



National Electric Power Regulatory Authority

Islamic Republic of Pakistan

2nd Floor, OPF Building, G-5/2, Islamabad.
Tel : 9207200,9205225 Fax : 9210215
E-mail: office@nepra.org.pk

No. NEPRA/R/TRF-50/SECL-2006/6261-63
August 3, 2006

Subject: Decision in respect of Motion for Leave for Review filed under Rule 16(6) of Tariff Rules on 26 June, 2006 by Sapphire Electric Company Ltd. (SECL) (Case No. NEPRA/TRF-50/SECL-2006)

Dear Sir,

In continuation of this office letter No. NEPRA/TRF-50/SECL-2006/5175-77 dated 15-06-2006 whereby determination of the Authority on Sapphire Electric Company Ltd. was sent. Please find enclosed herewith the decision of the Authority (15 pages) along with Annexes-I & II in the matter of subject Motion filed on 26 June, 2006 by Sapphire Electric Company Ltd. against Case No. NEPRA/TRF-50/SECL-2006.


2. Subsequent to the culmination of proceedings in the subject Motion for Leave for Review and the issuance/announcement of decision of the Authority (15 pages) along with Annexes-I & II 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) read with Rule 16(11) of the National Electric Power Regulatory Authority Tariff (Standards and Procedure) Rules, 1998.

3. Please be informed that the Reference Tariff earlier intimated vide para 47 of the Authority's determination dated June 15, 2006, stands revised to the extent as detailed in para-18 (08 pages) of the decision of the Authority on the subject motion along with Annexes-I & II (02 page) needs to be notified in the official Gazette.

DA/As above.

The Secretary,
Cabinet Division,
Government of Pakistan
Cabinet Secretariat,
Islamabad




03.08.06.
(Mahjoob Ahmad Mirza)

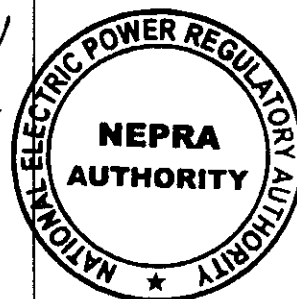
CC:

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

**Decision of the Authority in the Matter of Motion for Leave for
Review filed by Sapphire Electric Company Limited (SECL)
(Case No. NEPRA/TRF-50/SECL-2006)**

Sapphire Electric Company Limited (SECL) filed motion for recalculation under Rule 16(5) of Tariff Standards and Procedure Rule 1998 on June 21, 2006. The Authority considered the motion for recalculation in its meeting on June 23, 2006 and observed that the issues raised in the motion for recalculation were the subject of review therefore could not be processed under Rule 16(5). SECL filed motion for leave for review on June 26, 2006 and requested Authority's decision on the following issues:

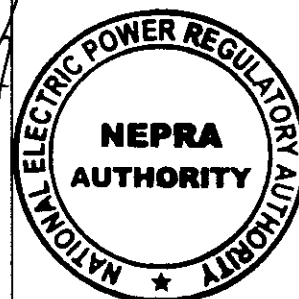
- A. Efficiency on HSD
 - B. Unresolved Issues
 - a. Hedging Costs approximately 5% of EPC
 - b. US CPI on Foreign Components in addition to FX Indexation
 - c. Local Indexation be allowed on CPI Instead of WPI
 - d. Debt Service Reserve Account ("DSRA") – USD 6 M
 - e. LC Confirmation Charges on Actual
 - C. Additional Requirement of Working Capital
 - D. Issues already filed under Motion for Recalculation
2. Prior to the date of hearing as per the decision of the Authority, SECL vide its letter no. N1-190706 dated July 19, 2006 requested the Authority to consider its motion for leave for review in light of their following set of assumptions:
- a) The Company is provided a favourable decision (the "Revised NEPRA Decision") in the motion for recalculation and removal of anomalies;
 - b) The revised NEPRA decision shall specify that in the event any of the issues outlined in our motion for leave for review are either (i) addressed by the GoP through a policy decision or otherwise and/or (ii) NEPRA determines favourably in the case of any other power projects and/or (iii) the terms of any Concession Agreements (IA, PPA or GSA) provide such relief to any other power project, then the company would be allowed such relief(s) Ex-Post Facto;



- c) The revised NEPRA decision shall further provide a categorical direction to the Power Purchaser to address/resolve the issue, relating to the requirement for working capital, in the PPA. In this regard, the Company proposes to reasonably increase the quantum of advance capacity payments (as against 70% in the current draft PPA) and the HSD costs be paid directly by the Power Purchaser to the fuel supplier when there is a requirement for the power plant to burn HSD;
 - d) The Company shall make every effort to cause its potential EPC contractor to optimize the efficiency on HSD operation consistent with the NEPRA Order.
3. Upon consideration of SECL's submissions, the Authority observed that issues on which decision of the Authority is required can be considered without conducting a formal hearing, particularly when CPPA has also filed its comments on SECL's tariff determination requesting for reconsideration of the Authority. Issue wise SECL's submission and Authority decision is as under:

Efficiency on HSD

4. According to SECL it has requested in its motion dated 12th June, 2006 for reduction in the plant efficiency to 51.2% on natural gas and 47.73% on HSD. The Authority has accepted SECL's request and allowed reduction of efficiency on natural gas (NG), however reduction of efficiency on HSD to 47.73% was not fully accepted and it was revised to 48.5% only. SECL submitted that EPC contractors are reluctant to guarantee 48.5% efficiency for HSD therefore efficiency of 47.73% on HSD plant operation may be allowed. SECL after re-evaluating its position has submitted that the Company shall make every effort to cause its potential EPC contractor to optimize the efficiency on HSD operation consistent with the NEPRA Order. The Authority considers that the issue of thermal efficiency for HSD stands settled now and requires no change in Authority's earlier decision of dated June 15, 2006.



Unresolved Issues

5. The Authority considered that the issues as per B above stand addressed at para 37 of the determination dated June 15, 2006 therefore need no further reconsideration.

Additional Requirement of Working Capital

6. According to SECL there are number of serious issues in the new PPA that expose the company to serious financial risks but the most serious is the payment of Energy Charge on the previous month basis and the payment of Capacity Charge up-to 70% as against 100% under the 1994 PPA. SECL will not be getting constant payment in all months of the year due to change in the calculation method i.e. calculations will be based on hourly declared availability and thus any changes in the site conditions, site temperature will have an impact on the payments to be made to the company. Accordingly, such delayed payments and/or calculations methods will result in a need of funds to bridge the gap between the company's payment obligations and its receipts. SECL requested that Authority may allow the Working Capital interest cost of approximately US\$ 0.25 m to US\$ 0.75 m per annum under different scenarios.
7. In Authority's opinion there are certain tariff components which are paid in advance to the Company i.e. return on equity, return on equity during construction and debt servicing etc., and the company would earn extra profit on it. This extra earning can to some extent reduce the additional cost of bridge financing. The requirement of bridge financing can further be avoided through reduction in billing cycle by the power purchaser in case of plant operation on HSD. The power purchaser should address this issue making necessary provisions in the PPA.

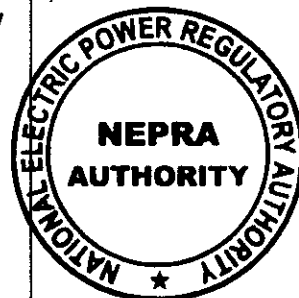
Issues already filed under Motion for Recalculation (Under Rule 16(5))

8. SECL submitted that the fuel cost component for HSD may be calculated in terms of MMBTU as done for the natural gas and include the reference values of fuel price, specific gravity and calorific value of HSD in the order because the calorific value and specific gravity of the HSD varies in much wider range from time to time and it is beyond the control of the Sponsors/SECL. The HSD fuel

✓

✓

✓



component should be adjusted according to MMBTU variation. Similarly working capital may also be linked with the prevailing fuel price based on MMBTU.

9. The Authority based its calculations of fuel cost component for HSD on the reference values of specific gravity and calorific value given in the Pakistan Energy Yearbook 2005. The numbers indicated in the Pakistan Energy Yearbook published by Hydro Carbon Development Institute of Pakistan (HDIP) were considered authentic and reliable. In response to Company's query HDIP vide letter No.HDIP/LAB-1/2006 has confirmed as follows:

| | |
|-----------------------------|-----------------------|
| Gross Calorific Value (GCV) | 19,400 Btu/lb |
| Net Calorific Value (NCV) | 18,267 Btu/lb |
| Specific Gravity | 0.84 15 °c or 15.6 °c |

10. According to HDIP the conversion of Gross to Net Calorific Value has been made according to the following formula;

$$4,309 + 0.7195 \times \text{GCV}$$

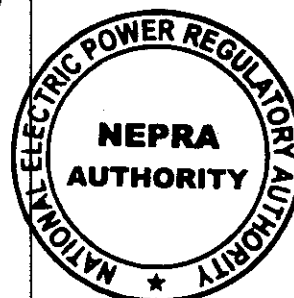
11. The Authority has also been informed that according to HDIP the reference calorific value appearing in the Energy Year-Book was established from the tests carried out in HDIP's laboratory at a flash point of 65 °C. The Authority has been further informed the calorific value of HSD is dependent upon the flash point and any variation in flash point would change the calorific value. This is also confirmed from the test report attached by SECL. According to the test report two samples were tested at flash point of 58 °C and 56°C; the resultant average gross calorific value BTU per Lb was 19,425 BTU per Lb. Based upon the evidence presented by SECL the adjustment in the reference values is accepted. Accordingly the reference specific gravity and calorific value for the purpose of calculation of fuel cost component of Energy Charge in case of plant operation on HSD are being revised as follows:

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

Handwritten signature/initials.

Handwritten mark.

Handwritten signature/initials.



HSD Fuel Price without GST

Rs.954.27per MMBTU*

* Calculated by using the following reference values

Reference Specific Gravity@ 15 °C or 15.6 °C 0.84

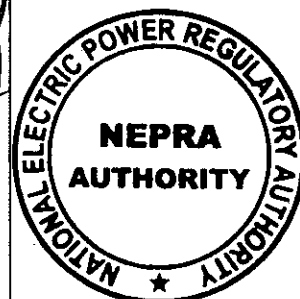
Reference Calorific Value (Gross) 42,880 BTUs/Kg

ROE & ROEDC

12. SECL has stated that in tariff petition the proposed equity was in Forex(USD) but no FX indexation has been expressly allowed on ROE and RODC in the order. This seems an anomaly as the same has been allowed by the Authority to Orient Power Company Limited.
13. Authority considers that SECL's contention is valid; it was an omission which is being rectified. Accordingly SECL's equity in Foreign Currency will be adjusted on account of Rupee/Dollar parity variation.

Typo Error

14. SECL has pointed out a typo error in the Annexure-I: Specified Tariff: Column Head "Debt Servicing". Debt is mistakenly written as "Foreign" whereas it should be written as "Local".
15. The Authority has considered SECL's submission and typo error has been rectified in the Annexure-I.
16. With reference to belated request of SECL dated July 19, 2006 for consideration of its motion for leave for review under particular assumptions the Authority observed that such conditionalities cannot be imposed for the implementation of NEPRA's decision. Changes in GoP policies do not fall within the prerogative of NEPRA and it is the sole domain of the GoP. Hence the Authority considers that SECL's request is not justified and against the settled legal principles. Under the NEPRA Act, the Authority decides in light of the relevant rules and regulations taking due regard of the prevalent policy and guidelines of the GoP. The Authority understands that GoP policy is announced for a particular period keeping in view the prevailing circumstances, applicable to anticipated projects. The cases decided under one policy cannot be adjusted/reopened under an other policy. The Authority's decisions are project specific; therefore SECL's request for making provision to get concession allowed to a later project(s) is not acceptable. In case GOP issues a policy which is applicable equally to



the IPPs coming under a previous GOP policy(ies); the Authority will reconsider the issue outlined in the Motion for Leave for Review.

17. As regards settlement of terms under IA, PPA and GSA, it is a matter between the parties to these agreements and required to execute such agreements in accordance with NEPRA's determination and the applicable law. It is, therefore, considered just and appropriate to determine the tariff for the petitioner in the terms mentioned in the Order attached here.

ORDER

18. Pursuant to Rule 6 of the NEPRA Licensing (Generation) Rules 2000, Sapphire Electric Company Limited 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 following approved specified tariff for delivery of electricity to CPPA of NTDC for procurement on behalf of Ex-WAPDA Distribution Companies:

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 | 0.0637 | 0.0637 | US\$ to Rupee |
| Debt Service | 0.7892 | - | KIBOR |
| Return on Equity | 0.2280 | 0.2280 | US\$ to Rupee |
| ROE during Construction | 0.0208 | 0.0208 | US\$ to Rupee |
| Total Capacity Charge | 1.2266 | 0.4374 | |
| * In case of plant operation on HSD cost of working capital shall be paid on 15 days inventory level basis which is Rs. 0.03479 Rs./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 | 6.7152 | 6.7152 | 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.

The following indexations shall be applicable to reference tariff;

One Time Adjustment

a) Adjustment due to variation in net capacity

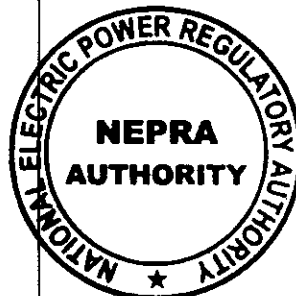
The reference tariff has been determined on the basis of minimum net capacity of 209 MW at delivery point at mean site conditions. All the tariff components except fuel cost component shall be adjusted at the time of COD based upon the IDC tests to be carried out for determination of contracted capacity 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) Revised Fixed O&M Foreign = $0.0652 / \text{tested IDC} \times 209$
- ii) Revised Fixed O&M Local = $0.0434 / \text{tested IDC} \times 209$
- iii) Cost of Working Capital = $0.0163 / \text{tested IDC} \times 209$
- iii) Insurance = $0.0637 / \text{tested IDC} \times 209$
- iv) Debt Service = $0.7892 / \text{tested IDC} \times 209$
- v) Return on Equity = $0.2280 / \text{tested IDC} \times 209$
- vi) ROE during Construction = $0.0208 / \text{tested IDC} \times 209$
- vii) Variable O&M = $0.1528 / \text{tested IDC} \times 209$

b) Adjustment in Insurance Component

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;

Insurance (Revised) = $\text{AIC} / \$1.943 \text{ million} \times \text{AP}$



Where;

AIC = Adjusted Insurance Component as per IDC Test

AP = Actual Premium

c) Adjustment due to customs duties and Interest during Construction

Debt Service, Return on Equity and ROE during construction shall be adjusted at COD on account of actual variation in customs duties, drawdown and Interest During Construction with reference to the estimated figures of USD 5.037 million and USD 14.358 million respectively. SECL shall submit the relevant documents to NEPRA within 7 days of COD for adjustment of relevant tariff components.

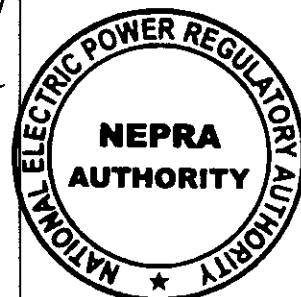
d) Adjustment in project cost due to variation in Dollar/Rupee parity

Any variation in project cost during construction period on account of variation in dollar/Rupee parity shall be allowed through adjustment in the project cost. For the purpose of this adjustment petitioner shall provide payment schedule along with the exchange rate prevalent on the date of particular transaction. SECL's final reference tariff table shall be revised on COD to incorporate all the permissible adjustment during construction period.

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 income, the exact amount paid by the company will be paid by CPPA to SECL on production of original receipts. This payment will be considered as pass-through (as Rs./kW/hour) hourly payment spread over a 12 month period in addition to the capacity purchase price proposed 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 @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:

$$\text{Withholding Tax Payable} = [15\% * (E(\text{Ref}) - E(\text{Red})) * 7.5\%$$

Where:

$E(\text{Ref})$ = Reference Equity (US\$46.388 million x 60)

$E(\text{Red})$ = Equity Redeemed

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.

Indexations:

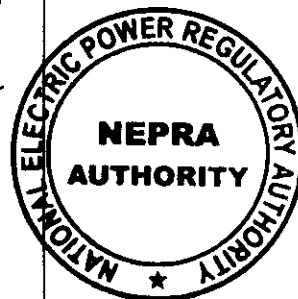
The following indexation shall be applicable to the reference tariff as follows;

Indexation applicable to O&M

The 40% of Fixed O&M part of Capacity Charge will be adjusted on account of Inflation (WPI) and 60% on account of variation in dollar/Rupee exchange rate. WPI adjustment for inflation will be made on quarterly basis, on the basis of WPI as notified by the Federal Bureau of Statistics (FBS) for the month of August, November, February & May respectively. Indexation for variation in dollar/rupee exchange rate will be made on October 1, January 1, April 1 & July 1 on the basis of revised TT & OD selling rate of US Dollar as notified by the National Bank of Pakistan. The mode of indexation will be as under:

(a) **Fixed O&M**

$$F \text{ O\&M(RWPI)} = \text{Rs.0.0652 per kW per Hour} * \text{WPI (REV)/117.80}$$



$$F O\&M(RE) = \text{Rs. } 0.0434 \text{ per kW per Hour} * ER(REV) / 60$$

Where:

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

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

WPI(REV) = the Revised Wholesale Price Index (manufactures)

Reference WPI = 117.80 Wholesale Price Index (manufactures) of 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.

(b) **Variable O&M**

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

$$V O\&MG (RE) = \text{Rs. } 0.1746 \text{ per kWh} * ER(REV) / \text{Rs. } 60 \text{ per \$}$$

$$V O\&MG (RE) = \text{Rs. } 0.2520 \text{ per kWh} * ER(REV) / \text{Rs. } 60 \text{ per \$}$$

Where:

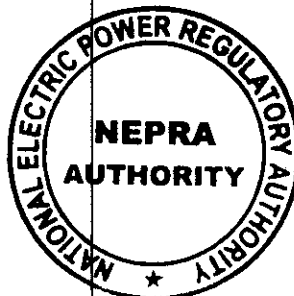
V O&MG(REV) = The revised applicable Variable O&M Component of Energy Charge indexed with currency fluctuation.

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.

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;



$$\Delta I = P(\text{REV}) * (\text{KIBOR}(\text{REV}) - 9.0\%) / 4$$

Where:

ΔI = the variation in interest charges applicable corresponding to variation in KIBOR. ΔI can be positive or negative depending upon whether KIBOR REV > or < 9.0%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each quarter under adjustment applicable on quarterly basis.

$P(\text{REV})$ = 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.

Fuel Price Variation

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

$$\text{FCg}(\text{Rev}) = \text{Rs.1.7787 per kWh} * \text{FPg}(\text{Rev}) / \text{Rs. 266.83 per MMBTU}$$

Where:

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

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

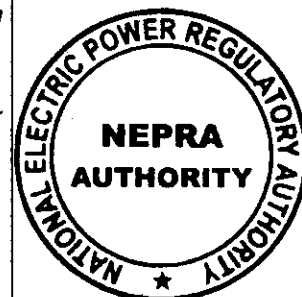
$$\text{FCd}(\text{Rev}) = \text{Rs. 6.7153 per kWh} * [\text{FPd}(\text{Rev}) \text{Rs. per MMBTUs}] / \text{Rs.954.27 per MMBTU (Excl-GST)}$$

Where:

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

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

Reference values used in the calculations:

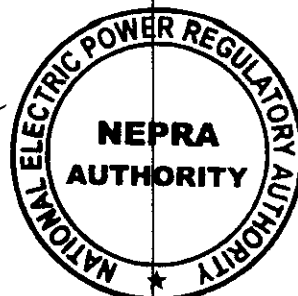


| | |
|--|----------------------|
| HSD Fuel price with GST (HHV) | Rs.37.29 per litre |
| GST | 15% |
| HSD Fuel price without GST (HHV) | Rs.32.43 per litre |
| HHV-LHV Adjustment Factor | 1.06 |
| HSD Fuel price without GST (LHV) | Rs.34.37 per litre |
| HSD Fuel Price without GST | Rs.954.27 per 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 itself 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 working 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 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.

Nasiruddin Ahmed
Member

Nasiruddin Ahmed

Zafar Ali Khan
Member

Zafar Ali Khan 3/8/06

Saeed uz Zafar
Chairman

Saeed uz Zafar

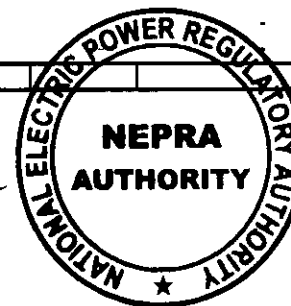


SPECIFIED TARIFF- SAPPHIRE ELECTRIC COMPANY LIMITED
PLANT OPERATION ON G.S

| 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 Local | Total Debt Servicing | Rs/kW/hr | Rs/kW/hr @60% PF | Rs/kWh | |
| 1 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | 0.7892 | 0.7892 | 1.2453 | 2.0755 | 4.0288 | |
| 2 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | 0.7892 | 0.7892 | 1.2453 | 2.0755 | 4.0288 | |
| 3 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | 0.7892 | 0.7892 | 1.2453 | 2.0755 | 4.0288 | |
| 4 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | 0.7892 | 0.7892 | 1.2453 | 2.0755 | 4.0288 | |
| 5 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | 0.7892 | 0.7892 | 1.2453 | 2.0755 | 4.0288 | |
| 6 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | 0.7892 | 0.7892 | 1.2453 | 2.0755 | 4.0288 | |
| 7 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | 0.7892 | 0.7892 | 1.2453 | 2.0755 | 4.0288 | |
| 8 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | 0.7892 | 0.7892 | 1.2453 | 2.0755 | 4.0288 | |
| 9 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | 0.7892 | 0.7892 | 1.2453 | 2.0755 | 4.0288 | |
| 10 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | 0.7892 | 0.7892 | 1.2453 | 2.0755 | 4.0288 | |
| 11 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 12 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 13 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 14 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 15 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 16 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 17 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 18 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 19 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 20 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 21 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 22 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 23 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 24 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 25 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 26 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 27 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 28 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 29 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| 30 | 1.7787 | 0.1746 | 1.9533 | 0.1086 | 0.0637 | 0.0163 | 0.0208 | 0.2280 | 0.0187 | 0.4561 | - | - | - | 0.4561 | 0.7601 | 2.7134 | |
| Levelised | 1.7787 | 0.1746 | 1.9533 | | | | | | | | | | | 0.9705 | 1.6175 | 3.5708 | |

Cents

5.9513



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 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | 0.7892 | 0.7892 | 1.2639 | 2.1065 | 9.0736 |
| 2 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | 0.7892 | 0.7892 | 1.2639 | 2.1065 | 9.0736 |
| 3 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | 0.7892 | 0.7892 | 1.2639 | 2.1065 | 9.0736 |
| 4 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | 0.7892 | 0.7892 | 1.2639 | 2.1065 | 9.0736 |
| 5 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | 0.7892 | 0.7892 | 1.2639 | 2.1065 | 9.0736 |
| 6 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | 0.7892 | 0.7892 | 1.2639 | 2.1065 | 9.0736 |
| 7 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | 0.7892 | 0.7892 | 1.2639 | 2.1065 | 9.0736 |
| 8 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | 0.7892 | 0.7892 | 1.2639 | 2.1065 | 9.0736 |
| 9 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | 0.7892 | 0.7892 | 1.2639 | 2.1065 | 9.0736 |
| 10 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | 0.7892 | 0.7892 | 1.2639 | 2.1065 | 9.0736 |
| 11 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 12 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 13 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 14 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 15 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 16 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 17 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 18 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 19 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 20 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 21 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 22 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 23 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 24 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 25 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 26 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 27 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 28 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 29 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| 30 | 6.7151 | 0.2520 | 6.9671 | 0.1086 | 0.0637 | 0.0349 | 0.0208 | 0.2280 | 0.0187 | 0.4747 | - | - | - | 0.4747 | 0.7912 | 7.7583 |
| Levelised | | | 6.9671 | | | | | | | | | | | 0.9891 | 1.6485 | 8.6157 |

Cents 14.3594

