



National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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E-mail: office@nepra.org.pk

No. NEPRA/TRF-53/SPL-2006/5168-70
June 15, 2006

Subject: Intimation of Determination of Tariff of Saif Power Ltd. (SPL) for sale of electricity to the Central Power Purchasing Agency within NTDC (Case No. NEPRA/TRF-53/SPL-2006) 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 Annex-I & II (39 pages) in Case No. NEPRA/TRF-53/SPL-2006.


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 99 of the determination relating to the Reference Tariff and allowed adjustments & indexation along with Annex-I & II needs to be notified in the official gazette. The Order is reproduced for the purpose of clarity and is attached herewith.

DA/As above.

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




(Mahjoob Ahmad Mirza)

CC:

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

ORDER OF THE AUTHORITY
IN CASE NO. NEPA/TRF-53/SPL-2006
TO BE NOTIFIED IN THE OFFICIAL GAZETTE

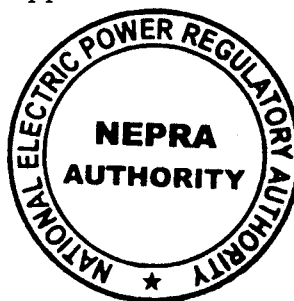
Pursuant to Rule 6 of the NEPA Licensing (Generation) Rules 2000, Saif Power Limited is allowed to charge, subject to adjustment of Capacity Purchase Price on account of net dependable capacity as determined by test to be carried out by an independent engineer in the presence of Central Power Purchasing Agency (CPPA) and the Petitioner, the following 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/Month)			
O&M Foreign	47.5558	47.5558	US\$ to Rupee
O&M Local	31.7039	31.7039	WPI
Cost of Working Capital *	11.2625	11.2625	NIL
Insurance	46.4826	46.4826	US\$ to Rupee
Debt Service	624.1203	-	KIBOR
Return on Equity	137.0446	137.0446	NIL
ROE during Construction	11.1006	11.1006	NIL
Total Capacity Charge	909.2703	285.1500	
* In case of plant operation on HSD cost of working capital shall be paid on 15 days inventory level basis which is Rs. 24.1339 Rs./kW/month or Rs. 0.0331 per kW per 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	6.3325	6.3325	Fuel Price
Variable O&M	0.2520	0.2520	\$ to Rupee

- Note: i) Capacity Charge Rs./kW/month is 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;



I). One Time Adjustmenta) Adjustment due to variation in net capacity

The reference tariff has been determined on the basis of net capacity of 208.965 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. The adjustments shall be made according to the following formula:

i) Revised Fixed O&M Foreign	=	47.5558/tested IDC x 208.965MW
ii) Revised Fixed O&M Local	=	31.7039/tested IDC x 208.965MW
iii) Insurance	=	46.4826/tested IDC x 208.965MW
iv) Debt Service	=	623.6955/tested IDC x 208.965MW
v) Return on Equity	=	136.9514/tested IDC x 208.965MW
vi) ROE during Construction	=	11.0931/tested IDC x 208.965MW
vii) Variable O&M	=	0.1528/tested IDC x 208.965MW

b) Adjustment in Insurance as per actual

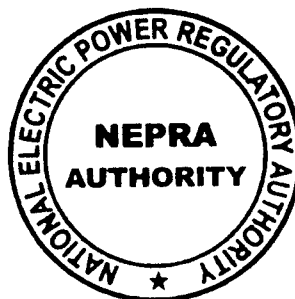
Insurance part of reference tariff shall be adjusted at COD as per actual based upon the authentic documentary evidence to be provided by SPL.

c) Adjustment due to custom duties and Interest during Construction

Debt Service, Return on Equity and ROE during construction shall be made on account of actual variation in customs duties and Interest During Construction with reference to the estimated figures of USD 5.04 million and USD 16.84 million respectively.

II). Pass-Through Items

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



III). Indexations:

The following indexations shall be applicable to reference tariff;

a) 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:

(i) Fixed O&M

$$F O\&M_{(RWPI)} = \text{Rs.} 31.7039 \text{ per kW per Month} * WPI_{(REV)} / 117.80$$

$$F O\&M_{(RE)} = \text{Rs.} 47.5558 \text{ per kW per Month} * ER_{(REV)} / 60$$

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.

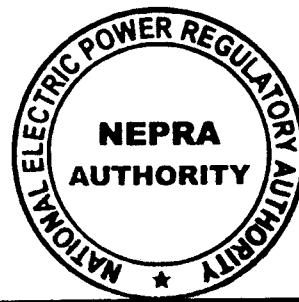
(ii) Variable O&M

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

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

Where:

$V O\&M_{(REV)}$ = 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.

IV). 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;

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 9.05\%) / 4$$

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 $< 9.05\%$. 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.

V). 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 SPL's allowed rate relating to fuel cost shall be revised according to the following formula:

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

Where:

$FCg(Rev)$ = Revised fuel cost component of Variable Charge on gas



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

FCd(Rev) = Rs. 6.3325 per kWh * FP(Rev)/Rs. 34.37 per Litre (Ex-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 LHV-HHV factor.

Request for adjustment on account of inflation, foreign exchange variation, KIBOR variation and fuel price variation shall be filed by SPL with in seven days of the applicable date indicating the level of indexation estimated to NTDC. The Authority will approve and announce the adjustments for immediate application with in seven days of the request filed by SPL.

Terms and Conditions of Tariff:

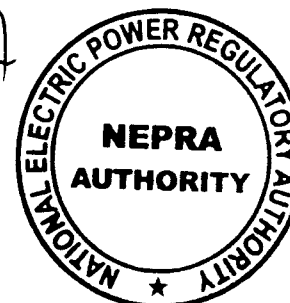
- i) Gas usage will be considered the primary fuel subject to (iii)
- ii) All equipment installed will be new and the plant will be of standard configuration.
- iii) Dispatch criterion will be based on the Energy Charge.
- iv) Diesel oil will be used only for startups and other contingent requirements. Use of Diesel oil shall be allowed in accordance with the GOP's fuel policy announced from time to time.
- v) General assumptions of SPL 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 SPL and CPPA.



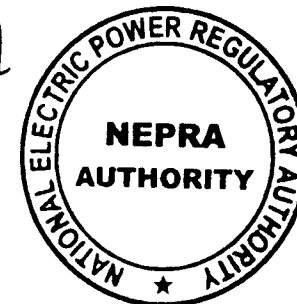
SAIF POWER GENERATION
PLANT OPERATION ON GAS

Year	Variable Charge (Rs./kWh)			Capacity Charge (Rs./kW/Month)										Total	
	Fuel	Variable O&M	Total	Fixed O&M Foreign	Fixed O&M Local	Financing Cost on Working Capital	Insurance	Return on Equity	Return on Equity for Construction Period	Withholding Tax @7.5%	Loan Repayment	Interest Charges	Total	Fixed costs at 60% Plant Factor Rs. / kWh	¢ / kWh
1	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	199.1797	424.9405	920.3812	4.0546	6.7577
2	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	224.2874	399.8329	920.3812	4.0546	6.7577
3	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	252.5600	371.5602	920.3812	4.0546	6.7577
4	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	284.3965	339.7237	920.3812	4.0546	6.7577
5	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	320.2462	303.8740	920.3812	4.0546	6.7577
6	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	360.6149	263.5053	920.3812	4.0546	6.7577
7	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	406.0723	218.0479	920.3812	4.0546	6.7577
8	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	457.2599	166.8604	920.3812	4.0546	6.7577
9	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	514.8999	109.2203	920.3812	4.0546	6.7577
10	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	579.8058	44.3145	920.3812	4.0546	6.7577
11	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
12	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
13	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
14	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
15	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
16	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
17	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
18	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
19	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
20	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
21	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
22	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
23	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
24	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
25	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
26	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
27	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
28	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
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Levelized Tariff (1-30 Years)			1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	213.9025	192.9060	703.0694	3.5585	5.9308



**SAIF POWER GENERATION
PLANT OPERATION ON HSD**

Year	Variable Charge (Rs./kWh)			Capacity Charge (Rs./kW/Month)										Capacity Charges	Total	
	Fuel	Variable O&M	Total	Fixed O&M Foreign	Fixed O&M Local	Financing Cost on Working Capital	Insurance	Return on Equity	Return on Equity for Construction Period	Withholding Tax @7.5%	Loan Repayment	Interest Charges	Total	Rs. / kWh	Rs. / kWh	¢ / kWh
1	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	199.1797	424.9405	933.2526	2.1307	8.7152	14.5253
2	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	224.2874	399.8329	933.2526	2.1307	8.7152	14.5253
3	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	252.5600	371.5602	933.2526	2.1307	8.7152	14.5253
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10	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	579.8058	44.3145	933.2526	2.1307	8.7152	14.5253
11	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
12	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
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29	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
30	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
Levelized Tariff (1-30 Years)			6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	213.9025	192.9060	715.9409	1.6346	8.2191	13.6984
Levelized Tariff per kWh				0.1086	0.0724	0.0551	0.1061	0.3129	0.0253	0.0254	0.4884	0.4404	1.6346			



**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA**

June 15, 2006

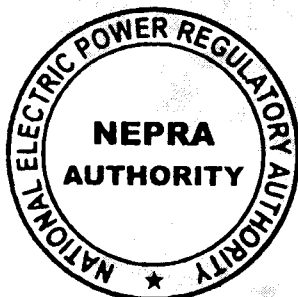
No. NEPRA/TRF-53/SPL-2006

**DETERMINATION
OF
GENERATION TARIFF**

On The Petition

Filed By

SAIF POWER LTD.



(SPL)

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**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA**

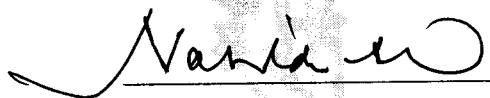
June 15, 2006
No. NEPRA/TRF-53/SPL-2006

Petitioner

Saif Power Limited

Authority

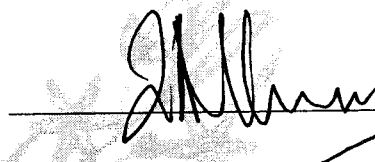
Nasiruddin Ahmed
Member



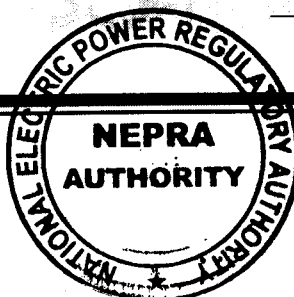
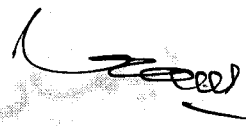
Abdul Rahim Khan
Member



Zafar Ali Khan
Member



Saeed uz Zafar
Chairman



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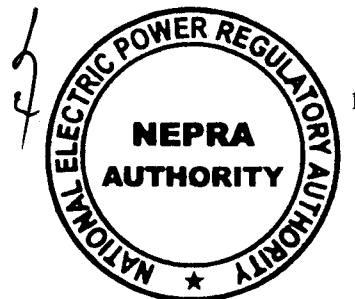
Background

A tariff application was submitted by Saif Power Ltd. (SPL) on April 7, 2006 for approval of generation tariff. SPL has been established for setting up a Combined Cycle Thermal Power Plant based on dual fuel (Gas/HSD). The capacity of the proposed plant is approximately 225 MW at ISO gross conditions 209 MW net at 132 kV Bus Bar; reference conditions at Chak No. 56/5-L, Qadarabad, District Sahiwal in terms of the Policy for Power Generation Projects 2002 (the "Policy"). The primary source of fuel for the project is pipeline quality gas. The electricity generated will be sold to Central Power Purchasing Agency (CPPA) within NTDC.

2. SPL's tariff petition was admitted for consideration by the Authority on April 14, 2006 and was assigned case number NEPRA/TRF-53/SPL-2006. Salient features of the petition were advertised in the newspapers to inform all the interested persons/stakeholders and to invite participation in the tariff-setting proceedings through their comments or by becoming a party to the proceedings as intervenors. Invitations were also sent to the concerned Federal & Provincial Government ministries, Chambers of Commerce and Industries, Representatives of Professional bodies and Experts, soliciting their views on the petition.
3. A public hearing on the petition was held on May 12, 2006 in NEPRA's main office. This hearing was participated by the applicant, stakeholders, commentators as well as members of general public.

SUBMISSIONS OF SPL

4. SPL submitted that the proposed power plant is based on combined cycle technology with an installed capacity of approximately 225 MW at ISO conditions. The plant configuration consists of 2 gas turbines each of 76 MW class unit with independent Heat Recovery Steam Generator (HRSG) and a steam turbine driven generator. The GTs are designed for dual fuel firing; natural gas is main fuel whereas distillate oil (HSD) is alternate fuel. The power to NTDC electrical system will be supplied through four 132 KV transmission lines, two lines will be connected with the existing Qadarabad grid station and two lines will be connected to the newly proposed grid station near the power plant.



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5. The estimated total Capital Cost of the project is US\$ 183.5 million Capital Expenditure (CAPEX) US\$ 166.5 million, Interest During Construction (IDC) US\$ 17 million. The EPC portion in CAPEX is US\$ 143.9 million (without custom duties). SPL has requested reference tariff as indicated in the following table:

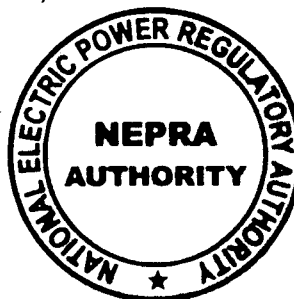
Years	Energy Price (Rs./kWh)			Capacity Price (Rs./kWh)			Total Rs./ kWh	Total US Cents/kWh
	Fuel	O&M	Total	Escalable	Non-Escalable			
Average 1-10	1.779	0.19	1.969	310.00	609.58	919.58	4.07	6.78
Average 11-30	1.779	0.19	1.969	310.00	-	310.00	2.68	4.46
Levelized 1-30 years							3.58	5.97

6. SPL has requested a two-part tariff consisting of Capacity Purchase Price (CPP) and Energy Purchase Price (EPP) for 30 years. CPP comprises of i) Escalable Component, ii) Non-escalable Component. Escalable Component of tariff includes Fixed O&M Charges (Foreign & Local), Insurance, Interest on Working Capital and Return on Equity during construction. Non-escalable Component of Tariff consists of principal repayment of loans and interest charges. The average capacity payments for the first ten year period are proposed to be Rs. 919.58 per kW per month and Rs. 310 per kW per month for capacity payments during the remaining period of 20 years (from year 11 to 30).
7. The proposed energy component is Rs. 1.969 per kWh consisting of Rs. 1.779 per kWh as fuel component and Rs. 0.19 per kWh as variable O&M component. Fuel cost has been calculated on the basis of net on-site thermal efficiency of 51.2% on natural gas and 47.78% on HSD, which translates into net plant heat rate at bus bar of 6,666 BTU per kWh (LHV) at full load on gas and 7,143 (LHV) at full load on HSD. The reference gas price is assumed at Rs.240.91 per MMBTU (HHV) delivered at site Rs. 266.82 per MMBTU (LHV) using conversion factor of 1.107553.

Fuel

8. SPL has submitted that the gas supplier will provide gas at a gross Calorific Value of 920 BTU/Cft (HHV). A conversion factor of 1.107553 has

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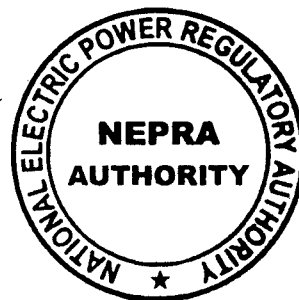


been used to convert the Gross value to Net value. Therefore, the Calorific Value of gas at LHV would be 831 Btu/Cft which would be reflected in the final Reference Price of gas.

9. Thermal efficiency of 51.2% at 132 KV bus bar has been determined on pipe line quality specification natural gas.
10. On gas operation, the assumed Thermal Efficiency is on optimum loading on a brand new machine. Accordingly, the following factors need to be applied to the Fuel Component which would need to be incorporated in the PPA as well:
 - a) Degradation factor for Heat Rate (Recoverable and Non-Recoverable) as per Manufacturer's data table/curves; and
 - b) Partial Load Heat Rate Adjustments as per manufacturer's data table. The reference values for adjustments are as follows:
 - Heat rate of 6,666 Btu/kWh (LHV) on 100% plant load;
 - In case of operation on HSD base price of HSD (LHV) using conversion factor of 1.06 = Rs. 37.53/Litre (Reference price)
 - Heat Rate = 7,143 BTU/kWh (LHV) at full load on HSD
 - Based on above, the base fuel component of Rs. 1.779/kWh will change to Rs. 7.46/kWh.
 - The fuel consumption is gross consumption right after intake from pipeline up to dispatch of electricity at bus bar and includes auxiliary consumption. Similarly, the HSD consumption is also gross starting from decanting up to supply of electricity at bus bar.
 - c) The fuel component would be subject to indexation/adjustment on any changes in fuel price on a pass through basis.

O&M Variable Component (Foreign):

11. This consists of the service fees of the O&M operator on a kWh basis for day to day management of the plant. It also includes replacement of spare parts on completion of service life of such parts as well as replacement on account of premature failure of parts. It also includes cost of unscheduled maintenances which are separate from the major overhauls. Consumption of lubricants, water, chemicals, etc. is also included in this component. This component is US Dollar based as it primarily includes imported spare parts as well as technical services to be procured from abroad. Therefore such costs would be subjected both to US\$/PKR as well as US CPI adjustments.



Fixed O&M Costs(local):

12. In this component the remuneration to employees and Executive Directors, Administration costs including rent, utilities, and local taxes are included. It also includes costs such as NEPA annual fees and bank's yearly commission upon opening of Letter of Guarantee in favour of WAPDA/NTDC, audit fees, legal retainer-ship and consultancy fees, environmental monitoring and reporting fees, etc. This component is subject to local CPI indexation/adjustment.

Fixed O&M Costs(Foreign):

13. Major Overhauling of the machines is to be conducted after every period of certain running hours as per manufacturer's recommendation. This is to ensure that the plant remains available for reliable dispatch and completes its contracted life. This component also includes the management fee of the O&M operator. This component would be subjected both to US CPI inflation as well to US\$/PKR adjustment/indexation.

Insurance Cost:

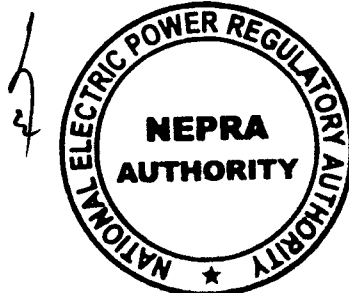
14. Since the Pakistan Insurance/Reinsurance industry do not have sufficient capacity and expertise to manage such risks entirely on their own, the local industry normally retains only about 5% of the risk while 95% is reinsured outside. As machinery breakdown, natural calamities (like earthquake), sabotage and consequential business interruption are the biggest threat to the life of the plant and the company, it is imperative that all aspects of the risk are covered adequately and no compromise is made in this respect. This cost would also be subject both to US CPI inflation as well as to US\$/PKR adjustment/indexation.

Return on Equity:

15. The figures in the Return on Equity are the function of 15% IRR which the Company has used as benchmark on the basis of maximum dividends payouts possible to the shareholders during each particular year and for the whole of the 30 year period.

Working Capital:

16. A working capital of Rs. 344m at present day rate is required for HSD storage of 15 days at 60% Plant Factor. This will be retained throughout



the tenor of the **Contract**. The interest rate used is 3 months KIBOR + 2% per annum. At the same time, working capital of equivalent \$2m is required for mobilization of spares before COD and this borrowing will be adjusted in 4 equal yearly installments and will be at the same rate as above. Working Capital requirements shall be recalculated at the time of COD based on prevailing prices at the time of COD.

Non-Escalable Components:

17. Of the total project cost, 80% is being funded through debt through a consortium of the 3 biggest banks in the country. As per Term Sheet made available and agreed upon, the entire debt is to be paid in 10 years time through quarterly payments. The interest is also to be paid quarterly. The Lenders have determined the debt service coverage ratio at 1.3 only beyond which the shareholders would be able to receive dividends. The interest rate would be 3 month KIBOR + 3% per annum.

Escalation/Indexation

18. SPL submitted that following indexation/escalation are assumed to be available under the PPA accompanying the tariff table:

FUEL COST COMPONENT

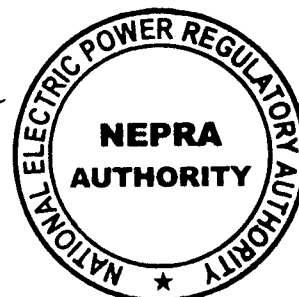
19. The fuel cost components will be adjusted with respect to increase in heat rate as per heat rate curves provided by the gas turbines Manufacturer:-
- To compensate for the effect of efficiency Degradation between the scheduled maintenance cycles,
 - To compensate for efficiency decrease due to partial loading, due to changes in ambient temperature; and
 - To compensate for non-recoverable degradation after Commercial Operation Date (COD).

O&M COMPONENT

- Variable O&M – Local Local CPI
- Variable O&M – Foreign United States CPI

ESCALABLE COMPONENT

- Escalable Component – Local Local CPI
- Escalable Component – Foreign United States CPI



NON-ESCALABLE COMPONENT

- Local financing would be indexed to changes in reference 3 months KIBOR rate, quarterly,
- No foreign debt financing assumed. If availed, would be indexed to PKR/USD exchange rate and reference interest rate charges.

CURRENCY INDEXATION FACTORS:

- Variable O&M – Foreign US\$/PKR indexation
- Escalable Component – Foreign US\$/PKR indexation

PRICE FACTORS:

- Changes in the prices of gas and / or HSD maintaining the guaranteed Heat Rate
- Changes in 3 months KIBOR, quarterly (no foreign debt financing assumed. If availed, would be indexed to US\$/PKR exchange and reference interest rate changes). This change also applies to working capital requirement.

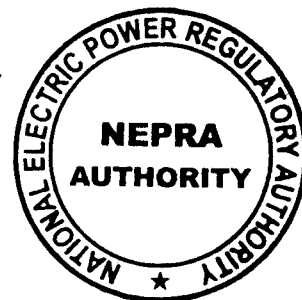
Other General Assumptions:

20. The following has been assumed while calculating the Tariff. Changes to any of these assumptions will result in a change to the Tariff:

- 5% duties and taxes on the import of plant and equipment will be added in the project cost. Any variation in the Custom duties as per actual payment will be adjusted at COD. Similarly, custom duties on import of spare parts after COD will be pass through.
- No tax on any income of the Company including sales proceeds from NTDC. General Sales Tax and all other taxes will be treated as pass through items.
- Withholding tax of 5% on local services; no withholding tax for EPC/offshore contractor (in case there is any, the EPC contractor will gross up the amount).
- 100% local debt and local equity is assumed. If foreign debt or equity is procured, repayment terms and interest rate benchmarks shall be affected.



- NTDC shall make payments to the Company to cover all Energy Cost Component of the Complex up to COD for all electricity delivered to the Grid including the trial run which would be billed specifically to NTDC as per the invoicing mechanism under PPA.
- NTDC shall be solely responsible for the construction of Interconnection and Transmission facilities and all financing cost is to be borne by NTDC in this respect.
- No maintenance Reserve Account or Contingency Reserve Account or any other Reserve Account shall be kept (apart from Debt Service Account which is the requirement of the Lenders). In case Company, is required to do, the financial impact in terms of decreased IRR will be adjusted in the Tariff. The financial impact DSRA has been partially taken into account through ROE.
- Maximum Diesel storage capacity for 15 days.
- Actual Interest During Construction (IDC) and Return on Equity [ROE] during construction will be determined later and will be incorporated/adjusted in tariff on actual basis based on actual drawdown and on actual benchmark interest rate which may vary due to changes in 3 months KIBOR.
- As the actual timing of debt drawdown and equity injection may vary from estimated timings during the construction period, these figures will be updated at COD to come up with new base tariff table.
- O&M cost based on 60% Plant factor. For operation and maintenance of Plant, Equivalent Operation Hours (EOH) will be considered as per Manufacturer's standard practice on different load conditions and fuel.
- Tolerance of +/-3% in Dispatch is assumed.
- Thirty days (30) Scheduled Outage for maintenance per year; Sixty days (60) for Major Overhauling; Five Hundred (500) hours for Forced Outages per year at assumed during which full capacity payment would be received.



- Number of Cold, Warm and Hot start ups will be considered as per Manufacturer's recommendation and prudent utility practices. The extra cost of all such start ups shall be pass-through to the Power Purchaser.
- During the 30 year term of the Agreement, if there is any gas supply interruption and Plant is required to dispatch on HSD, the Power Purchaser will pay such Fuel Cost on actual fuel consumption and price of HSD.
- Hedging cost during construction on EPC payment should be made part of the Project cost which is the requirement of the Lenders. Otherwise, subject to Lenders' consent, final local debt amount at COD would be based on actual exchange rates used by the banks to make payments to EPC contractor. Actual hedging cost would be used based on forward rates received from the lead bank immediately after financial close.
- In case of 100% HSD use, degradation/adjustment will be different and will be negotiated. Similarly, additional cost for gas turbine start up, shutdown as well as part load operation with HSD or HSD admixture to fuel gas instead of pure fuel gas shall be compensated by factors based on the data from the gas turbine manufacturers.
- Withholding tax on dividends (currently at 7.5%) as required to be deducted under Income Tax Ordinance, 2001 or any other law for the time being in force at the time of such payments is considered as pass-through.
- Zakat deduction on dividends (currently at 2.5%) as required to be deducted under Zakat Ordinance is considered as pass-through.
- Required gas pressure shall be maintained by Fuel Supplier at fuel inlet stop valve of gas turbine; gas boosting compressor is therefore excluded.
- No Working Capital for bridge financing is accounted for in the Tariff Model; any time gap as per NTDC/Fuel Supplier payment terms may result in additional Working Capital Requirement.

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21. All other assumptions not expressly stated herein are taken as per 1994 Standard PPA. In case there are any changes to the 1994 PPA having implications on the operational and financial cost, the tariff component would be revised accordingly.
22. In case of any unintentional error or omission, typographical errors, and any genuine assumption overlooked, the same will be corrected/incorporated and advised to NEPRA as soon as the Company becomes aware of it.

Determination Sought

23. Based on its submissions, SPL has sought determination of the Authority in respect of the following: -
- (a) Reference Tariff to remain effective for the period of 30 years from the Date of Commercial Operation.
 - (b) Approval of proposed escalation in tariff.

Submissions of Commentator

24. Central Power Purchasing Agency has submitted their comments which are as follows:

Comments of Central Power Purchasing Agency (CPPA)

Capital Cost

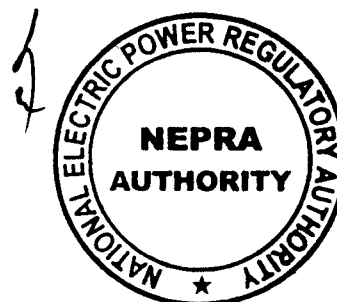
25. Due to lower plant efficiency of 51.2% indicated by M/s Saif as against Sapphire's 51.7%, the capital cost for this project should be less by 1.7 million US\$. The comparable capital cost should be less than US\$ 165.8 million instead of US\$ 166.5 million.

Interest During Construction

26. Based upon the CAPEX of US\$ 165.8 million, the Interest During Construction works out as US\$ 14.0 million instead of US\$ 17 million.

Custom Duties

27. The Company has not included the 5% Custom/import duty in the cost estimation in its petition whereas the same has been included in the Feasibility Report as part of the Project cost.



ROE During Construction

28. It may be allowed as that for M/s Orient Power Company Limited.

O&M Cost

29. In the application for Tariff Determination the Company has requested the local CPI and US CPI for Indexation/Escalations for the variable O&M costs. However, Power Policy 2002 allows only Wholesale Price Index (WPI) for manufacturing as notified by GOP's Federal Bureau of Statistics (FBS).

Plant Availability

30. The Company has taken the plant availability as 84% in petition for tariff determination whereas; NTDC requires Plant availability more than 90% as per standard Power Purchase Agreement.

Starts Ups

31. All cold, warm and hot starts ups should be free of cost.

Hedging Cost

32. As exchange rate difference has already been provided, therefore, the hedging cost may not be allowed.

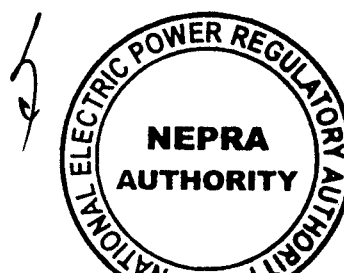
Custom/Import Duty on Spare Parts

33. The custom duties on Import of spare parts after COD may not be allowed because the same has been included in fixed O&M costs.

NTDC Power Expansion Program

34. As per NTDC load forecast there will be power shortage in the country from the year 2005-06 onward and same is expected to increase to 5500 MW in the year 2010. Mainly this shortfall will occur in the area of LESCO, FESCO and GEPCO, which is expected to be about 5250 MW in the year 2007 and by considering the excess generation from south (3579 MW) the net shortage, will be 1664 MW out of which approximately 1000 MW is expected in LESCO. The proposed plant will meet the shortfall of power system; as such the said plant operating on gas, having higher efficiency i.e. about 51.2% as compared to existing thermal plants commissioned under Power Policy 1994 with the efficiency of about 40%,

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the proposed power plant will be dispatched as base load plant and consequently would help reducing the consumer-end tariff.

Power Dispersal Arrangement

35. The Power of the proposed 200 MW CCPP at Sahiwal can reliably be dispersed to the system with the following interconnection option at 132 kV voltage level:
- i) A new 132 kV switching station to be introduced near the proposed site of Saif Power Plants.
 - ii) A direct 132 kV D/C transmission line, 3.5 km long on Rail conductor, from proposed power plant to the newly proposed switching station.
 - iii) Tapping In/Out of the existing 132 kV D/C transmission line from Yousafwala to Depalpur and Yousafwala to Okara Cantt at the newly proposed 132 kV switching station.
 - iv) A direct 132 kV D/C transmission line, 2 km long on Rail conductor, from the proposed power plant to 132 kV Qadirabad Grid Station.

Payment of Fuel Cost Component before COD

36. NTDC will make the payment to the company for fuel cost component only, of the electricity delivered from the complex to NTDC before COD.

Tolerance in Despatch

37. According to Power Purchase Agreement under Power Policy 2002, Capacity Purchase Price (CPP) will be made to the Company only on availability basis.

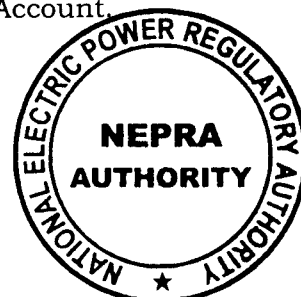
Payment of HSD during Gas Supply Interruption

38. During 30 years term of Agreement, if there is any gas supply interruption and plant is required to dispatch on HSD, the Power Purchaser will pay Energy Purchase Price on the basis of alternate fuel i.e. HSD and no capacity payment will be made for such period.

Maintenance of Reserve Account

39. The Company should maintain the Reserve Account.





Working Capital

40. It is suggested that stock of HSD may be maintained for 15 days during non gas committed months and for 7 days during gas committed months and requirement of working capital may be reduced accordingly.
41. According to CPPA LOI to the Company for establishing the purposed power plant has been issued under Power Policy 2002 and the said determination is also under the said Power Policy, therefore, any reference of 1994 Power Policy is irrelevant.

Response of the Petitioner

Capital Cost:

42. US Consumer Price Index in January 2005 was 190.7 while in March 2006 it stands at 199.8. So, the CPI has moved up by 4.7719% during this period. At the end of January 2005, Orient power had applied for an EPC cost of \$145m which was finally determined at \$139m. If 4.7719% is added to the cost of \$139m, the EPC today would stand at \$145.63m. Orient Power's thermal efficiency is also 51.2% while Saif Power's EPC cost is \$143.9m.
43. Secondly, M/s Sapphire and WPPo had discussed and agreed on EPC cost in December 2005. In December 2005, the US CPI index was 196.8 and the EPC cost agreed was \$144.5m. At the end of March 2006, the US CPI stood at 199.8 which mean an increase of 1.52%. Therefore, M/s Sapphire's EPC cost at the end of March would stand at \$146.69m and not \$144.5m. Saif Power has applied for its tariff determination on April 1, 2006. As such, Saif Power's EPC cost as of today is lower by \$2.19m than that of M/s Sapphire. Everyone related to the industry is now generally aware that there is a great thrust for the last 1 year in putting up new power plants both globally and specially in Pakistan. With each passing day, the lead times from the manufacturers' are increasing as demand supply position has shifted dramatically in favoure of the manufacturers. In order to bring those lead times back to the industry norms is also causing cost increases. We have apprehensions that if tariffs are not determined early, such costs would further move up as most of the new

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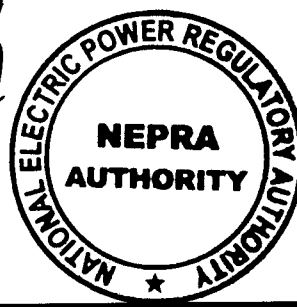


potential IPPs are awaiting tariff determination before they sign the EPC contracts.

44. Thirdly, Comparison with project cost of M/S Sapphire is not totally relevant. Non EPC development costs and expenditures would remain the same regardless of thermal efficiency and so only the EPC cost can perhaps be used for such comparison (The inflation factor has already been explained above). While we respect Sapphire's judgment in offering 51.69% thermal efficiency, we have also done elaborative homework on this issue in consultation with experts, machinery manufacturers and EPC contractors and there appears to be a unanimous opinion that 51.2% is the maximum efficiency that can be guaranteed and that any initiative above 51.2% would be a great risk indeed. All the parties are aware that even 51.2% efficiency is a relatively new phenomenon and has been made possible only in the last couple of years through modifications in technology and through increased capital cost. Our cost is actually lower than that of M/S Sapphire (M/S Sapphire's CAPEX is \$167.5m while Saif is \$166.5m) and this cost is independent for our specific project and is based on merits and parameters of its own independent scope. It would be wrong to relate to such cost with the thermal efficiency of another plant which may or may not be achieved.

Interest during construction:

45. Saif Power has agreed with its bankers to fund the total project cost on 80:20 basis wherein 80% would be the debt portion. As allowed under the 2002 Power Policy, Interest during construction would be determined on actual basis at COD based on actual project cost and the actual timings of the debt drawdown. Once the maximum project cost is approved, the actual debt amount cannot increase by more than 80% of such cost in dollar terms. What is then left is the timing of the debt drawdown based on payments to EPC contractors and other non EPC payments of the Project. Therefore, theoretically speaking, the IDC could actually be lower or more than the indicative \$17m. In the case of Saif Power, it could actually be more because the debt drawdown may come before the equity drawdown. This is beneficial both to the Power Purchaser and to consumers at large because while the cost of debt today stands at around



12.5%, the Return on Equity stands over 16%. Therefore, if equity drawdown comes later, the Power Purchaser will actually be paying less over the life of the Project. .

Custom Duties:

46. In the Feasibility study, the Project cost is estimated at over \$188m with custom duties whereas Saif Power has estimated the Project cost at around \$183.5m without such duties. It is expected that the total cost after custom duties would be around \$188m (all other things remaining the same).

ROE during construction:

47. Comparison with M/S Orient Power is neither relevant nor valid. At the end of the day the IPPs are supposed to get a "net" IRR of 15% which will be derived from the combined tariff component of ROE and ROE during construction. The ROE and ROE DC will be adjusted at COD to ensure that investor does get a 15% net IRR. (Net IRR means that any other factor affecting the company's cash flows must be taken into account).

Indexation on O&M Cost:

48. This point relating, to applying US CPI on the foreign portion of the O&M component is very sensitive and important to putting up the power plants. Without its application, it is feared that no O&M contract would be concluded with a third party. Again, everyone related to this industry understands and appreciates that the O&M contract is fixed in dollar terms. When the cost of imported spare parts goes up, O&M operator will not pay it out of his own pocket but will claim the difference from the Company. The benchmark used for determining such escalation i.e the US CPI. If this is not allowed, all projects would go in jeopardy. It is requested that both CPPA/WPPO and NEpra should logically explain this point to the pertinent authorities to bring about this particular change in the Policy.

90% Plant Availability:

49. Company is in continuous discussions with EPC and O&M contractors on this issue and we hope that some favourable result would be obtained. Although, there are indications that technically such Plant Availability

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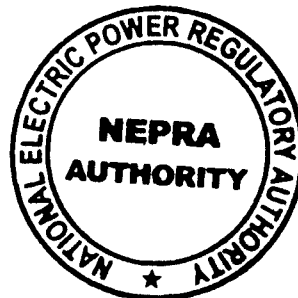
may be possible but only with an increased cost. The O&M operators are asking for an increase in their yearly fee to guarantee Availability at 90%. Once the tariff is determined to the satisfaction of all parties, Company would be able to give its final position in this respect.

Cost of Start Ups:

50. Since there is no limit to the number of stops and starts that NTDC/CPP A/WPPO may apply at its discretion, such costs can be tremendous and have not been accounted for in the Tariff Petition, In fact, in the general assumptions of our Tariff Petition, it is clearly mentioned that extra costs of all such start ups shall be pass through to the Power Purchaser.

Hedging cost:

51. Hedging the dollar/Rupee to a fixed parity is the requirement of the Lenders. The Lenders want that hedging cost during construction period on EPC Payments should be made part of the Project cost. However, we have deliberated this with our Lenders at great length and we have advised them that final debt amount and final equity amount at COD would be based on actual exchange rates used by the banks to make payments to EPC contractor and to any other foreign parties. The Bankers/Lenders have been made to understand that they would receive interest on the actual debt created at COD and the actual debt amount would be the amount actually paid in Rupee terms on the then prevailing exchange rates. The Lenders were concerned that if I) Dollar/Rupee rate were to shoot up to lets say Rs.70 per dollar, would the investors be able to put up that more of equity. Secondly, the banks would also have to put up more money to cater to such Rupee depreciation and the Lenders felt that a standby credit facility would have to be put in place with a substantial commitment fee so that such extra drawdown is assured if needed. The Company in principle has agreed to the Lenders' conditions in this respect so that the Lenders may not insist on hedging the Dollar/Rupee rate. The Lenders are now awaiting the tariff determination with all the carrying assumptions and once that is done, we feel that the Lenders would agree to eliminate the hedging requirement.



Custom/Import duties on spare parts after COD:

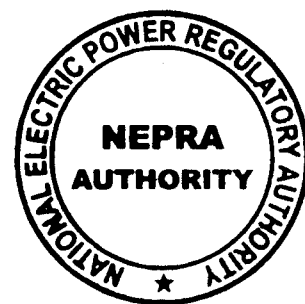
52. Our tariff petition does not contain above duties in the fixed portion of the O&M and the reason for that is very apparent and logical; the Government of Pakistan has not guaranteed that custom/import duties on spare parts would be 10% for 30 years. Such duties and taxes change every year in the budget either on the lower or higher side. Neither the O&M contractor nor the Company can take a 30 year view of what such duties will be. Therefore, the most appropriate way is to make it pass through and in case the duties go down to zero percent, both parties are in a win situation.

ISSUES ARISING OUT OF THE PROCEEDINGS

53. The following main issues have emerged from the tariff application, submissions of the commentators and proceedings in the case:
- a. Net Contracted Capacity
 - b. Tariff control period
 - c. Availability of gas
 - d. Project cost
 - e. Cost of Capital
 - f. Insurance Cost
 - g. Working Capital
 - h. Components of Capacity Charge
 - i. Fuel Cost
 - j. Variable O&M cost
 - k. Hedging Cost During Construction

NET CONTRACTED CAPACITY

54. SPL has stated that its gross ISO capacity would be about 225 MW and net site capacity would be 209 MW. SPL did not mention the make and model of the proposed power plant. SPL has based its capacity charge calculation on the same. Subsequently SPL has informed that it intends to install 6111 FA+ machines which are manufactured by GE. The information sought from different sources does not support SPL's indicated Gross ISO capacity of the plant. According to the manufacturer's information available at its website Gross ISO Capacity is about 239 MW. If this information is relied upon the net capacity at site should be higher than the figure of 209 MW adopted for capacity charge calculations; the tariff per kW as requested by the Petitioner should accordingly reduce. According to the Petitioner their proposed machine is



a prototype machine and its gross ISO capacity may vary with little possibility of any variation in the earlier indicated net output capacity of 209 MW. The Authority considers that the capacity payments shall be made on the basis of contracted capacity to be determined after IDC test at site. The Authority has therefore decided that for the purpose of capacity charge calculations the figure of 209 MW net site capacity be adopted with the condition that capacity charge shall be adjusted based upon the net contracted capacity established through an IDC test at site in the presence of the parties to the power purchase agreement.

TARIFF CONTROL PERIOD

55. SPL has requested a tariff for first ten years and another for next twenty years. The request is in line with the tariff determined by the Authority for the Orient and Star IPPs. It is therefore decided to accept the SPL's request for a tariff for first 10 years and another tariff for the year 11 onwards.

AVAILABILITY OF GAS

56. SPL has based its petition on the assumption that the main fuel will be natural gas for 9 months and High Speed Diesel (HSD) for remaining 3 months. SPL has further stated that backup fuel would also be HSD in case of gas supply interruptions. Assumption being reasonable is therefore accepted for determination of fuel component of energy charge.

CAPITAL COST OF THE PROJECT

57. SPL has indicated its project cost as US\$ 183.5 million which comprises EPC portion of capital expenditure (CAPEX) of US\$ 143.9 million (without custom duties), Non-EPC portion of CAPEX US\$ 22.41 million and IDC US\$ 17.18 million. Based upon this CAPEX the project cost in terms of per kW installed works out as US\$ 813.99. The Petitioner has also stated that it has not assumed custom duties and withholding tax in its tariff calculations and has assumed the same to be pass-through. The detailed breakup of the major costs was not given in the tariff petition and were later submitted in response to an information direction of the Authority. In order to assess the reasonability of the project cost the Authority has

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examined different components of the project cost which are discussed in the following paragraphs.

Project Development Costs

58. According to the information provided breakup of Project Development Costs is indicated in the following table:

S#	Description	US\$ Million
1	Cost of Land and Site Development Expenses	1.011
2	Feasibility Study and Sponsors expenses	0.290
3	Construction Management Consultancy, Permits & Engineering	2.408
4	Gas Connection Charges & pipeline interconnection	0.460
5	Company Overheads During Development	1.302
6	Pre-Financial Closing (Financial & Legal Costs)	0.261
Total		5.732

59. The information was compared with the information of other similar projects to assess reasonability. The Authority considers the estimated project development costs as reasonable hence stands accepted.

Equipment, Civil Works, Design, Erection etc.

60. According to the Petitioner its Capital Expenditure (CAPEX) would be US\$ 166.5 million and IDC US\$ 17 million. The EPC portion in CAPEX is US\$ 143.9 million (without custom duty). These numbers were not duly supported with sufficient information about equipment, civil works, design and erection etc. as well and sufficient information along with rationale and justification in support of its CAPEX were later provided by the Petitioner against an information direction of the Authority.
61. The costs were comparatively higher than other similar projects. CPPA raised similar objections in their comments. While justifying its project cost, the Petitioner stated during hearing that the costs of plant and equipment have increased internationally due to increased demand of the plants; therefore they could not match the costs to the level of costs already determined by the Authority for other similar projects. The Authority also considered the Petitioner's response to CPPA's observations as per para 42 to 46 and appreciates the justification provided by the Petitioner for higher EPC costs. The Authority therefore accepts the EPC cost of US\$ 143.90 million for SPL.



62. SPL did not include duties and taxes on the plant & equipment to be imported in the EPC cost. The Authority considers that it would not be appropriate to assess capacity charge without consideration of duties and taxes applicable. For the purpose of assessment of EPC cost duties and taxes @ 5% on 70% of the EPC cost are included. Accordingly the duties and taxes to be paid by the Petitioner is estimated as US\$ 5.04 million. Since the figure of duties, taxes & others is an estimated figure and actual number may vary; an initial adjustment in the tariff at COD would be required on account of any variation from the estimated amount of US\$ 5.04 million. The Authority has therefore decided to allow an adjustment in the capacity charge on the basis of actual documentary evidence to be submitted by the Petitioner.

Non-EPC Costs

63. In its petition SPL requested Non-EPC costs of US\$ 22.6 million and additional component wise information is indicated in the following table:

Sr.#	Description	Total (US\$ Million)
1	Administrative Expenses	2.562
2	Operations Maintenance During Construction	3.000
3	Consultants & Independent Engineer	0.773
4	Insurance (Construction)	2.160
5	Utilities during Construction	0.500
6	Fuel during testing	0.300
7	First fill of Lube & Chemicals	0.500
8	Financial & Legal Advisory Costs	2.943
9	Non-EPC Construction Costs	1.912
10	Taxes	1.875
Total Non-EPC		16.525

64. The Authority examined the relevant available information of the other similar projects in order to validate the numbers provided by the Petitioner. Based upon the analysis and comparison the Authority considers that the revised amount of US\$16.525 million on account of Non-EPC costs estimated by the Petitioner is reasonable; hence it is being adopted as such.




Interest During Construction

65. The Petitioner has estimated IDC of US\$ 17.18. SPL was directed to provide basis for calculation of IDC and ROE during construction. In response SPL has informed that its calculations are based upon the expected draw down as indicated in the following table:

Quarter	Amount US\$ Million	Project Cost%
0	7.21	3.93%
1	16.20	8.82%
2	6.57	3.58%
3	13.74	7.48%
4	58.33	31.76%
5	27.00	14.70%
6	30.12	16.40%
7	17.87	9.73%
8	6.63	3.61%
Total	183.68	100.00%

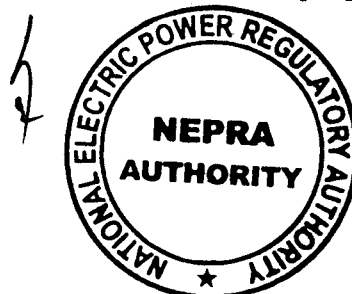
66. According to SPL, IDC can increase or decrease depending upon the actual timings of the equity draw downs and requested for its adjustment at COD accordingly. Based upon the draw down sheet provided by the Petitioner, the Authority has assessed IDC of US\$ 16.84 subject to its later adjustment at COD as per the request of the Petitioner.

COMPONENTS OF CAPACITY CHARGEProject Financing

67. The Petitioner has stated that 80% of its project cost would be funded through a consortium of 3 biggest banks in the country. According to SPL as per the Term Sheet made available and agreed upon, the entire debt is to be paid in 10 years time through quarterly payments. The interest is also to be paid quarterly. SPL has further stated that the shareholders will be able to receive dividends only beyond debt service coverage ratio of 1.3 as required by the lenders. The assumption is in accordance with the GOP Guidelines and is therefore accepted.

Cost of Debt

68. SPL has proposed a cost of debt of KIBOR 9.05% (Karachi Inter-bank Offer Rate) plus 300 basis points. The KIBOR requested is 3-month KIBOR with quarterly adjustment. Any variation in KIBOR is proposed to



be passed-through with the spread remaining the same. SPL's request being reasonable is therefore accepted.

Cost of Equity

69. The Petitioner has requested a net internal rate of return of 15% (net of 7.5% withholding tax on dividends). This was accepted by the Authority.

Interest on Working Capital

70. SPL requested Rs.21.78 per kW per month on account of carrying cost for maintaining 15 days HSD fuel inventory. Central Power Purchasing Agency (CPPA) in its comments has proposed that during plant operation on gas the Petitioner may not be required to maintain 15 days fuel inventory and 7 days fuel inventory would be sufficient. This would reduce the carrying cost correspondingly. The CPPA has further proposed that the 15 days fuel inventory requirement should be maintained during plant operation on HSD. The Authority accepts CPPA's proposal as prudent; and assuming price of HSD Rs.37.29/litre (LHV) and interest rate of 11%, the Authority has assessed interest on working capital as under;

During plant operation on gas	Rs.11.2625/kW/month
During plant operation on HSD	Rs.24.1339/kW/month

71. Based upon the assessment made in the preceding para debt service, financing cost of working capital and return on equity has been assessed as follows;

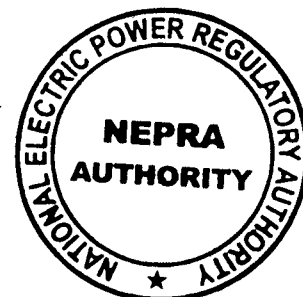
	For first 10 years Rs./kW/Month	For next 20 years Rs./kW/Month
Debt Service	624.1203	-
Financing Cost of Working Capital*	11.2625	11.2625
Return on Equity	<u>148.1452</u>	<u>148.1452</u>
Total**	783.5280	159.4077

* This is applicable in case plant operates on gas. In case of plant operation on HSD it will be Rs.24.1339 per kW per month

** In case this is worked out on the basis of plant availability (for operation on gas) as per new PPA on hourly basis; for 10 years it will be Rs.1.0733 per kW per hour and for next 20 years it will be Rs.0.2184 per kW per hour. This shall increase by Rs. 0.0176 per kW per hour if plant operates on HSD.

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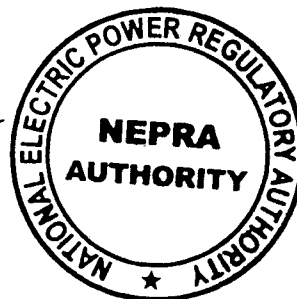
O&M Costs

72. The Petitioner requested fixed O&M cost-foreign Rs. 51.15/kW/month and local Rs. 31.90 per kW per month. The Petitioner did not provide necessary details of O&M costs included in its fixed O&M part of capacity charge. The Petitioner during hearing was advised to provide the relevant details of O&M cost, which have been provided by the Petitioner. The major item wise break up of fixed cost is indicated in the following table:

Sr. No.	Cost Item	\$ Million
1	Operator's fee including daily plant operations and trouble shooting, Salaries and wages, Subcontracting, minor preventive repairs, and unscheduled minor repairs	2.5
2	Consumables	0.30
3	Head Office Expenses	0.60
Total		3.40

73. The Petitioner has informed that it will pay to the O&M Operator a fixed fee of US\$5 million and variable charge of \$29.2 million for a maintenance cycle of 48,000 operating hours. The Petitioner has further informed that the amount of \$2.5 million appearing as item 1 in the above table includes \$1 million as Operator's fee. The Petitioner has spread the amount of \$5 million over 5 years, which should have been spread over operation cycle of the plant. Accordingly the fixed annual O&M fee payable to Operator needs to be adjusted; the annual O&M Operator's fee has thus been adjusted to US\$ 0.9125. After incorporating the adjustment the Authority has determined annual fixed O&M as US\$ 3.31 million.

74. In the tariff table attached to the petition the Petitioner has proposed about 38% of O&M part of capacity charge to be indexed with local inflation. The Authority in its earlier decisions in the case of Orient Power Company and Star Energy has allowed local inflation indexation on 50% of the O&M the part of capacity charge. Having considered the Petitioner's request the Authority has decided to index 40% of O&M part of capacity charge with local inflation (WPI manufactures). The remaining 60% of O&M part of capacity charge will be indexed with currency fluctuation i.e. US\$/PKR.



75. The Petitioner has worked out its rate per kW per month in accordance with Power Policy 1994 i.e. on the basis of 12 months that included the period of scheduled maintenance and allowance for force-majeure. In the revised PPA under GOP Power Policy 2002, the capacity payment is proposed to be made on the basis of plant availability. Based upon O&M cost of \$3.31 the fixed O&M part of Capacity Charge has been assessed both in accordance with the new PPA as well as according to 1994 policy as under;

	1994 Policy Rs./kW/Month	2002 Policy Rs./kW/hr
Fixed O&M – Foreign	47.5558	0.0651
Fixed O&M – Local	<u>31.7039</u>	<u>0.0434</u>
Total	78.2597	0.1085


Insurance

76. SPL has requested insurance cost of Rs. 46.65 per kW per month based upon US\$1.95 million, which is 1.35% of EPC. The amount requested by the Petitioner was considered on the higher side; therefore Petitioner was asked to provide supporting evidence. After examination of the information, provided by the Petitioner regarding insurance premium indicated in the information supplied by the Petitioner, the Authority was unable to validate the Petitioner's claim. The Authority also considered the letter written by M/s AON Insurance Brokers (Pvt.) Ltd. to the company quoting the probable insurance costs but was not convinced with the reasons mentioned therein for demanding high insurance premium. The Authority has therefore decided to allow insurance as per actual on production of evidence subject to maximum of US\$ 1.95 million or US\$ 1.35% of EPC costs. For the purpose of tariff calculations the maximum of the amount is being taken. Accordingly the insurance component of capacity charge has been assessed as Rs. 46.4826 per kW per month as per 1994 policy and Rs. 0.0637 per kW per hour as per new PPAs.

ENERGY CHARGE

Fuel Cost Component

77. Based upon the parameters and assumptions as per paras 8 to 10, SPL has calculated the fuel cost component of Rs. 1.7787 per kWh or US





Cents 2.96 per kWh in case of plant operation on gas. The major assumptions are summarized as follows;

Plant Load Factor	100%
Net Plant Heat Rate BTU/kWh (LHV)	6,666
Reference Gas Price (PKR/MMBTU)	240.91
LHV-HHV Factor	1.107553
Adjusted Reference Gas Price (PKR/MMBTU)	266.82
Rupee/Dollar Exchange Rate	Rs. 60

78. Having considered the assumptions and parameters in line with Authority's earlier tariff determinations, the Authority determines the fuel cost component of energy charge as Rs.1.7797 per kWh.

79. The Petitioner has based its calculations of fuel cost component in case of plant operation on HSD assuming 47.78% thermal efficiency at full load and heating value of 42,769 BTU/Kg. SPL's proposed machines are similar to that of M/s Orient Power Company Ltd. Orient indicated thermal efficiency of 48.5% and heating value (LHV) of 40,140 BTUs per litre. The Authority considers that the thermal efficiency and heating value assumed by SPL are on lower side and need to be corrected. Accordingly the Authority has assessed fuel cost component of Rs. 6.3325 per kWh or US Cents 10.5541 per kWh in case of plant operation on HSD. The assessment is based upon the following;

Plant Load Factor	100%
Net Plant Heat Rate BTU/kWh (LHV)	7,037
Reference HSD Price (PKR/litre) -Ex-GST	32.43
LHV-HHV Factor	1.06
Adjusted Reference HSD Price (PKR/Litre)	34.37
Heating Value of HSD BTUs per Kg	44,045
Rupee/Dollar Exchange Rate	Rs. 60

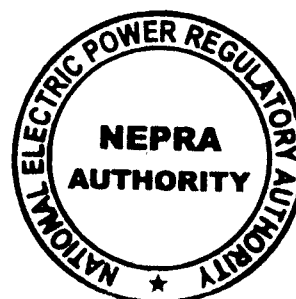
80. The Authority has considered SPL's request regarding fuel cost component adjustment with respect to increase in heat rate as per heat rate curves provided by the gas turbine manufacturer and is of the view that the proposed adjustments except compensation for changes in ambient temperature are the subject of PPA and should be addressed therein. As regards the compensation for adjustment due to change in ambient temperature this has been taken care of while determining the net capacity at site conditions.

Variable O&M

81. SPL has requested Rs. 0.19 per kWh as variable O&M in order to recover:



- i) Service fees of the O&M operator on KWh basis for day to day management of the plant,
 - ii) Replacement of spare parts on completion of service life of such parts as well as replacement on premature failure of parts,
 - iii) Cost of unscheduled maintenances which are separate from major overhauls,
 - iv) Consumption of lubricants,
 - v) Water treatment,
 - vi) Chemicals,
82. According to SPL this component is US dollar based as it includes imported spare parts as well as technical services to be procured from abroad. SPL has accordingly requested adjustment on account of variation in US\$/PKR exchange rate as well as US CPI. SPL has based its calculations of variable O&M at 60% plant factor. The Authority is of the view that the variable costs from i to iii are directly related to the plant operation and will be incurred after certain number of hours of plant operation, which means if plant operates at full capacity then the replacement of parts and major overhauling has to be done earlier and in case of less operation of plant the maintenance would be required at a later stage. In Authority's opinion it will not be appropriate to assess the costs of spares, service fee of O&M with the annual plant factor.
83. In order to make fair assessment of the variable O&M cost, the Petitioner was advised to provide complete information of its maintenance schedule duly supported with the evidence. According to the Petitioner the O&M Operator for Long Term Service Contract has demanded US\$34 million for providing maintenance services including major overhauls for a cycle of 48,000 operating hours. The Petitioner has further informed that in addition to this amount the O&M Operator shall charge US\$5 million as fixed fee for each cycle of plant operation. The Petitioner has stated that it has assumed variable O&M cost of US\$ 29.2 million. This amount includes US\$ 3.653 for consumables. The Authority considers that the amount indicated by the Petitioner appears to be reasonable therefore is accepted.
84. Based upon the net capacity of about 209 MW and 48000 operating hours, the Authority has assessed Rs. 0.1528 per kWh and Rs. 0.0218 per kWh as variable O&M other than consumables and variable O&M for



consumables respectively. The Petitioner has asked for application of indexation of local inflation to variable O&M component pertaining to consumables. The Authority considers that the component of variable O&M pertaining to consumables is not significant to provide separate indexation. For the purpose of indexation this component shall be considered as foreign component and shall be indexed with currency fluctuation i.e. US\$/PKR.

85. The request of the Petitioner for adjustment in variable O&M on account of currency fluctuation is in line with Authority's earlier decisions relating to IPPs. However the request for US CPI indexation is in conflict with GOP Power Policy 2002 therefore the request for US CPI cannot be entertained and is disallowed. In case GOP modifies its policy the Petitioner can seek the application of US CPI adjustment.

Hedging Cost During Construction

86. The Authority has considered Petitioner's concerns and is of the view that any variation in project cost during construction period on account of variation in Dollar/Rupee parity should 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. SPL's final reference tariff table shall be revised on COD to incorporate all the adjustments allowed by the Authority during the construction period.

Interconnection for Power Dispersal

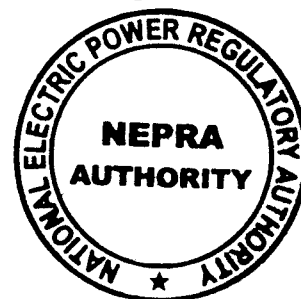
87. SPL has referred to interconnection study for power dispersal by Planning Department NTDC November 2005 according to which the power to NTDC electrical system will be supplied through four 132 KV transmission lines, two lines will be connected with the existing Qadirabad grid station and two lines will be connected to newly proposed grid station near the power plant (Reference: "Interconnection Study of Power Dispersal" by Planning Department, NTDC, November 2005).

Reference Tariff

88. After reviewing the evidence submitted during the proceedings and from information gained through other sources, the Authority has determined the reference tariff for SPL as indicated in the following table:

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Reference Tariff

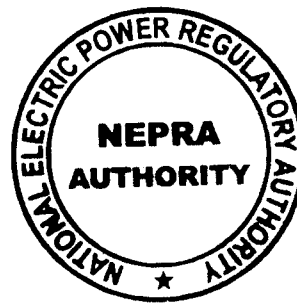
Tariff Components	Year 1 to 10	Year 11 to 30	Indexation
Capacity Charge (PKR/kW/Month)			
O&M Foreign	47.5558	47.5558	US\$ to Rupee
O&M Local	31.7039	31.7039	WPI
Cost of Working Capital *	11.2625	11.2625	NIL
Insurance	46.4826	46.4826	US\$ to Rupee
Debt Service	624.1203	-	KIBOR
Return on Equity	137.0446	137.0446	NIL
ROE during Construction	11.1006	11.1006	NIL
Total Capacity Charge	909.2703	285.1500	
* In case of plant operation on HSD cost of working capital shall be paid on 15 days inventory level basis which is Rs. 24.1339 Rs./kW/month or Rs. 0.0331 per kW per 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	6.3325	6.3325	Fuel Price
Variable O&M	0.2520	0.2520	\$ to Rupee

- Note: i) Capacity Charge Rs./kW/month is 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.

I). One Time Adjustmenta) Adjustment due to variation in net capacity

89. The reference tariff has been determined on the basis of net capacity of 208.965 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. The adjustments shall be made according to the following formula:

- | | | |
|------------------------------|---|---------------------------------|
| i) Revised Fixed O&M Foreign | = | 47.5558/tested IDC x 208.965MW |
| ii) Revised Fixed O&M Local | = | 31.7039/tested IDC x 208.965MW |
| iii) Insurance | = | 46.4826/tested IDC x 208.965MW |
| iv) Debt Service | = | 623.6955/tested IDC x 208.965MW |
| v) Return on Equity | = | 136.9514/tested IDC x 208.965MW |
| vi) ROE during Construction | = | 11.0931/tested IDC x 208.965MW |
| vii) Variable O&M | = | 0.1528/tested IDC x 208.965MW |



b) Adjustment in Insurance Component

90. Insurance component of reference tariff shall be adjusted as per actual on yearly basis upon production of authentic documentary evidence by SPL according to the following formula;

$$\text{Insurance (Revised)} = \text{AIC} / \$1.94 \text{ million} \times \text{AP}$$

Where;

AIC = Adjusted Insurance Component as per IDC Test

AP = Actual Premium

c) Adjustment due to custom duties and Interest during Construction

91. Debt Service, Return on Equity and ROE during construction shall be made on account of actual variation in customs duties and Interest During Construction with reference to the estimated figures of USD 5.04 million and USD 16.84 million respectively.

II). Pass-Through Items

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

III). Indexations:

93. The following indexations shall be applicable to reference tariff;

a). Indexation applicable to O&M

94. 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:

(i) Fixed O&M

$$F O\&M_{(RWPI)} = \text{Rs.31.7039 per kW per Month} * WPI_{(REV)} / 117.80$$

$$F O\&M_{(RE)} = \text{Rs. 47.5558 per kW per Month} * ER_{(REV)} / 60$$

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.

(ii) Variable O&M

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

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

Where:

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

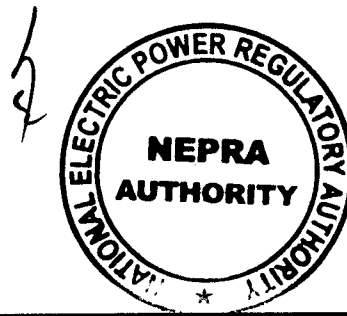
$ER_{(REV)}$ = the Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan

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.

IV). Adjustment for KIBOR variation

96. 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;

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 9.05\%) / 4$$



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 $< 9.05\%$. 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.

V). Fuel Price Variation

97. 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 SPL's allowed rate relating to fuel cost shall be revised according to the following formula:

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

Where:

$FCg(Rev)$ = Revised fuel cost component of Variable Charge on gas

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

$$FCd(Rev) = Rs. 6.3325 \text{ per kWh} * FP(Rev)/Rs. 34.37 \text{ per Litre (Ex-GST)}$$

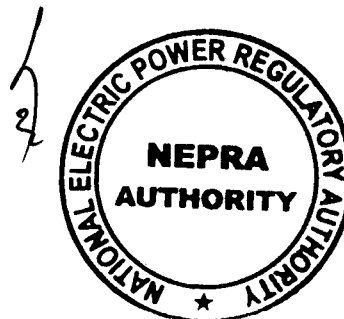
Where:

$FCd(Rev)$ = 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 LHV-HHV factor.

98. Request for adjustment on account of inflation, foreign exchange variation, KIBOR variation and fuel price variation shall be filed by SPL with in seven days of the applicable date indicating the level of indexation estimated to NTDC. The Authority will approve and announce the

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adjustments for immediate application with in seven days of the request filed by SPL.

ORDER

99. Pursuant to Rule 6 of the NEPRA Licensing (Generation) Rules 2000, Saif Power Limited is allowed to charge, subject to adjustment of Capacity Purchase Price on account of net dependable capacity as determined by test to be carried out by an independent engineer in the presence of Central Power Purchasing Agency (CPPA) and the Petitioner, the following specified tariff for delivery of electricity to CPPA of NTDC for procurement on behalf of Ex-WAPDA Distribution Companies:

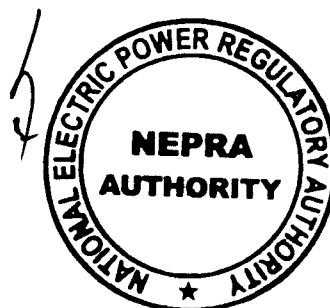
Reference Tariff

Tariff Components	Year 1 to 10	Year 11 to 30	Indexation
Capacity Charge (PKR/kW/Month)			
O&M Foreign	47.5558	47.5558	US\$ to Rupee
O&M Local	31.7039	31.7039	WPI
Cost of Working Capital *	11.2625	11.2625	NIL
Insurance	46.4826	46.4826	US\$ to Rupee
Debt Service	624.1203	-	KIBOR
Return on Equity	137.0446	137.0446	NIL
ROE during Construction	11.1006	11.1006	NIL
Total Capacity Charge	909.2703	285.1500	
* In case of plant operation on HSD cost of working capital shall be paid on 15 days inventory level basis which is Rs. 24.1339 Rs./kW/month or Rs. 0.0331per kW per 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	6.3325	6.3325	Fuel Price
Variable O&M	0.2520	0.2520	\$ to Rupee

- Note: i) Capacity Charge Rs./kW/month is 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;

h



I). One Time Adjustmenta) Adjustment due to variation in net capacity

The reference tariff has been determined on the basis of net capacity of 208.965 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. The adjustments shall be made according to the following formula:

i) Revised Fixed O&M Foreign	=	47.5558/tested IDC x 208.965MW
ii) Revised Fixed O&M Local	=	31.7039/tested IDC x 208.965MW
iii) Insurance	=	46.4826/tested IDC x 208.965MW
iv) Debt Service	=	623.6955/tested IDC x 208.965MW
v) Return on Equity	=	136.9514/tested IDC x 208.965MW
vi) ROE during Construction	=	11.0931/tested IDC x 208.965MW
vii) Variable O&M	=	0.1528/tested IDC x 208.965MW

b) Adjustment in Insurance as per actual

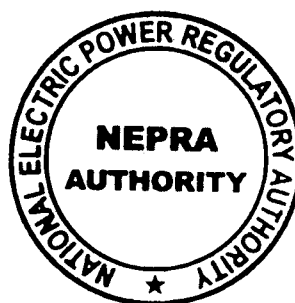
Insurance part of reference tariff shall be adjusted at COD as per actual based upon the authentic documentary evidence to be provided by SPL.

c) Adjustment due to custom duties and Interest during Construction

Debt Service, Return on Equity and ROE during construction shall be made on account of actual variation in customs duties and Interest During Construction with reference to the estimated figures of USD 5.04 million and USD 16.84 million respectively.

II). Pass-Through Items

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



III). Indexations:

The following indexations shall be applicable to reference tariff;

a) 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:

(i) Fixed O&M

$$F O\&M_{(RWPI)} = \text{Rs.}31.7039 \text{ per kW per Month} * WPI_{(REV)} / 117.80$$

$$F O\&M_{(RE)} = \text{Rs.} 47.5558 \text{ per kW per Month} * ER_{(REV)} / 60$$

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

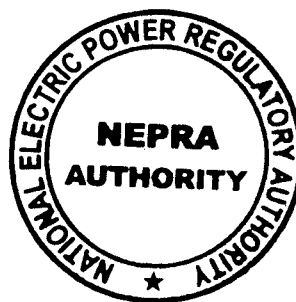
$ER_{(REV)}$ = the Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan

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

(ii) Variable O&M

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

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



Where:

$V O\&M_{(REV)}$ = 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.

IV). 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;

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 9.05\%) / 4$$

Where:

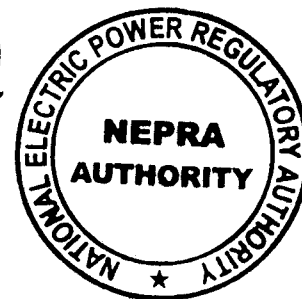
ΔI = the variation in interest charges applicable corresponding to variation in KIBOR. ΔI can be positive or negative depending upon whether KIBOR $REV >$ or $< 9.05\%$. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each quarter under adjustment applicable on quarterly

$P_{(REV)}$ = 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.

V). 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 SPL's allowed rate relating to fuel cost shall be revised according to the following formula:

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



Where:

FCg (Rev) = Revised fuel cost component of Variable Charge on gas

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

FCd(Rev) = Rs. 6.3325 per kWh * FP(Rev)/Rs. 34.37 per Litre (Ex-GST)

Where:

FCd (Rev) = Revised fuel cost component of Variable Charge on diesel

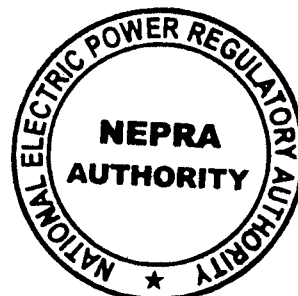
FPd(Rev) = The new price of diesel as notified by the relevant Authority per Litre of fuel adjusted for LHV-HHV factor.

Request for adjustment on account of inflation, foreign exchange variation, KIBOR variation and fuel price variation shall be filed by SPL with in seven days of the applicable date indicating the level of indexation estimated to NTDC. The Authority will approve and announce the adjustments for immediate application with in seven days of the request filed by SPL.

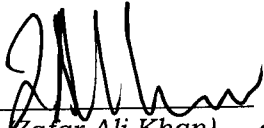
Terms and Conditions of Tariff:

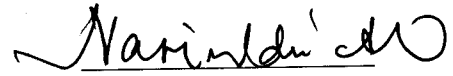
- i) Gas usage will be considered the primary fuel subject to (iii)
- ii) All equipment installed will be new and the plant will be of standard configuration.
- iii) Dispatch criterion will be based on the Energy Charge.
- iv) Diesel oil will be used only for startups and other contingent requirements.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

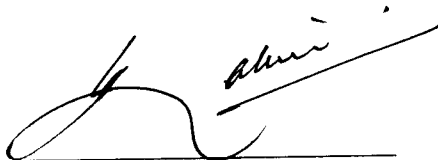





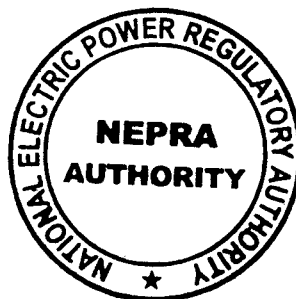
The above tariff and terms and conditions be incorporated as the specified tariff approved by the Authority pursuant to Rule 6 of the Licencing (Generation) Rules, in a Power Purchase Agreement between SPL and CPPA.


(Zafar Ali Khan)
Member


(Nasiruddin Ahmed)
Member


(Abdul Rahim Khan)
Member

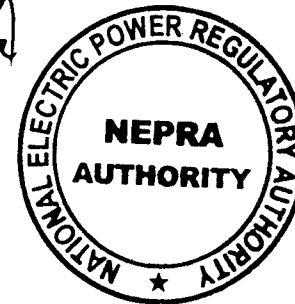

Lt. General (R) Saeed uz Zafar
Chairman





**SAIF POWER GENERATION
PLANT OPERATION ON GAS**

Year	Variable Charge (Rs./kWh)			Capacity Charge (Rs./kW/Month)										Total	
	Fuel	Variable O&M	Total	Fixed O&M Foreign	Fixed O&M Local	Financing Cost on Working Capital	Insurance	Return on Equity	Return on Equity for Construction Period	Withholding Tax @7.5%	Loan Repayment	Interest Charges	Total	Fixed costs at 60% Plant Factor Rs. / kWh	¢ / kWh
1	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	199.1797	424.9405	920.3812	4.0546	6.7577
2	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	224.2874	399.8329	920.3812	4.0546	6.7577
3	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	252.5600	371.5602	920.3812	4.0546	6.7577
4	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	284.3965	339.7237	920.3812	4.0546	6.7577
5	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	320.2462	303.8740	920.3812	4.0546	6.7577
6	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	360.6149	263.5053	920.3812	4.0546	6.7577
7	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	406.0723	218.0479	920.3812	4.0546	6.7577
8	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	457.2599	166.8604	920.3812	4.0546	6.7577
9	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	514.8999	109.2203	920.3812	4.0546	6.7577
10	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	579.8058	44.3145	920.3812	4.0546	6.7577
11	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
12	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
13	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
14	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
15	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
16	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
17	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
18	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
19	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
20	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
21	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
22	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
23	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
24	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
25	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
26	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
27	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
28	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
29	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	-	-	296.2609	2.6297	4.3828
30	1.7787	0.1746	1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	213.9025	192.9060	703.0694	3.5585	5.9308
Levelized Tariff (1-30 Years)			1.9533	47.5558	31.7039	11.2625	46.4826	137.0446	11.1006	11.1109	213.9025	192.9060	703.0694	3.5585	5.9308



**SAIF POWER GENERATION
PLANT OPERATION ON HSD**

Year	Variable Charge (Rs./kWh)			Capacity Charge (Rs./kW/Month)										Capacity Charges	Total	
	Fuel	Variable O&M	Total	Fixed O&M Foreign	Fixed O&M Local	Financing Cost on Working Capital	Insurance	Return on Equity	Return on Equity for Construction Period	Withholding Tax @7.5%	Loan Repayment	Interest Charges	Total	Rs. / kWh	Rs. / kWh	¢ / kWh
1	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	199.1797	424.9405	933.2526	2.1307	8.7152	14.5253
2	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	224.2874	399.8329	933.2526	2.1307	8.7152	14.5253
3	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	252.5600	371.5602	933.2526	2.1307	8.7152	14.5253
4	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	284.3965	339.7237	933.2526	2.1307	8.7152	14.5253
5	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	320.2462	303.8740	933.2526	2.1307	8.7152	14.5253
6	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	360.6149	263.5053	933.2526	2.1307	8.7152	14.5253
7	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	406.0723	218.0479	933.2526	2.1307	8.7152	14.5253
8	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	457.2599	166.8604	933.2526	2.1307	8.7152	14.5253
9	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	514.8999	109.2203	933.2526	2.1307	8.7152	14.5253
10	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	579.8058	44.3145	933.2526	2.1307	8.7152	14.5253
11	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
12	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
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21	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
22	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
23	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
24	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
25	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
26	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
27	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
28	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
29	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
30	6.3325	0.2520	6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	-	-	309.1324	0.7058	7.2903	12.1504
Levelized Tariff (1-30 Years)			6.5845	47.5558	31.7039	24.1339	46.4826	137.0446	11.1006	11.1109	213.9025	192.9060	715.9409	1.6346	8.2191	13.6984
Levelized Tariff per kWh				0.1086	0.0724	0.0551	0.1061	0.3129	0.0253	0.0254	0.4884	0.4404	1.6346			

