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Islamic Republic of Pakistan

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No. NEPRA/R/ADG(Trf)/TRF-456/SEPL-2018/1402-1404
January 12, 2021

Subject: Decision of the Authority in the matter of Motion for Leave for Review filed by Shafi Energy (Pvt.) Ltd. against the Tariff Determination dated August 7, 2020 (Case No. NEPRA/TRF-456/SEPL-2018)

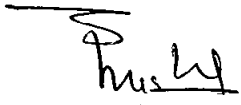
Dear Sir,

Please find enclosed herewith the subject Decision of the Authority along with Annex-I, II & III (18 Pages) in Case No. NEPRA/TRF-456/SEPL-2018.

2. The Decision is being intimated to the Federal Government for the purpose of notification in the official gazette pursuant to Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

3. The Order along with Annex-I, II & III of the Authority's Decision is to be notified in the official Gazette.

Enclosure: As above


12 01 21
(Syed Safeer Hussain)

Secretary
Ministry of Energy (Power Division)
'A' Block, Pak Secretariat
Islamabad

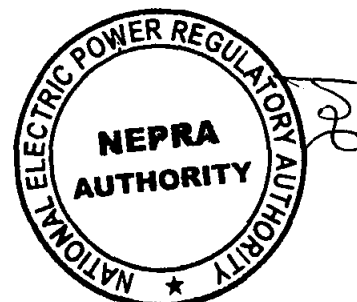
CC: 1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
2. Secretary, Ministry of Finance, 'A' Block, Pak Secretariat, Islamabad

**DECISION OF THE AUTHORITY IN THE MATTER OF MOTION FOR LEAVE FOR REVIEW FILED BY
SHAFI ENERGY (PVT) LIMITED AGAINST THE TARIFF DETERMINATION DATED AUGUST 7, 2020**

1. Shafi Energy (Pvt.) Limited ("SEPL" or the "the Petitioner") vide letter dated August 20, 2020 filed Motion for Leave for Review ("Review Motion") against the Tariff Determination ("Tariff Determination" or "Impugned Determination") issued by National Electric Power Regulatory Authority ("NEPRA" or "the Authority") on August 7, 2020 in respect of SEPL's 50 MW wind power project ("Project"), to be setup at Jhimpir, District Thatta, Sindh. The Authority through Impugned Determination approved tariff of Rs. 5.1966/kWh for SEPL along with terms and conditions.
2. The Review Motion is filed by SEPL under Section 7(2)(G) and Section 31 of the Regulation of Generation, Transmission & Distribution of Electric Power Act, 1997 ("NEPRA Act"), read with Rule 16(6) of the NEPRA (Tariff Standards and Procedure) Rules, 1998 ("Tariff Rules") and Regulation 3(2) of the NEPRA (Review Procedure) Regulations, 2009 ("Review Regulations"), each as amended from time to time.

Proceedings

3. The Authority admitted the Review Motion on September 8, 2020 and decided to conduct hearing on this matter. The hearing was scheduled for September 23, 2020 through Zoom starting from 10:00 A.M onwards. Notices of hearing were sent to relevant stakeholders and to SEPL on September 11, 2020. The copy of the Review Motion was placed on NEPRA's website for information of relevant stakeholders. The hearing was held as per the schedule which was attended by SEPL and the representative of Central Power Purchasing Agency Guarantee Limited ("CPPAGL"). The Petitioner has sought review on the following grounds:
 - i) EPC Cost
 - ii) Project Development Cost
 - iii) Financial Fee and Charges
 - iv) Return on Equity
 - v) Capacity Factor
 - vi) O&M Cost
4. Following are the arguments as submitted by the Petitioner in the Review Motion and during the course of hearing for the review of the above listed parameters.



EPC Cost

5. SEPL submitted that the Authority allowed it EPC cost of around USD 46 million against the claimed amount of USD 68 million. In the Review Motion, SEPL submitted that it will be able to achieve EPC price of USD 55 million, based on the recent discussions with the EPC Contractor. The Impugned Determination, according to the Petitioner, does not provide any basis for the determined EPC cost. SEPL submitted that despite a recent significant decline in the prices of wind turbines, the EPC prices determined by NEPRA are lower than the level prevailing in the market. According to the Petitioner, the EPC costs based on generalized regional and international cost analysis as published by Bloomberg and International Renewable Energy Agency ("IRENA") are not applicable in the case of Pakistan due to the addition of country risk premium and country default swap insurance. Further, the Petitioner submitted that the Authority appeared to have applied the reduction in wind turbine prices to whole of EPC costs which is incorrect as the costs such as civil works, commissioning, transportation, interconnection works etc. have increased substantially over the past 3 years.

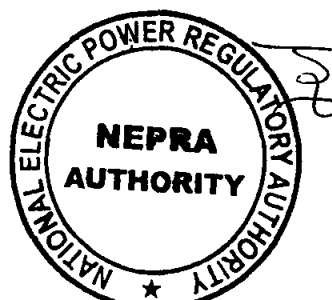
Project Development Cost

6. The Authority allowed the Project Development Cost ("PDC") of USD 1.667 million to SEPL against the claim of USD 3 million. In the Review Motion, the Petitioner has requested to allow USD 2.5 million under this head. The Petitioner submitted that back in 2018, the Authority had approved the PDC of USD 2.5 million for wind power projects having capacity of 50 MW. In terms of PKR, that amount works out to be Rs. 300 million (PKR 120/USD). In the subject case, the approved amount translates into PKR 283 million (PKR 168.75/USD). That is, the earlier approved amount has been reduced by 33% in terms of USD and by 6% in terms of PKR. SEPL also submitted that PDC includes certain costs that are denominated in foreign currency, however, they were out rightly ignored by the Authority as the whole cost has been approved in local currency. The Petitioner submitted that even if the PDC approved in 2018 tariff is benchmarked, the Authority should consider increasing the same such that it should be reflective of the inflation over the past 2 years. To provide a perspective, the Petitioner has submitted a breakup of its PDC costs (incurred and estimated) aggregating to PKR 402.80 million.

Financing Fee & Charges

7. SEPL submitted that the Authority has allowed around USD 0.77 million under the captioned head against the claimed amount of USD 1.71 million. The approved amount was calculated at 2% of debt portion of project cost (excluding financial charges and interest during construction). The Petitioner submitted that it is unjustified to determine financial

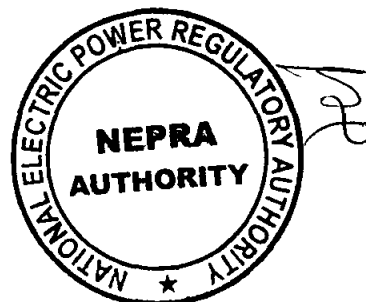
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charges on debt portion of the capital cost (EPC + PDC + Insurance) and that the approved amount works out to be 1.9% of the debt portion of the total project cost. It requested to allow this cost at the rate of 2.5% of total allowed debt. SEPL informed that certain portion of the captioned head is of fixed nature and therefore larger projects (in terms of total project cost) can manage their fixed costs within a cap of 2.0%, however, it is not possible for smaller projects to manage the same within this benchmark. The Petitioner also identified and submitted the details of an aggregate amount of USD 1.275 million on account of financing fee & charges that needs to be covered.

Return on Equity

8. The Petitioner has requested for Return on Equity ("ROE") of 14% (both during construction and operation) against the determined rate of 13%. According to the Petitioner, the Authority decreased ROE without any justifiable argument and has requested to provide the basis of this reduction. SEPL submitted that income tax rate for dividends has recently been increased to 25% (withholding tax increase from earlier rate of 7.5% to 15%), therefore, based on the determined ROE of 13%, the sponsor's actual return works out to be around 9.75% while the 10-year Pakistan Investment Bond is offering a risk free return of 9.5%. Secondly, according to the Petitioner, under the financing agreements, it is required to provide contingency support, Debt Service Reserve Account support and other such supports to the lenders which ranges between USD 10 – 12 million that reduce the return further by 2% – 3%.
9. The Petitioner also submitted that the Authority in the Impugned Determination has introduced a mechanism whereby the adjustment and payment of return components has been approved on yearly basis. The Petitioner submitted that lenders require a Debt Service Coverage Ratio ("DSCR") of 1.3 at every debt repayment period. According to the Petitioner, the aforesaid mechanism does not allow the lenders to approve the project for debt commitment as if the return components are not paid to the company on a regular basis, it is impossible to achieve a DSCR higher than 1.
10. SEPL also requested to provide the claw back mechanism formula for which only provision has been included in the Impugned Determination. The Petitioner also stated that claw back formula should be devised considering the fact that now wind risk has to be borne by the producer so any shortfalls in returns due to wind risk may be allowed to be carried forward in the succeeding years.



O&M Costs

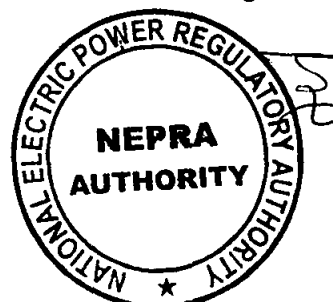
11. The Petitioner has requested USD 23,000/MW/year against the determined O&M cost of USD 21,000/MW/year. According to the Petitioner, while reducing O&M costs from 23,000/MW/year (approved in 2018) to the determined costs, the Authority has ignored the inflationary impact from 2018 to 2020 and has also not considered the fact that 60%-70% O&M costs are denominated in USD. It also submitted details of the O&M cost summing up to the level of USD 1.32 million per annum.
12. Further, the Petitioner submitted that the Authority has introduced following new mechanism in the Impugned Determination:

"The Authority has decided to allow O&M cost into local and foreign components in the ratio of 50:50. Additionally, the Authority has decided that the approved O&M shall be applicable for first two years of operations. Afterward, the Authority may consider making revisions in the O&M cost, while capping the allowed prevailing level, anytime during the tariff control period. Those revisions may also entail changing the mix of the approved O&M cost (local and foreign) as well as the indexation mechanism (indices, frequency etc.). For that purpose, the Authority may also direct the Petitioner to carry out the competitive bidding to select the contractor for the provision of the O&M cost."

13. The Petitioner submitted that wind projects in Pakistan, being of project finance nature, are required to engage Original Equipment Manufacturers ("OEM") of Wind Turbine Generators ("WTGs") as Long Term ("LT") O&M Contractors, hence, competitive bidding for LT O&M Operator during debt servicing is not possible. It stated that financiers, in particular for Pakistan wind sector, require a certainty with respect to LT O&M at the outset for the entire debt service tenor (i.e. a minimum of 11 years after 2 years of warranty period) and the Petitioner shall have to enter into a firm agreement much ahead of completing the construction. Further, SEPL stated that as the approved O&M cost is below the annual estimates and therefore further risk of split and review and revision of indexation makes it difficult for the lenders to accept this condition. Given the above, the Petitioner has requested the Authority to remove the requirement of competitive bidding as well as revision in local/foreign mix and indexation mechanism of approved O&M cost.

Capacity Factor

14. SEPL has requested the Authority to revise the determined capacity factor of 45% to the level of 38% as per Wind Resource Assessment Study ("WRA") submitted by the Petitioner. It stated that no basis for approving the annual capacity factor of 45% was provided in the Impugned Determination. According to the Petitioner, online tools or engineering formulas



for determining energy from wind speeds are not bankable and dependable for such large-scale and long-life projects. The Petitioner further submitted that sales claims by various equipment manufacturers are also unreliable because they are based on lenient assumptions which vary from on-ground realities. The Petitioner also submitted that wind resource varies significantly from one location to another, therefore, the Authority's analysis of the energy yields of the prevailing operational wind plants (within and outside Pakistan) ignores the implication of variation in wind resource from one site to another. The most relevant factor, according to the Petitioner, that has an impact on capacity factor is the improvement in efficiency in wind turbines, however, in the instant case, the Project is utilizing exactly the same wind turbine as that of the wind power projects which have achieved financial close in 2019, therefore, the Authority may refer to the capacity factors as determined in those cases to approve the same in the instant case. The Petitioner also highlighted that the determined capacity factor would not be acceptable to the lenders to finance the Project.

Comments of CPPAGL

15. CPPAGL vide letter dated September 21, 2020 as well as during the hearing provide following comments:

"It is submitted that all of the 5 wind power projects namely Moro Power Company, Sino Well, Shafi Energy, Iran-Pak Wind Power and Norinco International Thatta Power fall under category-III of the CCoE decisions dated March 29, 2019, April 19, 2019 and June 16, 2020 whereby CCoE directed that "Projects that have been issued LOI prior to the expiry of RE Policy, 2006 on March 8, 2018, but have not received a tariff from NEPRA, may be allowed to proceed ahead subject to becoming successful in the competitive bidding process to be undertaken by AEDB specifically designed for each technology under this category based on the quantum ascertained for each technology by Indicative Generation Capacity Expansion Plan (IGCEP) by NTDC."

16. The above mentioned decisions of CCoE is binding on CPPAGL. Therefore, stance of this office as communicated vide letter referred may be considered for instant determination also. Furthermore, it is reiterated that tariff be awarded to subject WPPs through process of competitive bidding under ARE Policy 2019."

Analysis and Decision of the Authority

17. The Authority noted that most of the submissions made with respect to aforementioned grounds/parameters have already been deliberated upon by the Authority in the Impugned Determination and that the Petitioner has neither produced new and important documentary evidence in support of its claim nor pointed out any error or mistake therein

as required under Review Regulations. That is, regarding EPC cost, the Authority noted that while requesting for additional amount, the Petitioner failed to produce new documentary evidence to support the same. Likewise, in the case of PDC, the grounds raised by the Petitioner were already considered in the Impugned Determination wherein it is clearly stated that PDC, as considered rationale by NEPRA, was allowed. While determining Financing Fee & Charges, the Authority approved costs in line with its Benchmark for Tariff Determination Guidelines, 2018, which were issued well in advance and were applicable on all subsequent projects including the instant case. Regarding O&M costs, the impact of inflation (both foreign and local) was duly taken into account while approving the amount of USD 21,000/MW/Year. About the ROE, the Authority considered the arguments of the petitioner, however, decided to maintain the approved figure of 13%.

18. With respect to the condition of revision of the O&M cost (amount, mix, indexation) through, inter alia, competitive bidding, the Authority during the hearing asked the representative of the Petitioner about the possibility of giving 1st right of refusal to the OEM while conducting the bidding to select the O&M contractor. The petitioner responded that this arrangement may be discussed and that it shall file comments thereon, however, no comments were filed. The Authority noted that since 2013, reduction in the approved O&M costs to the tune of around 50% has been made in light of the decreasing O&M cost trends that occurred across the world primarily due to the increase in competition in this industry. The Authority noted that this decrease may continue in the future as well, therefore, it may not be considered appropriate and justified to let the approved O&M cost remain fixed for the whole tariff term. However, the Authority noted that it is in the process of developing the legal framework for the review of O&M cost through, inter alia, competitive bidding and this matter shall be governed under that document.
19. With respect to payment of return on equity components on monthly instead of yearly basis, it is viewed that the Petitioner has put forth sufficient reasons and the Authority has decided to approve monthly payment of the said components. For that purpose, the tariff being approved through the instant decision has been computed taking into account the monthly payments of return on equity components such that annual rate comes out as 13%. Regarding the request of the Petitioner to disclose the mechanism of claw back, the Authority noted that it is in the process of developing the related legal framework wherein the said mechanism shall be stated and this matter then shall be governed under that document.
20. The Authority has noted that the capacity factor approved in the Impugned Determination was assessed by NEPRA using the standard tools. One of the argument put forth by the Petitioner that capacity factor should be approved based on WRA as the same has been

carried out by professional teams and consultants. The Authority noted that it was analyzed and stated in the Impugned Determination that the results presented in the WRA, as submitted by SEPL, are on the lower side. It is found that a number of operational wind power plants that submitted WRAs of achieving annual capacity factor of not more than 34-35% have agreed on producing energy to the level of 40-42% (90% probability level) in their financing documents. This actually strengthens the position of the Authority that the estimated energy number, as stated in the WRAs submitted to NEPRA, are conservative. Nevertheless, the Authority has also considered the submissions put forth by the Petitioner with respect to bankability of the Project and has decided to approve the tariff of SEPL based on capacity factor 39%. However, keeping in view the assessed potential of higher generation, the Authority has decided to approve the following sharing mechanism.

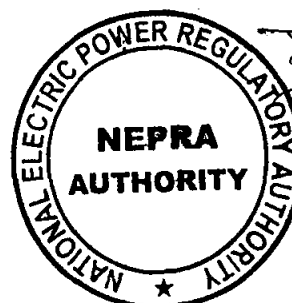
Net Annual Plant Capacity Factor	% of prevalent tariff allowed to power producer
Upto 45%	-
45% to 47%	10%
47% to 48%	20%
48 to 49%	30%
Above 49%	40%

21. The Authority has considered the submissions put forth by CPPAGL and is of the view that those points had already been considered and addressed in the Impugned Determination.

22. **Order**

In pursuance of section 7(3)(a) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with NEPRA (Tariff Standards & Procedure) Rules, 1998, the Authority hereby determines and approves the following generation tariff along with terms and conditions for Shafi Energy (Pvt.) Limited for its 50 MW wind power project for delivery of electricity to the power purchaser:

- Levelized tariff works out to be Rs. 5.9196/kWh (US Cents 3.5079/kWh).
- The tariff has been worked out on Build, Own and Operate basis.
- EPC cost of USD 46.120 million has been approved.
- PDC cost, including cost of land, of USD 1.677 million has been approved.
- Insurance during construction at the rate of 0.5% of the EPC cost has been allowed.
- Financing Fee & Charges at the rate of 2.0% of the debt portion of the capital cost has been approved.
- Debt to Equity ratio of 80:20 has been approved.



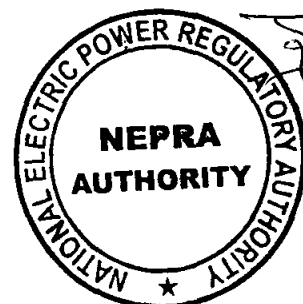
- Financing mix of 50% foreign and 50% local has been used.
- The cost of debt of 3 month LIBOR (0.302%) + spread (4.25%) has been used for foreign financing.
- The cost of debt of 6% (SBP Scheme) has been used for local financing.
- Debt Repayment period of 10 years has been taken into account for local financing under SBP Scheme.
- Debt Repayment period of 13 years has been taken into account for foreign financing.
- Annual ROE & ROEDC of 13% has been allowed.
- Net Annual Plant Capacity Factor of 39% has been approved.
- O&M Cost of USD 21,000 per MW per year has been approved.
- Insurance during Operation has been calculated as 0.4% of the allowed EPC Cost.
- Reference Exchange Rates of 168.75 PKR/USD has been used.
- Construction period of 15 months has been used for the workings of ROEDC and IDC.
- IDC and ROEDC have been worked out using following drawdown schedule:

Quarter 1	20%
Quarter 2	20%
Quarter 3	20%
Quarter 4	20%
Quarter 5	20%

- Detailed component wise tariff is attached as **Annex-I** of this decision.
- Debt Servicing Schedule for local loan is attached as **Annex-II** of this decision.
- Debt Servicing Schedule for foreign loan is attached as **Annex-III** of this decision.

A. One Time Adjustments at COD

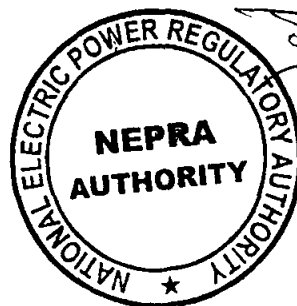
- The EPC cost shall be verified and adjusted at actual considering the approved amount as the maximum limit. Applicable foreign portion of the EPC cost will be adjusted at COD on account of variation in PKR/USD parity during the construction period, on production of authentic documentary evidence by the Petitioner to the satisfaction of the Authority. The adjustment in applicable foreign portion of the approved EPC cost shall be made only for the currency fluctuation against the reference parity values.



- The Petitioner has submitted M/s Det Norske Veritas certification No. TC-236603-A-2 dated May 29, 2015 about the design, specification and country of origin of various components of the wind turbine to be installed for the Project. At the time of COD stage tariff adjustments, the Petitioner will have to provide a confirmation from the EPC Contractor as to the fullest compliance of the equipment having same design and origin of manufacture as given in the type certificate. Where needed, the bill of lading and other support documents will also have to be submitted.
- PDC, Insurance during construction and Financing fee & charges shall be adjusted at actual at the time of COD considering the approved amount as the maximum limit. The amounts allowed on these accounts in USD will be converted in PKR using the reference PKR/USD rate of 168.75 to calculate the maximum limit of the amount to be allowed at COD.
- Duties and/or taxes, not being of refundable nature, relating to the construction period directly imposed on the company up to COD will be allowed at actual upon production of verifiable documentary evidence to the satisfaction of the Authority.
- The tariff has been determined on debt : equity ratio of 80 : 20. The tariff shall be adjusted on actual debt : equity mix at the time of COD, subject to equity share of not more than 20%. For equity share of more than 20%, allowed ROE shall be neutralized for the additional cost of debt : equity ratio.
- IDC will be recomputed at COD on the basis of actual timing of debt draw downs (for the overall debt allowed by the Authority at COD) for the project construction period of 15 months starting from the date of financial close. For foreign loan, IDC shall also be allowed adjustment for change in applicable LIBOR.
- ROEDC will be adjusted at COD on the basis of actual equity injections (within the overall equity allowed by the Authority at COD) during the project construction period of 15 months from the date of financial close.
- For foreign and local loans, the savings in the approved spreads shall be shared between the power purchaser and power producer in the ratio of 60:40.

B. Indexations during Operations

ROE, ROEDC, Debt Servicing and O&M components shall be allowed adjustment on quarterly basis starting from 1st July, 1st October, 1st January and 1st April. Insurance shall be allowed adjustment on yearly basis starting from either 1st July or 1st January. The indexation mechanisms are given hereunder:



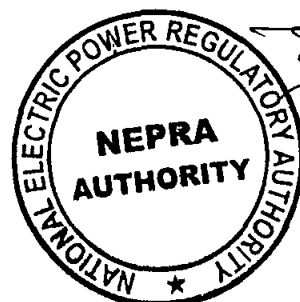
i) **Operation and Maintenance Costs**

O&M components of tariff shall be adjusted based on revised rates of local Inflation (CPI) as notified by Pakistan Bureau of Statistics, foreign inflation (US CPI) as notified by US Bureau of Labour Statistics and TT&OD selling rate of US Dollar as notified by National Bank of Pakistan according to the following formula;

F. O&M _(REV)	=	F. O&M _(REF) * US CPI _(REV) / US CPI _(REF) * ER _(REV) /ER _(REF)
L. O&M _(REV)	=	L. O&M _(REF) * CPI _(REV) / CPI _(REF)
Where;		
F. O&M _(REV)	=	The revised O&M Foreign Component of Tariff
L. O&M _(REV)	=	The revised O&M Local Component of Tariff
F. O&M _(REF)	=	The reference O&M Foreign Component of Tariff
L. O&M _(REF)	=	The reference O&M Local Component of Tariff
US CPI _(REV)	=	The revised US CPI (All Urban Consumers)
US CPI _(REF)	=	The reference US CPI (All Urban Consumers) of 256.394 for the month of May, 2020
CPI _(REV)	=	The revised CPI (General)
CPI _(REF)	=	The reference CPI (General) of 268.25 for the month of May, 2020
ER _(REV)	=	The revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan
ER _(REF)	=	The reference TT & OD selling rate of Rs. 168.75/USD

Note: (i) The reference index of CPI shall be revised for making the required adjustments in local O&M component at the time of COD. For the adjustment of local O&M component at COD, the revised CPI General value for the middle month of preceding quarter prior to the date of COD shall be considered. Thereafter, the CPI value taken at COD shall become reference for subsequent adjustments in the local O&M component.

(ii) The reference indices of US CPI and exchange rate shall be revised for making the required adjustments in foreign O&M component at the time of COD. For the adjustment of foreign O&M component at COD, the revised US CPI for the middle month of preceding quarter prior to the date of COD shall be considered. The revised exchange rate for the last day of the preceding quarter prior to the date of COD shall be considered. Thereafter, the values of US CPI and exchange rates taken at COD shall become reference for subsequent adjustments in the foreign O&M component.



ii) **Insurance during Operation**

The actual insurance cost for the minimum cover required under contractual obligations with the Power Purchaser, not exceeding 0.4% of the approved EPC cost, will be treated as pass through. Insurance component of reference tariff shall be adjusted annually as per actual upon production of authentic documentary evidence according to the following formula:

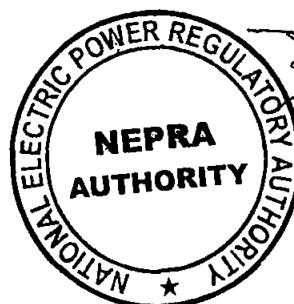
AIC	=	$Ins_{(Ref)} / P_{(Ref)} * P_{(Act)}$
Where;		
AIC	=	Adjusted insurance component of tariff
$Ins_{(Ref)}$	=	Reference insurance component of tariff
$P_{(Ref)}$	=	Reference premium @ 0.4% of approved EPC Cost at Rs. 168.75/USD
$P_{(Act)}$	=	Actual premium or 0.4% of the approved EPC Cost converted into Pak Rupees on exchange rate prevailing on 1 st day of the insurance coverage period whichever is lower

iii) **Return on Equity**

The ROE (ROE + ROEDC) component of the tariff will be adjusted quarterly on account of change in PKR/USD parity. The variation relating to these components shall be worked out according to the following formula:

$ROE_{(Rev)}$	=	$ROE_{(Ref)} * ER_{(Rev)} / ER_{(Ref)}$
Where;		
$ROE_{(Rev)}$	=	Revised ROE Component of Tariff
$ROE_{(Ref)}$	=	Reference ROE Component of Tariff
$ER_{(Rev)}$	=	The revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan
$ER_{(Ref)}$	=	The reference TT & OD selling rate of Rs. 168.75/USD

Note: The reference tariff component shall be revised after making the required adjustments at the time of COD.



iv) **Indexations applicable to debt**

For foreign debt, respective principal and interest components will be adjusted on quarterly (bi-annual/annual, if applicable) basis, on account of revised TT & OD selling rate of US Dollar, as notified by the National Bank of Pakistan as at the last day of the preceding period, over the applicable reference exchange rate as approved at COD.

v) **Variations in LIBOR**

The interest part of tariff component for the foreign loan shall also be subject to variation in interest rate as a result of variation in LIBOR according to the following formula:

ΔI	=	$P (REV) * (LIBOR (REV) - 0.3020\%) / 4$
Where;		
ΔI	=	The variation in interest charges applicable corresponding to variation in 3 month LIBOR. ΔI can be positive or negative depending upon whether 3 month LIBOR (REV) per annum > or < 0.3020%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each quarter under adjustment.
P (REV)	=	The outstanding principal (as indicated in the attached debt service schedule to this order), at the relevant quarterly calculations date. Quarter 1 shall commence on the COD (i.e. the first figure will be used for the purposes of calculation of interest for the first quarter after COD).
LIBOR (REV)	=	Revised 3 month LIBOR as at the last day of the preceding quarter.

Note: The reference tariff component shall be revised after making the required adjustments at the time of COD. These variations may also be approved on biannually/yearly basis depending on the final terms approved at the time of COD.

C. Terms and Conditions

The following terms and conditions shall apply to the determined tariff:

- All plant and equipment shall be new and of acceptable standards. The verification of the plant and equipment will be done by the Independent Engineer

at the time of the commissioning of the plant duly appointed by the power purchaser.

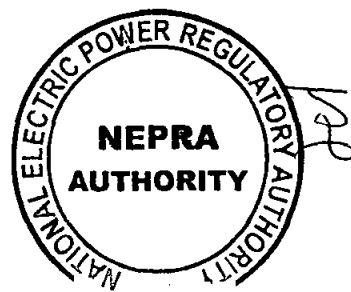
- This tariff will be limited to the extent of net annual energy generation supplied to the power purchaser up to 39% net annual plant capacity factor. Net annual energy generation supplied to the power purchaser in a year, in excess of 39% net annual plant capacity factor will be charged at the following tariffs:

<u>Net annual plant capacity factor</u>	<u>% of prevalent tariff allowed to power producer</u>
Upto 45%	-
Above 45% up to 47%	10%
Above 47% up to 48%	20%
Above 48% up to 49%	30%
Above 49%	40%

- The Petitioner is required to ensure that all the equipment is installed as per the details/specifications provided in the Generation License/Tariff Determination. Any change in the power curve of the turbines as provided in studies along with the petition and the relevant assumptions contained therein shall not be allowed.
- The Petitioner is required to maintain the availability levels as declared in the Tariff Petition and the studies provided therein. Necessary clauses shall be included in the EPA so that the power producer cannot intentionally suppress the capacity factors. NPCC shall conduct detailed monitoring/audit of the operational record/log of all the wind turbines on quarterly basis to verify output/capacity of the power plant.
- The risk of wind resource shall be borne by the power producer.
- In the tabulated above tariff, no adjustment for certified emission reductions has been accounted for. However, upon actual realization of carbon credits, the same shall be distributed between the power purchaser and the power producer in accordance with the applicable GOP Policy, amended from time to time.
- The Petitioner is hereby directed to secure the maximum available loan under the SBP Scheme. The savings in the cost of financing under SBP Scheme shall be shared between power purchaser and power producer in the ratio of 60:40 at the time of COD or during any time of the loan tenor, as applicable. The savings in the approved limit of spread over foreign loan shall also be shared between power purchaser and power producer in the ratio of 60:40 at the time of COD or during any time of loan tenor, as applicable.



- In case the company shall secure full or part of local conventional loan then the tariff of company shall be adjusted at the time of COD at applicable KIBOR + spread of 2.25%. The savings in the approved spreads during the loan tenor shall be shared between the power purchaser and power producer in the ratio of 60:40. The tenor of the debt servicing shall not be less than thirteen years for this loan.
- In case the company shall secure foreign loan under any credit insurance (Sinosure etc.) then the cost of that insurance shall be allowed to the maximum limit of 0.6% of the approved yearly outstanding principal and interest amounts. For financing with Sinosure, the spread/margin over LIBOR shall be adjusted to the extent such that the total financing cost (applicable LIBOR + Adjusted Margin + Sinosure) shall not exceed the financing cost without Sinosure (applicable LIBOR + Approved Margin).
- After two years of operations, the Authority may consider making changes in the O&M cost while capping the allowed prevailing level, which shall be governed under legal framework to be approved by the Authority in this regard.
- In case the company earns annual profit in excess of the approved return on equity (including ROEDC), then that extra amount shall be shared between the power producer and consumers through claw back formula to be decided by the Authority through the relevant framework. For that purpose, the share of producer as given in the bonus energy mechanism shall be taken into account.
- The company will have to achieve financial close within one year from the date of issuance of Tariff Determination. The tariff granted to the company will no longer remain applicable/valid, if financial close is not achieved by the company, for whatever reason, in the abovementioned timeline or its generation license is declined/revoked by NEPRA.
- The targeted maximum construction period from prescribed date/time of financial close is 15 months. No adjustment will be allowed in this tariff to account for financial impact of any delay in project construction. However, the failure of the company to complete construction within 15 months will not invalidate the tariff granted to it.
- Pre COD sale of electricity is allowed to the project company, subject to the terms and conditions of EPA, at the reference tariff excluding debt servicing and return on equity components. However, pre COD sale will not alter the required commercial operations date stipulated by the EPA in any manner.




- In case the company is obligated to pay any tax on its income from generation of electricity, or any duties and/or taxes, not being of refundable nature, are imposed on the company, the exact amount paid by the company on these accounts shall be reimbursed on production of original receipts. This payment shall be considered as a pass-through payment. However, withholding tax on dividend shall not be a pass through item.
- No provision for the payment of Workers Welfare Fund and Workers Profit Participation has been made in the tariff. In case, the company has to pay any such fund, that will be treated as pass through item in the EPA.
- The approved tariff along with terms & conditions shall be made part of the EPA. General assumptions, which are not covered in this determination, may be dealt with as per the standard terms of the EPA.

23. The Order part along with three Annexures is recommended for notification by the Federal Government in the official gazette in accordance with Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

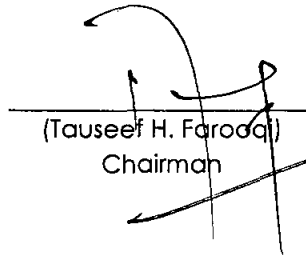
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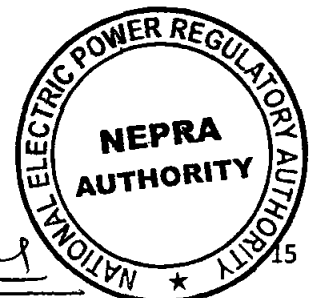

(Rafique Ahmed Shaikh)
Member

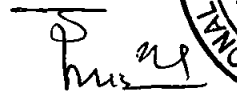

(Eng. Bahadur Khan)
Member


(Rehmatullah Baloch)
Member


(Saif Ullah Chattha)
Member
29.12.2020

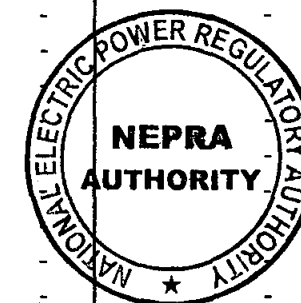

(Tauseef H. Farooqi)
Chairman




12.01.21

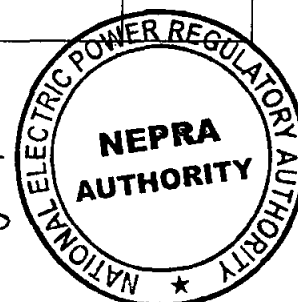
SHAFI ENERGY (PVT.) LIMITED
Reference Tariff Table

Year	O&M	Insurance	Return on Equity	Return on Equity during construction	Principal Repayment	Interest Charges	Tariff
	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh
1	1.0373	0.1822	1.2173	0.1031	2.6384	2.0379	7.2162
2	1.0373	0.1822	1.2173	0.1031	2.7831	1.8932	7.2162
3	1.0373	0.1822	1.2173	0.1031	2.9358	1.7405	7.2162
4	1.0373	0.1822	1.2173	0.1031	3.0971	1.5792	7.2162
5	1.0373	0.1822	1.2173	0.1031	3.2674	1.4089	7.2162
6	1.0373	0.1822	1.2173	0.1031	3.4472	1.2291	7.2162
7	1.0373	0.1822	1.2173	0.1031	3.6371	1.0392	7.2162
8	1.0373	0.1822	1.2173	0.1031	3.8377	0.8386	7.2162
9	1.0373	0.1822	1.2173	0.1031	4.0495	0.6268	7.2162
10	1.0373	0.1822	1.2173	0.1031	4.2732	0.4031	7.2162
11	1.0373	0.1822	1.2173	0.1031	1.8004	0.2270	4.5673
12	1.0373	0.1822	1.2173	0.1031	1.8838	0.1436	4.5673
13	1.0373	0.1822	1.2173	0.1031	1.9710	0.0564	4.5673
14	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
15	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
16	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
17	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
18	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
19	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
20	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
21	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
22	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
23	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
24	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
25	1.0373	0.1822	1.2173	0.1031	-	-	2.5399
Levelized Tariff	1.0373	0.1822	1.2173	0.1031	2.4037	0.9760	5.9196



SHAFI ENERGY (PVT.) LIMITED
Reference Debt Servicing Schedule - Local

Relevant Quarters	Base amount (Rs.)	Principal Repayment (Rs.)	Interest (Rs.)	Balance Principal (Rs.)	Total Debt Service (Rs.)	Annual Principal Repayment Rs./kWh	Annual Interest Rs./kWh
1	3,384,092,906	62,359,024	50,761,394	3,321,733,882	113,120,418	1.4934	1.1555
2	3,321,733,882	63,294,410	49,826,008	3,258,439,473	113,120,418		
3	3,258,439,473	64,243,826	48,876,592	3,194,195,647	113,120,418		
4	3,194,195,647	65,207,483	47,912,935	3,128,988,164	113,120,418		
5	3,128,988,164	66,185,595	46,934,822	3,062,802,569	113,120,418	1.5851	1.0638
6	3,062,802,569	67,178,379	45,942,039	2,995,624,190	113,120,418		
7	2,995,624,190	68,186,055	44,934,363	2,927,438,135	113,120,418		
8	2,927,438,135	69,208,846	43,911,572	2,858,229,289	113,120,418		
9	2,858,229,289	70,246,978	42,873,439	2,787,982,311	113,120,418	1.6823	0.9666
10	2,787,982,311	71,300,683	41,819,735	2,716,681,628	113,120,418		
11	2,716,681,628	72,370,193	40,750,224	2,644,311,434	113,120,418		
12	2,644,311,434	73,455,746	39,664,672	2,570,855,688	113,120,418		
13	2,570,855,688	74,557,582	38,562,835	2,496,298,106	113,120,418	1.7856	0.8633
14	2,496,298,106	75,675,946	37,444,472	2,420,622,159	113,120,418		
15	2,420,622,159	76,811,085	36,309,332	2,343,811,074	113,120,418		
16	2,343,811,074	77,963,252	35,157,166	2,265,847,822	113,120,418		
17	2,265,847,822	79,132,700	33,987,717	2,186,715,122	113,120,418	1.8951	0.7538
18	2,186,715,122	80,319,691	32,800,727	2,106,395,431	113,120,418		
19	2,106,395,431	81,524,486	31,595,931	2,024,870,945	113,120,418		
20	2,024,870,945	82,747,354	30,373,064	1,942,123,591	113,120,418		
21	1,942,123,591	83,988,564	29,131,854	1,858,135,027	113,120,418	2.0114	0.6375
22	1,858,135,027	85,248,392	27,872,025	1,772,886,635	113,120,418		
23	1,772,886,635	86,527,118	26,593,300	1,686,359,517	113,120,418		
24	1,686,359,517	87,825,025	25,295,393	1,598,534,492	113,120,418		
25	1,598,534,492	89,142,400	23,978,017	1,509,392,092	113,120,418	2.1348	0.5140
26	1,509,392,092	90,479,536	22,640,881	1,418,912,555	113,120,418		
27	1,418,912,555	91,836,729	21,283,688	1,327,075,826	113,120,418		
28	1,327,075,826	93,214,280	19,906,137	1,233,861,545	113,120,418		
29	1,233,861,545	94,612,495	18,507,923	1,139,249,051	113,120,418	2.2658	0.3830
30	1,139,249,051	96,031,682	17,088,736	1,043,217,369	113,120,418		
31	1,043,217,369	97,472,157	15,648,261	945,745,212	113,120,418		
32	945,745,212	98,934,240	14,186,178	846,810,972	113,120,418		
33	846,810,972	100,418,253	12,702,165	746,392,719	113,120,418	2.4049	0.2440
34	746,392,719	101,924,527	11,195,891	644,468,192	113,120,418		
35	644,468,192	103,453,395	9,667,023	541,014,797	113,120,418		
36	541,014,797	105,005,196	8,115,222	436,009,601	113,120,418		
37	436,009,601	106,580,274	6,540,144	329,429,328	113,120,418	2.5525	0.0964
38	329,429,328	108,178,978	4,941,440	221,250,350	113,120,418		
39	221,250,350	109,801,662	3,318,755	111,448,687	113,120,418		
40	111,448,687	111,448,687	1,671,730	(0)	113,120,418		



SHAFI ENERGY (PVT.) LIMITED
Reference Debt Servicing Schedule - Foreign

Relevant Quarters	Base amount (USD)	Principal Repayment (USD)	Interest (USD)	Balance Principal (USD)	Total Debt Service (USD)	Annual Principal Repayment Rs./kWh	Annual Interest Rs./kWh
1	20,053,084	284,862	228,213	19,769,022	513,075	1.1450	0.8824
2	19,769,022	288,103	224,971	19,480,919	513,075		
3	19,480,919	291,382	221,693	19,189,537	513,075		
4	19,189,537	294,698	218,377	18,894,839	513,075		
5	18,894,839	298,052	215,023	18,596,788	513,075	1.1980	0.8294
6	18,596,788	301,443	211,631	18,295,344	513,075		
7	18,295,344	304,874	208,201	17,990,471	513,075		
8	17,990,471	308,343	204,732	17,682,127	513,075		
9	17,682,127	311,852	201,223	17,370,275	513,075	1.2535	0.7739
10	17,370,275	315,401	197,674	17,054,874	513,075		
11	17,054,874	318,990	194,084	16,735,884	513,075		
12	16,735,884	322,620	190,454	16,413,263	513,075		
13	16,413,263	326,292	186,783	16,086,972	513,075	1.3115	0.7159
14	16,086,972	330,005	183,070	15,756,966	513,075		
15	15,756,966	333,761	179,314	15,423,206	513,075		
16	15,423,206	337,559	175,516	15,085,647	513,075		
17	15,085,647	341,400	171,675	14,744,247	513,075	1.3723	0.6552
18	14,744,247	345,285	167,790	14,398,962	513,075		
19	14,398,962	349,215	163,860	14,049,747	513,075		
20	14,049,747	353,189	159,886	13,696,559	513,075		
21	13,696,559	357,208	155,867	13,339,351	513,075	1.4358	0.5916
22	13,339,351	361,273	151,802	12,978,078	513,075		
23	12,978,078	365,384	147,691	12,612,693	513,075		
24	12,612,693	369,542	143,532	12,243,151	513,075		
25	12,243,151	373,748	139,327	11,869,403	513,075	1.5023	0.5252
26	11,869,403	378,001	135,074	11,491,402	513,075		
27	11,491,402	382,303	130,772	11,109,100	513,075		
28	11,109,100	386,653	126,422	10,722,447	513,075		
29	10,722,447	391,053	122,021	10,331,393	513,075	1.5718	0.4556
30	10,331,393	395,504	117,571	9,935,890	513,075		
31	9,935,890	400,004	113,070	9,535,885	513,075		
32	9,535,885	404,556	108,518	9,131,329	513,075		
33	9,131,329	409,160	103,915	8,722,169	513,075	1.6446	0.3828
34	8,722,169	413,817	99,258	8,308,352	513,075		
35	8,308,352	418,526	94,549	7,889,826	513,075		
36	7,889,826	423,289	89,786	7,466,538	513,075		
37	7,466,538	428,106	84,969	7,038,432	513,075	1.7208	0.3067
38	7,038,432	432,977	80,097	6,605,455	513,075		
39	6,605,455	437,905	75,170	6,167,550	513,075		
40	6,167,550	442,888	70,187	5,724,662	513,075		
41	5,724,662	447,928	65,147	5,276,734	513,075	1.8004	0.2270
42	5,276,734	453,026	60,049	4,823,708	513,075		
43	4,823,708	458,181	54,894	4,365,527	513,075		
44	4,365,527	463,395	49,680	3,902,132	513,075		
45	3,902,132	468,669	44,406	3,433,464	513,075	1.8838	0.1436
46	3,433,464	474,002	39,073	2,959,462	513,075		
47	2,959,462	479,396	33,679	2,480,066	513,075		
48	2,480,066	484,852	28,223	1,995,214	513,075		
49	1,995,214	490,369	22,706	1,504,845	513,075	1.9710	0.0564
50	1,504,845	495,950	17,125	1,008,895	513,075		
51	1,008,895	501,594	11,481	507,302	513,075		
52	507,302	507,302	5,773	0	513,075		

