



National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

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E-mail: registrar@nepra.org.pk

No.NEPRA/R/TRF-125/SECL-2009/9201-9203
September 17, 2009

Subject: Determination of the Authority in the Matter of Tariff Petition filed by Sapphire Electric Company Ltd. (SECL) [Case # NEPRA/TRF-125/SECL-2009(3)]

Intimation of Determination of Tariff pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997)

Dear Sir,

Please find enclosed the subject Determination of the Authority along with Annexure-I, II & III (19 pages) in Case No. NEPRA/TRF-125/SECL-2009 (3).

2. The Determination is being intimated to the Federal Government for the purpose of notification of the approved tariff in the official gazette pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997) and Rule 16(11) of the National Electric Power Regulatory Authority Tariff (Standards and Procedure) Rules, 1998.

3. Please note that only Order of the Authority at para 12 of the Determination relating to the reference tariff, adjustments & terms and conditions along with Annexure-I, II & III needs to be notified in the official gazette.

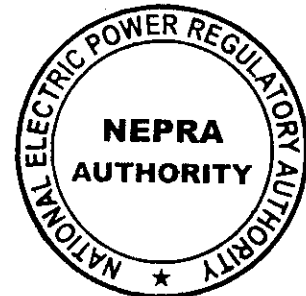
Enclosure: As above

The Secretary
Cabinet Division
Government of Pakistan
Cabinet Secretariat
Islamabad

CC:

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


(Arshad Mehmood)



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

Case No. NEPRA/TRF-125/SECL-2009

DETERMINATION

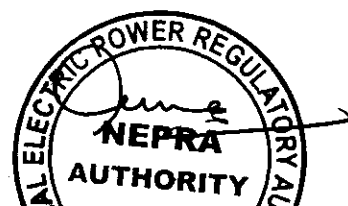
OF

TARIFF PETITION

Filed by

**SAPPHIRE ELECTRIC
COMPANY LIMITED (SECL)**

September 16, 2009



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

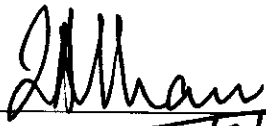
Case No. NEPRA/TRF-125/SECL-2009

Petitioner

Sapphire Electric Company Limited (SECL)

Authority


Zafar Ali Khan
Member


10/9/09

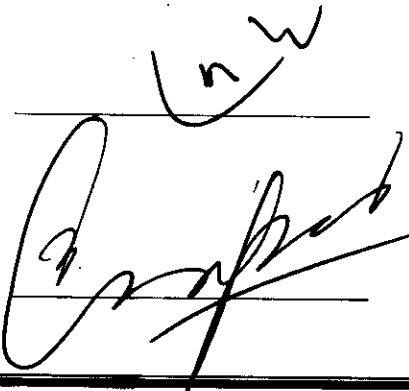
Ghiasuddin Ahmed
Member


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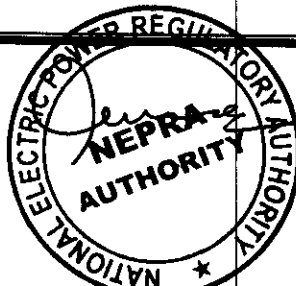
Shaukat Ali Kundi
Member


14.09.09

Maqbool Ahmad Khawaja
Vice Chairman/Member


14.09.09

Khalid Saeed
Chairman



**Determination of the Authority in the matter of
Tariff Petition filed by Sapphire Electric Company Limited (SECL) Case
No. NEPRA/TRF-125/SECL-2009**

Sapphire Electric Company Limited (hereinafter referred to as "SECL") filed third petition on February 2, 2009 (received on February 10, 2009) Tariff Modification Petition pursuant to the provisions of Section 31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, (1997) (the "Act") read with Rule 3 of the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998 (the "Rules") for modification of generation tariff in respect of its 235 MW Gross (ISO) Combined Cycle Power Plant located at Sheikhpura-Muridke Road, District Sheikhpura, Punjab. Salient features of the Tariff Petition were advertised in the newspapers on May 09, 2009 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. Individual letters were also sent to the stakeholders to participate in the tariff setting process.

2. A public hearing on the Petition was held on May 25, 2009 at NEPRA main office Islamabad. The hearing was participated by the applicant, power purchaser, PPIB and the general public.

3. **Relief Sought**

3.1. SECL made the following submissions in its petition:

- Modification of the Tariff by increasing the fixed EPC cost to US\$ 186.011 Million, comprising US\$ 156.769 million against the Offshore contract and the US\$ 29.242 million against Onshore contract.
- Other components of the tariff which require upward revision on account of the revision in the EPC Price.
- Tariff Component for the Working Capital.
- All other matters determined by the Authority pursuant to the Tariff Ruling for which no change has been requested herein may remain the same as per the Tariff Ruling.

3.2 SECL provided a comparison of existing and proposed tariff based on the reference values as given hereunder:



Description	Existing	Proposed
EPC Cost (US\$ Million)	158.850	186.011
Total Project Cost (US\$ Million)	202.797	234.805
Tariff- Gas (Rs/kWh)	3.7029	3.9394
Tariff Gas (US cent/kWh)	6.1714	6.5655
Tariff HSD (Rs/kWh)	8.7478	9.0870
Tariff HSD (US cent/kWh)	14.5796	15.1450

GROUNDINGS FOR FILING THE PETITION

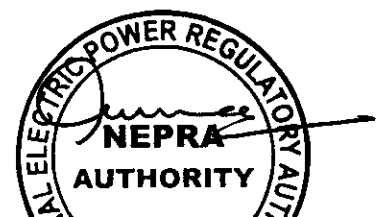
4. Increase in the EPC Cost

4.1 SECL submitted that at the time of EPC Contract negotiation, the E&P Contractor required the Contract price to be in Euro instead of US\$. However, the Power Policy did not allow such indexation at that time. The Company further asked the Authority to allow for hedging costs, which was also not allowed due to lack of provision in the Policy. Consequently, the Company had no choice but to finalize the Contract Price in US\$ and pass on the exchange rate fluctuation risk on to the Contractors. The E&P Contractor tabled quite a number of possibilities including currency split in Contract Price; Euro based contract or Dollar Contract with hedging against fluctuation of certain currencies. However the E&P Contractor was compelled to accept the US\$-based contract price without any hedging allowance, which it did so reluctantly irrespective of the fact that the proposals of the vendors/suppliers specified the prices indexed either with Euro or Czech Crown regardless of the E&P Contractor's arrangements with the Company.

4.2 During the period that the project was in the procurement phase in later half of 2007 and early 2008, the US\$ started devaluing significantly against the Euro and Czech Crown. The procurement could not be delayed at that point as the Project timelines were prohibitive of delaying the procurement. SECL submitted that the trends started reversing in later half of 2008; but till that time most of equipment was already procured by the E&P Contractor. These factors, and others, resulted in actual cost of CKD Export (the E&P Contractor) to execute the project exceeding the agreed contract value by a sizeable margin.

4.3 SECL further submitted that in addition to the above, the following factors also contributed towards increase in the EPC contract price:

- a) Security situation in Pakistan
- b) Global rapid raw material cost increase (primarily metals and crude oil)
- c) Equipment cost increase (market tightness)
- d) Others (transportation, sea freight, NTDC's additional requirements, etc)



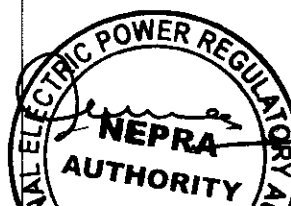
- e) Unprecedented construction material price increase (structure steel, reinforcement bar steel, cement, diesel etc)
- f) Local labour price increase because of legislation
- g) Runaway inflation in Pakistan
- h) Large scale emigration of skilled and semi-skilled labor
- i) Local market situation — a lot of new projects kick-started.
- j) Potential Bankruptcy of the EPC Contractor

5. Working Capital

5.1 SECL submitted that the existing tariff for the Company includes a working capital provision of PKR.0.0163/KWh for gas months and PKR 0.0349/KWh for non-gas months for financing the High Speed Diesel ("HSD") inventory as required under the Power Purchase Agreement ("PPA") dated 19 February 2007 between the Company and National Transmission & Dispatch Company ("NTDC"). However the Company would like to draw the attention of the Authority towards a number of other funding gaps for which an appropriate provision is required. SECL submitted that such working capital requirements would adversely affect the Company's IRR and might reduce it from 15% to 12.56%. The Company will require financing to fill the funding gap created due to difference in timing of due dates for fuel payments and the actual reimbursement of fuel costs from NTDC. Attempts to reconcile the billing cycles were not successful as these dates were imposed on the Company as part of the billing and payment practices of the relevant entities. Thus the company is required to bridge the funding gap of about PKR 310 million for minimum of 16 days. The relevant provisions of both the agreements are given below:

- As per Section 9.3 of GSA, SNGPL shall invoice the Company for the gas delivered during the preceding month on or after first day of the following month. Payment of the same is to be made within fifteen days of submission of the invoice.
- Whereas under Sections 9.5(b) and 9.6(a)(i) of the PPA, the Company will invoice NTDC for Energy Payment Price (EPP) on or after the first day of the month following the month to which EPP relates. NTDC shall make the payment of the same by thirtieth day following the day of submission of the invoice i.e. 31st day.
- Thus from above it is apparent that the Company shall be paying to SNGPL on 15th day of each month, whereas shall be receiving the payment from NTDC on and after 31st day. Therefore, assuming that NTDC makes timely payments, the Company shall be required to bridge

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the time lag of sixteen days through working capital line. The indicative working of the financial burden.

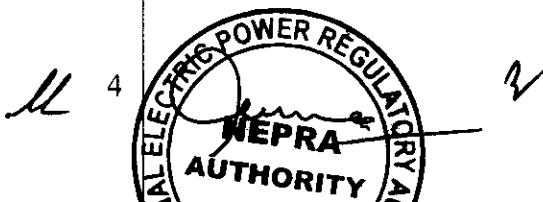
Bridge Financing Requirement- Energy Payment in HSD Months

5.2 SECL submitted that the Company has HSD as secondary fuel and during gas non availability period the Company is required to run the plant on HSD. The Company will require financing to fill the funding gap created due to difference in timing of due dates for fuel payments and the actual reimbursement of fuel costs from NTDC. The Company is required to bridge the funding gap of about PKR 1.11 billion for minimum of 32 days assuming the plant will be dispatching the power on 60%. SECL submitted the following details:

- Under the HSD Supply Agreement ("HSDSA") dated 28th February 2007 signed between the Company and Shell Pakistan Limited ("Shell"), the Company has to make the payment for fuel deliveries in advance i.e. seven days ahead of the week during which deliveries are to be made by Shell.
- The Company would invoice NTDC for its EPP invoice after consuming HSD inventory for eight (8) days. Assuming a despatch factor of 60%, fuel worth eight days of inventory will be consumed in 13.33 days.
- The invoice will be settled by NTDC after ten (10) days.
- Therefore during any non gas month there is a minimum time lag of 32 days $7+8/60\%+ 10+1=32$) days for which a working capital finance facility is required assuming that NTDC makes timely payments.

Non-Funded Working Capital Line - SNGL Guarantee

5.3 SECL submitted that according to the Section 8.3 of the GSA, the Company is required to provide security in the shape of a bank guarantee to SNGPL equivalent to three months of gas bill. On this guarantee, the Company would pay annual commission to the issuing bank calculated @ 1.6% per annum. Thus by incorporating all the above working capital requirement the existing tariff component of working capital needs to be revised from PKR 0.0349/KWh to PKR 0.1264/Kwh. The above calculation requirements are determined by taking into account the reference numbers for KIBOR (3-months), Gas and HSD Price used in the original tariff determination of the Company. Based on this, true up would be required at the Commercial Operation Date for KIBOR (3-months), Gas and HSD prices together with other items of true up. Thereafter the working capital component of tariff would be indexed to KIBOR (3- months) and fuel prices for Gas and



HSD) on a quarterly basis. Further to this it is to be noted that the above requirement does not include any bank charges as well as any margin requirements against such working capital limits to be approved by the lenders. In case any such conditions will be applied by the lenders the working capital requirements will change accordingly.

Issues

6. The following issues have emerged from the submissions of the petitioner, proceedings of the case and comments offered by the Power Purchaser, which have been separately discussed hereunder.

- i) Increase in the EPC Cost
- ii) Working Capital Requirements

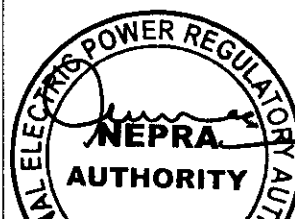
7. Increase in the EPC Cost

7.1 The Petitioner has submitted that its EPC cost has increased by US\$ 27.161 million from the fixed EPC contract price of US\$ 158.850 million. The Petitioner has attributed this increase to the exchange rate fluctuations, inflation, equipment prices, raw material costs (steel, cement & fuel etc). In support of its claim the petitioner has submitted the paid invoices of the EPC Contractor to its suppliers/subcontractors. A comparison of the existing and proposed EPC price as per submissions of the petitioner is summarized hereunder.

Category	Existing US\$ Million	Proposed US\$ Million	Proposed Increase US\$ Million
Offshore Contract	138.850	156.769	17.919
Onshore Contract	20.000	29.242	9.242
Total	158.850	186.011	27.161

7.2 The examination of the documentary evidence i.e. E&P Contract with Skoda Export (now CKD Export) and Construction Contract with Albario Engineering Private Limited together the EPC Contract, revealed that the Petitioner has signed a fixed price contract in a single currency i.e US Dollars with the EPC contractors. The EPC contract does not provide for adjustment of cost due to variation in exchange rates of US dollar against other currencies i.e. Euro, Pound Sterling or yen as available under the GOP Policy for Power Generation Projects 2002. Detailed scrutiny of the documents provided by the Petitioner revealed that EPC Contractor has signed sub-contracts with the equipment manufacturers/suppliers in different currencies mainly in CZK Crown. However, sub-contract for light fuel oil storage and standby Diesel generator is in Euro currency (equivalent US\$ 3.51 million), while sub-contracts for rest of the plant and

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equipment are either in USD (gas turbines) or Czech Crown (all other plant & equipment).

7.3 In view of the aforesaid it is quite evident that SECL's liability towards its EPC contractor is limited to the extent of fixed EPC contract price of US\$ 158.850 million which is binding on both the parties. The increase in the EPC cost as sought by the EPC contractor is his liability and the company can not be made responsible and liable either legally or commercially for payment of any amount over the contracted price. The EPC contractor while signing the fixed price EPC Contract must have taken into account the risk factor for future increases in the material and equipment cost due to exchange rate fluctuations and other inflationary impacts on the cost, during the period of project construction. Based on the aforesaid, the increase in the EPC cost sought by the Petitioner is not justified.

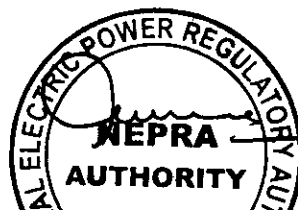
7.4 Further, the option to amend EPC contract with provision for adjustment of EPC cost due to exchange rate variation of US\$ against the applicable currencies under the Power Policy 2002 i.e. Euro, Pound Sterling, and yen (announced by GoP in May 2007) was available to SECL. The Petitioner, however, did not exercise this option, although it had already amended its EPC contract twice i.e. May 2007 and August 2007 subsequent to its signing on October 17, 2006. Therefore, an argument of the Petitioner that its EPC contractor signed the contract in single currency (USD) under compulsion is not maintainable as the commercial contracts are never signed under compulsion.

7.5 In view of pleadings of the case as well as documentary evidence provided by the Petitioner, the Authority considers that though GoP Power Policy 2002 does provide for adjustment of EPC price due to exchange rate fluctuations of other currencies such as Euro, Pound Sterling and Yen in equivalent US dollars at the time of COD as agreed in the EPC contracts, but in the instant case the claimed increase in the EPC cost due to exchange rate variation and other factors has not been substantiated through the documentary evidence (EPC contracts) of the Petitioner. The cost over run due to various factors as stated by the Petitioner is outside the scope of EPC Contract, and therefore, it is primarily EPC contractor's liability. The company is not bound to make good any loss incurred by the EPC contractor due to the reasons as stated in the preceding paragraphs. The Authority, has, therefore, decided that increase in the EPC cost based on the grounds as sought by the Petitioner is not justified and hence not allowed.

8. Working Capital Requirement

8.1. The petitioner has stated that the Authority has already allowed working capital component of Rs. 0.0163/kWh and Rs. 0.0349/kWh in the tariff for the fuel inventory during the gas months and non-gas months respectively. However, the Petitioner has requested that there are other funding gaps created due to difference in timing of due

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dates for fuel payments and actual reimbursement of fuel cost from the purchaser, for which an appropriate provision in its tariff is required. It has, therefore, referred to the following gaps for adequate provision of working capital component.

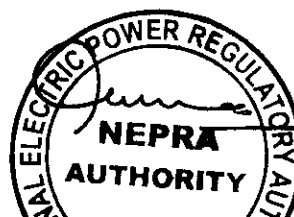
- i) Bridge financing requirements for 16 days time gap between payment of gas bills and energy payment by the power purchaser - Rs. 283.317 million.
- ii) Bridge financing requirement for 32 days of time gap between payment of HSD by the company to fuel supplier and actual recovery of cost from the power purchaser – Rs. 750.186 million.
- iii) Non-funded Working capital line to provide security in the shape of bank guarantee to SNGPL equivalent to three months of gas bill. The company would pay annual commission to the issuing bank calculated at 1.6% per annum- Rs. 838.307 million.

8.2 Based on the above working capital requirement and including the component of fuel inventories, the Petitioner has requested for the revised working capital component of tariff as Rs. 0.0636/kWh for gas months and Rs. 0.1439/kWh for the non-gas months at the reference fuel price and KIBOR rates.

8.3 The Authority in all other cases has allowed financing cost for the fuel inventory only and not allowed any financing cost on account of monthly time lag between actual payments and actual receipts by the company. Further, no cost on account of annual bank commission for the security on gas and difference between the actual payment and actual receipt of capacity charges have been allowed to any other IPP.

8.4 The power purchaser in its comments has also not supported working capital requirement of the company due to time lag between the cost of HSD payment and receipt during the non-gas months. According to the power purchaser (CPPA) it is ready to make certain amendments in Section 9.5© of the PPA in order to match the time line between receipt of payment of HSD consumed and its payment to the fuel supplier for re-filling of HSD oil stock. CPPA has proposed that the company shall consume HSD out of its 15 days fuel inventory and shall be entitled to invoice the power purchaser after every 8th day of plant operation on HSD. The power purchaser will make payment of HSD consumed by the company on or before the 10th day of receipt of invoice. In this way the company would get paid on or before 18th day of plant operation on HSD. According to the CPPA, 15 days stock of HSD will last for 25 days, for the plant shall be operated on HSD at 60% Plant Factor. In this way the company shall have still 7 days margin to refill its inventory level. According to the CPPA, as a result of this proposed amendment in the PPA, the time line will be changed and the requirement of bridge financing/working capital shall not be required.

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8.5 The Authority considers that the proposed arrangement of the power purchaser for reducing/eliminating the time lag between the fuel payments and receipts is reasonable and should therefore be incorporated in the Power purchase Agreement with the company. This billing arrangement would address substantially the company's requirement for bridge financing of the working capital.

8.6 In view of the above, the Authority has decided not to allow additional working capital as sought by the petitioner except for the 7 days fuel inventory (HSD) during the gas months and 15 days stock of fuel (HSD) during the non-gas months as already approved and allowed to SECL.

9. On the basis of already approved project cost for the company, the component wise tariff table for SECL attached to this determination as Annex-I, has been updated and modified in view of the following current reference numbers..

Component	Existing Reference	Revised
Fuel Price --Gas (Rs/MMBtu)	266.83	326.76
Fuel Price --HSD (Rs/Litre)	34.37	48.03
KIBOR+Margin	9%+3%	13.72%+3%
Exchange rate PKR/US\$	60.00	60.00

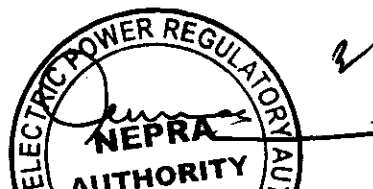
10. While the determination of the Authority in the matter was in process of finalization, SECL vide its letter No. SECL/NEPRA/307 dated July 29, 2009 informed the Authority that certain recent material developments with regard to issues relating to EPC contractor may have serious financial consequential effects on its project cost and, therefore, requested that the Authority may not issue determination in the aforesaid matter and defer its decision, *sine die*, till such time the matter is either resolved and/or situation is clarified.

11. The Authority considered the request of the SECL and decided that since the determination on the tariff petition has been processed and finalized based on the pleadings of the case, therefore, SECL's request cannot be entertained at this belated stage. SECL, however, has the option to come before the Authority at any time before or at the time of Commercial Operation Date (COD) of the power complex with a fresh tariff petition.

Order.

12. 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;

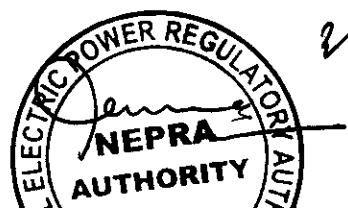
Reference Tariff

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 *	0.0348	0.0348	KIBOR
Insurance	0.0703	0.0703	US\$ to Rupee
Debt Service	1.0345	-	KIBOR
Return on Equity	0.2492	0.2492	US\$ to Rupee
ROE during Construction	0.0228	0.0228	US\$ to Rupee
Total Capacity Charge	1.5202	0.4857	
* In case of plant operation on HSD cost of working capital shall be paid on 15 days inventory level basis as Rs. 0.0745/kW/hour			
A) Energy Charge on Operation on Gas Rs./kWh			
Fuel Cost Component	2.1782	2.1782	Fuel Price
Variable O&M	0.1746	0.1746	\$ to Rupee
B) Energy Charge on Operation on HSD Rs./kWh			
Fuel Cost Component	9.9456	9.9456	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 the 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 respectively.
- v) Debt Service schedule is attached as Annex-III.

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) Fixed O&M Foreign	=	0.0652/tested IDC x 209MW
ii) Fixed O&M Local	=	0.0434/tested IDC x 209MW
iii) Insurance	=	0.0703/tested IDC x 209MW
iv) Cost of Working Capital-Gas	=	0.0348/tested IDC x 209MW
v) Cost of Working Capital-HSD	=	0.0745/tested IDC x 209MW
vi) Debt Service	=	1.0345/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 in 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;

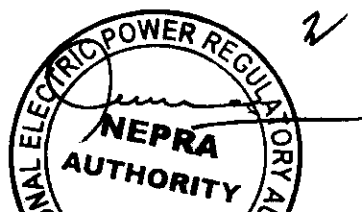
$$\text{Insurance (Revised)} = \text{AIC}/\$2,144 \text{ million} \times \text{AP}$$

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:

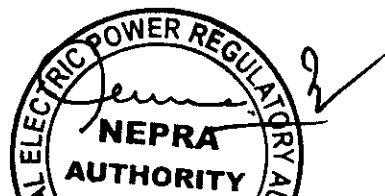
(i) Fixed O&M

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

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

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.

(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.

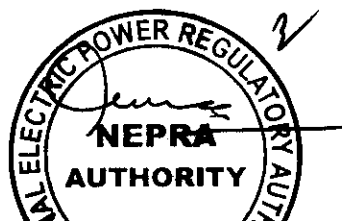
Note: The reference VO&M indicated above shall be replaced with the revised number at COD after incorporating the required adjustment based upon the IDC Test.

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;

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 13.72\%) / 4$$

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 < 13.72%. 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:

$$FC\text{-Gas}_{(Rev)} = \text{Rs. } 2.1782 \text{ per kWh} * FP_{(Rev)} / \text{Rs. } 326.76 \text{ per MMBTU}$$

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.

$$FCd_{(Rev)} = \text{Rs. } 9.9456 \text{ per kWh} * FPD_{(Rev)} / 48.03$$

Where:

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

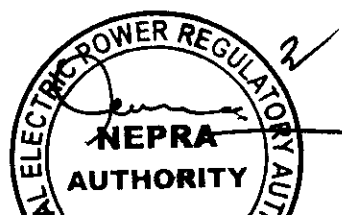
$FPd_{(Rev)}$ = The new price of diesel as notified by the relevant Authority in rupees per Litre excluding GST@16%.

- 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.

Terms and Conditions of Tariff:

- i) Use of Gas only will be considered as primary fuel.

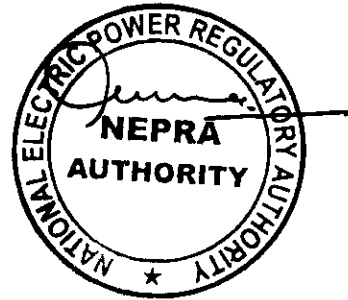
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- ii) All new equipment will be installed and the plant will be of standard configuration.
- iii) Dispatch criterion will be based on the Energy Charge.
- iv) Diesel oil will be used only for startups and other contingent requirements. Use of Diesel 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.

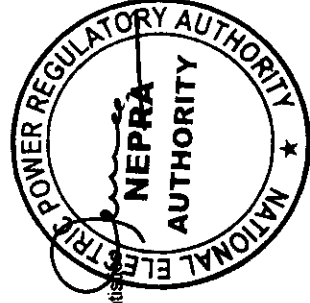
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**MODIFIED TARIFF- SAPPHIRE ELECTRIC COMPANY LIMITED
PLANT OPERATION ON GAS**

Year	Energy Charge (Rs/kWh)			Capacity Charge Rs/kWh/Hour										CPP		Tariff
	Fuel	Variable O&M	Total	Fixed O&M Local	Fixed O&M Foreign	Insurance	W.C	ROE DC	ROE	Withholding tax	Debt Interest	Debt Principal	60% Plant Factor	PKR Per kWh		
1	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.8205	0.2140	2.5676	4.9204		
2	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.7824	0.2521	2.5676	4.9204		
3	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.7375	0.2970	2.5676	4.9204		
4	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.6846	0.3499	2.5676	4.9204		
5	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.6224	0.4121	2.5676	4.9204		
6	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.5490	0.4855	2.5676	4.9204		
7	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.4626	0.5719	2.5676	4.9204		
8	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.3608	0.6737	2.5676	4.9204		
9	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.2409	0.7936	2.5676	4.9204		
10	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.0997	0.9348	2.5676	4.9204		
11	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
12	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
13	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
14	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
15	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
16	2.1782	0.1746	2.3628	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
17	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
18	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
19	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
20	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
21	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
22	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
23	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
24	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
25	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
26	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
27	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
28	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
29	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
30	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	-	-	0.8435	3.1962		
Levelised	2.1782	0.1746	2.3528	0.0434	0.0652	0.0703	0.0348	0.0228	0.2492	0.0204	0.3879	0.2864	1.9673	4.3200		



Net Capacity 209 MW
 Reference Exchange Rate PKR 60=1 US\$
 Reference Fuel Price (Gas) LHV PKR 326.76 per MMCFT
 Reference US CPI 200 average US CPI for the quarter ending April 2006 as notified by the US Bureau of Labor Statistics.
 Reference WPI (manufacturers) 117.45 average Wholesale Price Index for the quarter ending April 2006 as notified by the Federal Bureau of Statistics
 Net Efficiency 51.20%
 Levelized Tariff (at 60% plant factor) per kWh US Cent = 7.2000

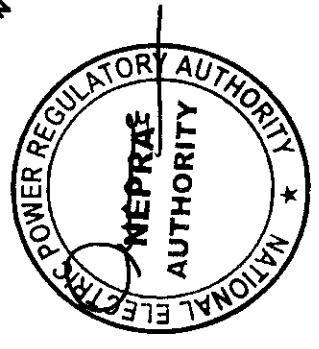
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**MODIFIED TARIFF - SAPPHIRE ELECTRIC COMPANY LIMITED
PLANT OPERATION ON DIESEL**

Year	Energy Charge (Rs/kWh)			Capacity Charge Rs/kWh Hour										CPP		Tariff
	Fuel	Variable O&M	Total	Fixed O&M Local	Fixed O&M Foreign	Insurance	Working Capital	ROE DC	ROE	Withholding tax on div	Interest Charges	Loan Repayment	Total Rs/kWh/Hr	60% Plant Factor	PKR Per kWh	
1	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.8205	0.2140	1.5803	2.6338	12.8315	
2	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.7824	0.2521	1.5803	2.6338	12.8315	
3	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.7375	0.2970	1.5803	2.6338	12.8315	
4	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.6846	0.3499	1.5803	2.6338	12.8315	
5	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.6224	0.4121	1.5803	2.6338	12.8315	
6	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.5490	0.4855	1.5803	2.6338	12.8315	
7	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.4626	0.5719	1.5803	2.6338	12.8315	
8	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.3608	0.6737	1.5803	2.6338	12.8315	
9	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.2409	0.7936	1.5803	2.6338	12.8315	
10	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.0997	0.9348	1.5803	2.6338	12.8315	
11	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
12	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
13	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
14	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
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16	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
17	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
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20	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
21	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
22	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
23	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
24	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
25	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
26	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
27	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
28	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
29	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
30	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	-	-	0.5458	0.9097	11.1073	
Levelised	9.9456	0.2520	10.1976	0.0434	0.0652	0.0703	0.0745	0.0228	0.2492	0.0204	0.3879	0.2864	1.2201	2.0335	12.2311	

Net Capacity 208 MW
 Reference Exchange Rate PKR 60=1 US\$
 Reference Fuel Price (HSD) Excl. GST PKR 48.03 per Litre
 Reference US CPI 200 average US CPI for the quarter ending April 2006 as notified by the US Bureau of Labor Statistics.
 Reference WPI (manufacturers) 117.45 average Wholesale Price Index for the quarter ending April 2006 as notified by the Federal Bureau of Statistics
 Net Efficiency 48.50%
 Levelized Tariff (at 60% plant factor) per kWh US Cent = 20.3852



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Quarter	Year	Principal Repayment	Interest	Outstanding	Instalment per Month
1		92	381	9,034	473
2		96	378	8,938	473
3		100	374	8,838	473
4		104	369	8,734	473
5	2	108	365	8,626	473
6		113	361	8,513	473
7		118	356	8,395	473
8		123	351	8,272	473
9	3	128	346	8,145	473
10		133	340	8,012	473
11		139	335	7,873	473
12		144	329	7,729	473
13	4	150	323	7,578	473
14		157	317	7,421	473
15		163	310	7,258	473
16		170	303	7,088	473
17	5	177	296	6,911	473
18		185	289	6,726	473
19		192	281	6,534	473
20		200	273	6,334	473
21	6	209	265	6,125	473
22		217	256	5,907	473
23		227	247	5,681	473
24		236	237	5,445	473
25	7	246	228	5,199	473
26		256	217	4,943	473
27		267	207	4,676	473
28		278	195	4,398	473
29	8	290	184	4,108	473
30		302	172	3,806	473
31		314	159	3,492	473
32		328	146	3,164	473
33	9	341	132	2,823	473
34		355	118	2,468	473
35		370	103	2,097	473
36		386	88	1,711	473
37	10	402	72	1,310	473
38		419	55	891	473
39		436	37	454	473
40		454	19	0	473

Repayment Schedule

DETAILED REPAYMENT SCHEDULE

LOAN AMOUNT	PERIOD	NO. OF INSTALLMENTS	NO. OF INSTALLMENT / YEAR	DEBT SERVICE RESERVE ACCOUNT / INSTALLMENTS	RATE OF INTEREST (%) per Annum
PKR 9,126	10	40	4	0	16.72%

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