guidelines for determination of tariff for new IPPs. Withholding tax shall be paid on return @ 15% of the reference equity. CPPA (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% equity according to the following formula:

$$\text{Withholding Tax Payable} = \{15\% * (E_{(REF)} - E_{(Red)})\} * 7.5\%$$

Where:

$E_{(REF)}$ = Reference Equity (US\$ 50.699 million x 60)

$E_{(Red)}$ = Equity Redeemed

$ROEDC_{(REF)}$ = Reference Return on Equity During Construction

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 as a pass-through from the Power Purchaser in future on the basis of the total dividend pay out.

III. Indexations:

The following indexation shall be applicable to the reference tariff as follows;

a) Indexation applicable to O&M

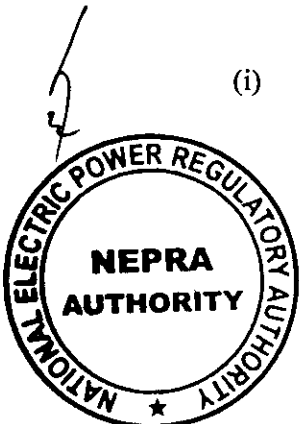
In future the 40% of Fixed O&M part of Capacity Charge will be adjusted on account of average quarterly local Inflation (WPI) and 60% on account of variation in average quarterly US CPI and dollar/Rupee exchange rate. Quarterly adjustment for local inflation, foreign inflation and exchange rate variation will be made on 15th July, 15th October, 15th January and 15th April based on the average of the available information with respect to average WPI notified by the Federal Bureau of Statistics (FBS), average US CPI issued by 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

$$F \text{ O\&M-Local}_{(Rev)} = \text{Rs. } 0.0434/\text{kW/Hour} * WPI_{(REV)} / 117.45$$

$$F \text{ O\&M-Foreign}_{(Rev)} = \text{Rs. } 0.0652/\text{kW/Hr} * US \text{ CPI}_{(REV)} / * ER_{(REV)} / 60$$

Where:



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- $F O\&M_{(LREV)}$ = 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)
- $WPI_{(REF)}$ = 117.45 average quarterly wholesale price index (manufacturers) for the quarter ending April 2006 notified by Federal Bureau of Statistics
- $US\ CPI_{(REV)}$ = The revised average quarterly US CPI
- $US\ CPI_{(REF)}$ = 200 (average quarterly US CPI for the quarter ending April 2006 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 reference numbers indicated above shall be replaced by the revised numbers after incorporating the required adjustments at COD.

- $WPI_{(REV)}$ = The Revised wholesale Price Index (manufactures)
- Reference WPI = 117.45 average quarterly wholesale price index (manufactures) for the quarter ending April 2006 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

Note: The reference numbers indicated above shall be replaced by the revised numbers after incorporating the required adjustments at COD.

(ii) Variable O&M

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

$$V\ O\&M\text{-Gas}_{(REV)} = \text{Rs. } 0.1746 \text{ per kWh} * US\ CPI_{(REV)}/200 * ER_{(REV)} / 60$$

$$V\ O\&M\text{-HSD}_{(REV)} = \text{Rs. } 0.2520 \text{ per kWh} * US\ CPI_{(REV)}/200 * ER_{(REV)} / 60$$

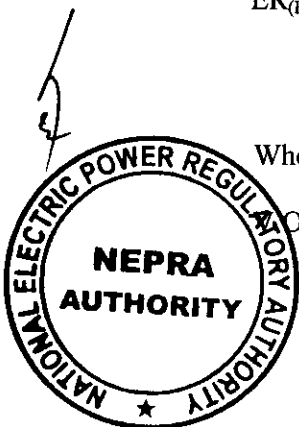
Where:

- $V\ O\&M\text{-Gas}_{(REV)}$ = The revised applicable Variable O&M Component of the Energy Charge indexed with US CPI and Exchange rate variations
- $V\ O\&M\text{-HSD}_{(REV)}$ = The revised applicable Variable O&M Component of the Energy Charge indexed with US CPI and Exchange rate variations
- $US\ CPI_{(REV)}$ = The revised average quarterly US CPI
- $US\ CPI_{(REF)}$ = 200 (average quarterly US CPI for the quarter ending April 2006 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 reference VO&M indicated above shall be replaced with the revised number at COD after incorporating the required adjustment based upon the IDC Test.

Where:

- $V\ O\&M\text{-Gas}_{(REV)}$ = The revised applicable Variable O&M Component of Energy Charge indexed with currency fluctuation.



✓



$V O\&M-HSD_{(REV)}$ = The revised applicable Variable O&M Component of Energy Charge indexed with currency fluctuation.

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

Note: The reference VO&M indicated above shall be replaced with the revised number at COD after incorporating the required adjustment based upon the IDC Test.

b) Adjustment for KIBOR 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 KIBOR according to the following formula;

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 9.0\%) / 4$$

Where:

ΔI = the variation in interest charges applicable corresponding to variation in quarterly KIBOR. ΔI can be positive or negative depending upon whether KIBOR REV > or < 9.05%. 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.

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 as and when notified by the relevant authority, which in the instant case is the Oil & Gas Regulatory Authority (OGRA). In this regard, the variation in SECL's allowed rate relating to fuel cost shall be revised according to the following formula:

$$FC-Gas_{(Rev)} = Rs. 1.7787 \text{ per kWh} * FP_{(Rev)} / Rs. 266.83 \text{ per MMBTU}$$

Where:

$FC-Gas_{(Rev)}$ = Revised fuel cost component of Variable Charge on gas

$FP-Gas_{(Rev)}$ = The new price of gas as notified by the relevant Authority per MMBTU of fuel adjusted for LHV-HHV factor.

$$FCd_{(Rev)} = Rs. 6.7153 \text{ per kWh} * [FPd_{(Rev)} \text{ Rs. per MMBTUs}] / Rs. 954.27 \text{ per MMBTU (Excl-GST)}$$

Where:

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

$FPd_{(Rev)}$ = The new price of diesel as notified by the relevant Authority per Litre of fuel adjusted for NCV-GCV factor, Specific gravity and Calorific value (Gross)

Reference values used in the calculations;





HSD Fuel price with GST (GCV)	Rs. 37.29 per litre
GST	15%
HSD fuel Price without GST (GCV)	Rs. 32.43 per liter
HHV-LHV Adjustment Factor	1.06
HSD Fuel Price without GST (NCV)	Rs. 34.37 per litre
HSD Fuel Price without GST	Rs. 954.27 per MMBTU*
* Calculated by using the following reference values	
Reference Specific Gravity @ 15 °C or 15.6 °C	0.84
Reference Calorific Value (Gross)	42,880 BTUs/Kg

- ii). In case of adjustment in HSD fuel component, SECL shall submit request for adjustment duly supported with the supplier's certificate indicating flash point, specific gravity and calorific value duly verified by the power purchaser. The Power Purchaser shall make all necessary arrangements to satisfy it regarding the Authenticity and validity of the information provided by SECL. In case of any dispute or discrepancy the power purchaser shall seek third party verification which for technical issues shall be HDIP and for price issues shall be OGRA. SECL shall be allowed immediate adjustment by the Authority within 7 days of such request with requisite certificates and verifications.
- iii). Adjustment on account of inflation, foreign exchange variation, KIBOR variation and fuel price variation will be approved and announced by the Authority within seven working days after receipt of SECL's request for adjustment in accordance with the requisite indexation mechanism stipulated herein.
- iv). Any change or modification regarding application of US CPI on foreign component of O&M cost and application of local CPI instead of WPI on local component of O&M cost made through GOP Policy shall also be applicable to SECL. However the change or modification shall be applicable from the date of issue of such Policy and shall not be applicable retrospectively.

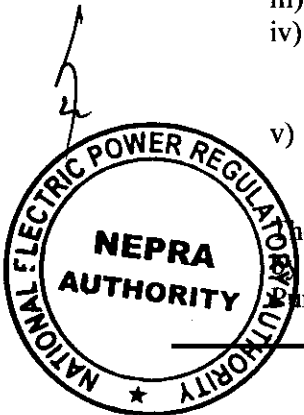
Incentive for Early Commissioning

In case SECL achieves Commercial Operation Date (COD) prior to October 31st, 2008, an incentive equivalent to Rs. 0.1795 per kW per hour shall be paid in addition to the normal capacity payment during the period commencing from COD till October 31st, 2008.

Terms and Conditions of Tariff:

- i) Use of Gas only will be considered as primary fuel.
- ii) All new equipment will be installed and the plant will be of standard configuration.
- iii) Dispatch criterion will be based on the Energy Charge.
- iv) Diesel oil will be used only for startups and other contingent requirements. Use of Diesel oil shall be allowed in accordance with the GOP's fuel policy announced from time to time.
- v) General assumptions of SECL which are not covered in this determination may be dealt with in the PPA according to its standard terms.

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

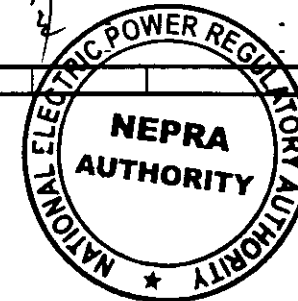


SPECIFIED TARIFF- SAPPHIRE ELECTRIC COMPANY LIMITED
PLANT OPERATION ON GAS

Year	Energy Charge (Rs/kWh)			Capacity Charge Rs/kW per Hour											Total Tariff Rs/kWh	
	Fuel	Variable O&M	Total	Fixed O&M	Insurance	W.C	ROE DC	ROE	Withholding tax on div	Sub Total	Debt Servicing Foreign	Debt Servicing Local	Total Debt Servicing	Total Capacity charge		
														Rs/kW/hr		Rs/kW/hr @60% PF
1	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
2	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
3	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
4	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
5	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
6	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
7	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
8	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
9	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
10	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	0.8626	0.8626	1.3501	2.2501	4.2034
11	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
12	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
13	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
14	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
15	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
16	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
17	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
18	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
19	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
20	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
21	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
22	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
23	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
24	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
25	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
26	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
27	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
28	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
29	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
30	1.7787	0.1746	1.9533	0.1086	0.0703	0.0163	0.0228	0.2492	0.0204	0.4875	-	-	-	0.4875	0.8125	2.7658
Levelised	1.7787	0.1746	1.9533											1.0498	1.7496	3.7029

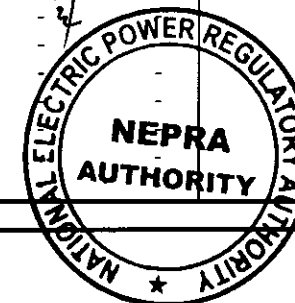
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SPECIFIED TARIFF - SAPPHIRE ELECTRIC COMPANY LIMITED
PLANT OPERATION ON DIESEL

Year	Energy Charge (Rs/kWh)			Capacity Charge Rs/kW per Hour										Total Capacity charge		Total Tariff
	Fuel	Variable O&M	Total	Fixed O&M	Insurance	W.C	ROE DC	ROE	Withholding tax on div	Sub Total	Debt Servicing Foreign	Debt Servicing Foreign	Total Debt Servicing	Rs/kW/Hr	Rs/kWh at 60% LF	
																Rs/kWh
1	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
2	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
3	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
4	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
5	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
6	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
7	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
8	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
9	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
10	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	0.8626	0.8626	1.3687	2.2812	9.2483
11	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
12	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
13	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
14	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
15	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
16	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
17	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
18	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
19	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
20	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
21	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
22	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
23	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
24	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
25	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
26	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
27	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
28	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
29	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
30	6.7151	0.2520	6.9671	0.1086	0.0703	0.0349	0.0228	0.2492	0.0204	0.5061	-	-	-	0.5061	0.8436	7.8107
Levelised			6.9671											1.0684	1.7806	8.7478



Cents

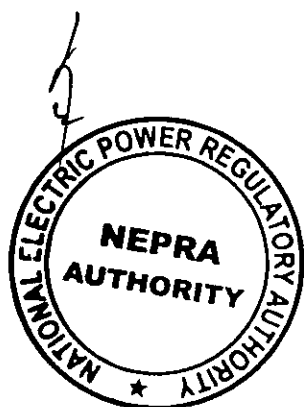
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Loan Repayment		(Quarterly)	
LOAN AMOUNT		PKR	9,125,854
PERIOD			10
NO. OF INSTALLMENTS			40
NO. OF INSTALLMENT / YEAR			4
DEBT SERVICE RESERVE ACCOUNT / INSTALLMENTS			0
RATE OF INTEREST (%) per Annum			12.00%

DETAILED REPAYMENT SCHEDULE

QUARTER	YEAR	Principal Repayment	Interest	Principal Outstanding	Installment	Installment per Month
Repayment Schedule				9,125,854		
1	1	121,031	273,776	9,004,823	394,806	131,602
2		124,661	270,145	8,880,162	394,806	131,602
3		128,401	266,405	8,751,761	394,806	131,602
4		132,253	262,553	8,619,507	394,806	131,602
5	2	136,221	258,585	8,483,286	394,806	131,602
6		140,308	254,499	8,342,979	394,806	131,602
7		144,517	250,289	8,198,462	394,806	131,602
8		148,852	245,954	8,049,610	394,806	131,602
9	3	153,318	241,488	7,896,292	394,806	131,602
10		157,917	236,889	7,738,374	394,806	131,602
11		162,655	232,151	7,575,720	394,806	131,602
12		167,535	227,272	7,408,185	394,806	131,602
13	4	172,561	222,246	7,235,624	394,806	131,602
14		177,737	217,069	7,057,887	394,806	131,602
15		183,070	211,737	6,874,818	394,806	131,602
16		188,562	206,245	6,686,256	394,806	131,602
17	5	194,218	200,588	6,492,037	394,806	131,602
18		200,045	194,761	6,291,992	394,806	131,602
19		206,046	188,760	6,085,946	394,806	131,602
20		212,228	182,578	5,873,718	394,806	131,602
21	6	218,595	176,212	5,655,124	394,806	131,602
22		225,152	169,654	5,429,971	394,806	131,602
23		231,907	162,899	5,198,064	394,806	131,602
24		238,864	155,942	4,959,200	394,806	131,602
25	7	246,030	148,776	4,713,170	394,806	131,602
26		253,411	141,395	4,459,759	394,806	131,602
27		261,013	133,793	4,198,746	394,806	131,602
28		268,844	125,962	3,929,902	394,806	131,602
29	8	276,909	117,897	3,652,993	394,806	131,602
30		285,216	109,590	3,367,776	394,806	131,602
31		293,773	101,033	3,074,004	394,806	131,602
32		302,586	92,220	2,771,418	394,806	131,602
33	9	311,664	83,143	2,459,754	394,806	131,602
34		321,014	73,793	2,138,740	394,806	131,602
35		330,644	64,162	1,808,096	394,806	131,602
36		340,563	54,243	1,467,533	394,806	131,602
37	10	350,780	44,026	1,116,753	394,806	131,602
38		361,304	33,503	755,450	394,806	131,602
39		372,143	22,663	383,307	394,806	131,602
40		383,307	11,499	(0)	394,806	131,602



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