

`振发巴基斯坦新能源有限公司

Zhenfa Pakistan New Energy Company (Private) Limited

October 15, 2019

The Registrar

National Electric Power Regulatory Authority

NEPRA Tower Attaturk Avenue (East),

Sector G-5/1, Islamabad.

Subject:

Submission of the Tariff Petition of 100 MWp Solar Power Project by

Zhenfa Pakistan New Energy Company (Pvt.) Limited (ZPNECPL)

Dear Sir,

We herewith submit the Company's Tariff Petition along with the fee as determined by the National Electric Power Regulatory Authority ("NEPRA" or the Authority) for kind consideration and favorable approval by the Authority in accordance, inter alia, with section-31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with Rule 3 of the NEPRA tariff Standards and Procedure Rules, 1998 and other applicable provisions of NEPRA law.

The Tariff Petition (including its Annexures) is submitted in triplicate herewith:

- **a.** HBL Bank Draft No. 01514162 dated Oct 3, 2019, amounting to PKR 1,066,128 (Pakistan Rupees one million sixty-six thousand one hundred and twenty-eight only) as requisite fee for Tariff Petition.
- b. Board Resolution of Zhenfa Pakistan New Energy Company (Pvt.) Limited.
- c. Affidavit of Mr. Maqsood Ahmad.

Yours sincerely,

Maqsood Ahmad

Chief Executive Officer

Zhenfa Pakistan New Energy Company (Pvt.) Limited

Mailing Address: 64/XX, Khayaban-e-Iqbal, DHA Phase 3, Lahore.

Tel: +92-42-37132637-38 Fax: +92-42-37132634. Email: zhenfaproject@outlook.com, magbas@atlas.com.pk



PETITIONER'S NAME AND ADDRESS

Zhenfa Pakistan New Energy Company (Pvt.) Limited (ZPNECPL)

MAILING ADDRESS:

64/XX, KHAYABAN-E-IQBAL, DHA PHASE 3, LAHORE, PAKISTAN TEL: +92-42-37132637-38-39-34 Fax: +92-42-37132634

REPRESENTATIVES OF PETITIONER:

Mr. Maqsood Ahmad Chief Executive Officer, Zhenfa Pakistan New Energy Company (Private) Limited

PROJECT SPONSORS:

- 1) Zhenfa Energy Group Co., Limited
- 2) Atlas Power Limited and its holding Company (Shirazi Investments Pvt. Limited)

PROJECT EPC:

PowerChina Huadong Engineering Corporation Limited.

No. 201 Gaojiou Road, Yuhang District,

Hangzhou City, Zhejiang Province,

China.





Grounds of Petition:

Legal Context and Project Background:

Under the Regulation for Generation, Transmission and Distribution of Electric Power Act (XL of) 1997 (the NEPRA Act), the National Electric Power Regulatory Authority (NEPRA) is responsible, inter alia, for determining tariffs and other terms and conditions for the supply of electricity through generation, transmission and distribution. NEPRA is also responsible for determining the process and procedures for reviewing tariffs and recommending tariff adjustments. Further, pursuant to the enabling provisions of the NEPRA Act, the procedure for tariff determination has been prescribed in the NEPRA (Tariff Standards and Procedure) Rules, 1998 (the NEPRA Rules).

M/s Zhenfa Pakistan New Energy Company (Private) Limited (ZPNECPL) has filled a Tariff Petition before NEPRA on September 26, 2017 in respect of its 100 MWp solar power project to be set up at Rakh Chaubara, Layyah, Punjab ("the Project"), the authority determines its tariff on August 13, 2018 (the Determination). Based on hearing and submissions authority award a tariff of US Cents 4.7746/kWh.

Afterward, the Project Company had filed a Motion for leave for review ("review motion") on October 10, 2018 regarding the following items. The Honorable Authority gave its decision on March 01, 2019 and determine the revised tariff of *US Cents* 4.9549/kWh.

- EPC cost
- Administration Cost
- Site, Security and Infrastructure cost
- Capacity Factor
- Return on Equity
- Capital Structure
- Debt Mix
- Financial Close Period from the date of Review Motion decision.

We are submitting this petition and requesting the levelized tariff at USD cent 4.8461 per kWh. It is pertinent to mention that our Review Motion was decided on March 01, 2019 covering all the major aspect of project cost therefore above tariff was not one-year-old (it was only 5 months & 12 days old from Review Motion decision date) hence did not lapse as per CCoE's decision being one-year-old. Nepra may consider this fact too while considering this petition.

Further NEPRA allowed us one year for the financial close in Review Motion decision but inadvertently from the date of original tariff determination i.e. 13 August 2018 instead of 01 March 2019, (the date of decision of review motion). If we had been given one-year time for financial close from the date of the review motion, we would have enough time to obtain LOS and achieve the financial close before 29 February 2020. Because of above inadvertence, ZPNECPL could not achieve financial close by August 12, 2019 and the reference tariff awarded to ZPNECPL expired on August 12, 2019.

As per paragraph 60 of the Determination, the Federal Government was intimated to notify the tariff in the official gazette pursuant to Section 31(4) of the NEPRA Act. However, neither any such notification was made by Federal Government, nor ZPNECPL was issued a Letter of Support (LOS) by the relevant agencies, in spite of it being compliant with all the requirements (ZPNECPL also submitted requisite performance guarantee to Alternative Energy Development Board (AEDB) of US\$ 250,000) of the Policy for Development of Renewable Energy 2006 (the RE Policy 2006).

As per CCoE decision dated 04 April 2019, the renewable energy projects were reactivated. They divided all the halted renewable energy projects into three categories. In category I there are 19 while 22 are in category II and rest all in category III. ZPNECPL project is at Sr. No. 20 in category II.

ZPNECPL was not issued a Letter of Support (LOS) by the relevant agencies, in spite of it being compliant with all the requirements due to certain process delays on the part of Governmental entities although we had the consent from MEPCO issued vide their letter no. 2042/CE/MEPCO/CSD/D(MKT)/PP-106/4107-42 dated April 24, 2019 (Annex 01) which was reconfirmed vide MEPCO Letter # 2164/CE/MEPCO/CSD/D(MKT)/PP-106/ 1780.87 dated August 6, 2019 (Annex 02) in response to the letters written by NTDCL letter no. GMPSP/CETP/TRP-380/4506-13 dated July 15, 2019 (Annex 03) and CPPAGL letter CPPAGL/DGM(REN)/MTT(H&S)/ZEGCL/15859-60 dated July 17, 2019 (Annex 04) respectively.

CPPAG against the above referred MEPCO Letter # 2164/CE/MEPCO/CSD/D(MKT)/PP-106/1780.87 dated August 6, 2019 (Annex 02) issued the consent latter to ZPNECPL vide its Letter # CPPAGL/ DGM(REN)/MTT(H&S)/ZEGCL/22076-77 dated August 12, 2019 (Annex 05) stating that:

"...In this regard it is to bring into your kind knowledge that CPPAG Board has considered your request regarding the issuance of consent for purchase of electricity from M/s ZPNECPL, since the tariff of the subject project has been expired/lapsed, accordingly you are requested to revalidate your tariff from NEPRA before formal consent be issued pursuant to CCOE decision dated 27-02-2019"

As per paragraph V of the Latest CCoE Decision, all projects that have been issued LOIs, granted tariff by NEPRA and issued a generation license (projects fall under Category II as mentioned above) will be allowed to proceed ahead towards the achievement of their requisite milestones as per the RE Policy 2006 (ZPNECPL is at serial no. 20 of Category II).

"...However, if the tariff validity period elapsed, NEPRA will be requested for review of the same to make it consistent with the current market environment and consumer interest. Such review will include appropriate time extension to reach financial closing."



The scope of the review on the Determination is established under paragraph XI that states:

"Projects that are going back for review of tariff will be asked to submit their applications on the basis of latest technology and technology related factors".

Keeping in view the above position ZPNECPL hereby submit tariff petition for determination by the Authority:

- In light of the above referred Latest CCoE Decision dated April 04, 2019.
- the NEPRA Act, and
- Rule 3 of the NEPRA Rules

We hereby file a petition with the Authority by submitting it with the Registrar along with such fees as may be determined by the Authority from time to time. A petition "means a petition made to the Authority for the determination, modification or revision of tariff'.

ays old ikum Renaw Alution decision date) nence old not labou as per guests decision peling



Basis for Requests of Tariff Determination

Further to the Latest CCoE Decision, ZPNECPL hereby submits petition before NEPRA for determination of tariff, keeping in view the following:

- A. All Project approvals including LOI, land, environment and interconnection (line construction from MEPCO), In-principal approval of CPPA to purchase electricity from Zhenfa etc. (Annexure 06).
- B. EPC arrangement for supply, construction, erection and commissioning of the Project by PowerChina Huadong Engineering Company Limited (Annexure- 07).
- C. Project debt financing has been arranged (on the basis of earlier debt equity structure approved by NEPRA in the Determination dated 13 August 2018) and lenders have taken their internal approvals, and sponsors have committed the required equity for the Project. EOI from lenders is attached (Annexure- 08)

Submission:

Pursuant to the Latest CCoE Decision, the relevant provisions of the NEPRA Rules, read with the provisions of the NEPRA Act and the Rules and Regulations made thereunder ZPNECPL hereby submits following for consideration of the Authority:

- Change in Technology, resultant impact on EPC cost and Capacity factor
 - Increased Project Development Cost which remained unaccounted for in our determination/Review Motion decision but was allowed to other similar projects as well as certain costs company has to incur due to resubmission of this tariff petition and extended development time.

To be clear, ZPNECPL would not be filing this tariff petition, had the Financial Close period be allowed from Review Motion decision, CPPA Consent issued earlier than expiry of tariff, the LOS issued, Energy Purchase Agreement (EPA)/ Implementation Agreement (IA) signed, and financial close would have been timely achieved.

This petition therefore only contains information relating to the Project that:

- (a) has been directed by the latest CCoE Decision or
- (b) is a consequence of the above mentioned delay faced by ZPNECPL

All other information is as contained in the original tariff petition/Review Motion and as determined by NEPRA.



(8)

Issues for Authority's Consideration:

ZPNECPL request the Authority to consider the following facts:

Change in Technology

Original EPC Design and Site Status:

The original EPC design was based on the PV modules Si-poly model P6- 60 260 Wp & 265Wp had proven energy yield, special kind of material that can be installed at the desert, high resistance at extreme weather and lower annual power degradation. Those modules passed various tests and were IEC certified. Further, SEG provided 25 years linear performance warranty and 10 years limited product warranty for the modules. Inverters of model SG 630 MX from Sungrow were selected for this project which is a global leading PV inverter system solution supplier and the selected inverters would have provided secured yield and flexibility of operations.

Considerations for Change in Design

The design is revised due to change in size of modules and inverters. The inverters are of central type and modules are Si-Mono. The proportion of tracking system (Single Axis Tracking) and fixed tilt remains the same i.e. 30% and 70% respectively. The modules are of 435 Wp with advanced technology of Half-cut having more shade tolerance and conversion efficiency of 19.6% at STC. The Si — Mono modules are amongst the most efficient modules. The inverters are central type with 2500 kW from one of lead manufacturer i.e. Sungrow.

The Proposed Cost:

Breakup of targeted EPC cost is provided hereunder:

EPC Cost	US\$ (Million)	US \$/ MW
Modules	28.000	0.280
Inverters	4.000	0.040
Mounting Structure	10.800	0.108
Balance of Plant (Civil Works, Cables, Transformer etc.)	22.400	0.224
Total EPC Cost	65.200	0.652



Modules:

Earlier, the Project Company's EPC design was based on the PV modules Si-poly model P6- 60 260 Wp & 265Wp. Now, the Project Company has opted for the advanced technology which are of 435 Wp with Half-cut having more shade tolerance and conversion efficiency of 19.6% at STC. The Si – Mono modules are amongst the most efficient modules.

As per the last tariff determination (November 2018) for Siachin, we understand that the Authority has allowed US\$ M 0.27/MW for Monocrystalline modules based on review of the prices then prevailing in November 2018, we understand that US\$ M 0.27/MW also includes transportation costs till site.

However, since November 2018, estimated prices remain around US\$ 0.27/Watt and ZPNECL is requesting US\$ 0.28/watt after including the additional transportation cost to the site which is around 1000 km deep from Siachin Site.

ZPNECPL would like to submit that the distance of Project site in Rakh Chaubara, district Layyah is more than 1000 km from the Siachin project which results in additional costs of transportation compared to the Siachin project. This is to highlight here that for 100 MWp Solar Project, a total of approximately 229,885 solar panels will be transported in approximately 400 containers which results in US\$ 0.100 M additional cost of transportation compared to Siachin project. ZPNECPL has assumed this in the module cost of US\$ 0.28/Watt and humbly request Authority to allow the requested module cost keeping in view the fact that it is already an aggressive target set by ZPNECPL for this Project, considering current market dynamics, expected changes and additional transportation cost compared to Siachin project.

Inverters:

The selected inverters are from Sungrow, one of the leading manufacturers of Central inverters globally. The model is SG 2500HV container type with IP 54 degree of protection. Previously, the inverters were SG 630 kW with system voltage of 1000 V and now it has been upgraded to SG 2500 kW with system voltage of 1500 V. The previous inverter model is no more in production.

Mounting Structure:

For mounting structures, the prices were allowed as USD 0.09 million per MW fixed tilt and USD 0.15 million per MW for tracking technologies and we request the Authority to keep them same.

Balance of Plant (Civil Works, Cables, Transformer etc.)

The design for Civil foundations has been revised from screw pile to concrete piles because of enhanced weight of modules. The shed design is also revised due to new dimensions of modules thus needs more resistance from wind gusts over the lifecycle. The soil is sandy clay and load bearing capacity of ground isn't suitable for screw piles. The main costs of mini piles would



increase due to drilling, concrete & steel, workmanship. The costs for E-BoP (Electrical Balance of Plant) has been reduced due to decreased quantity of modules. The net impact on this account reduced by USD 0.5 million hence the cost already allowed USD 22.940 million would reduce to USD 22.440 million.

Capacity Factor:

As a result of using the above solar panel technology, with the same configuration of 30MW single axis tracking and 70MW fixed tilt, Capacity factor of the Project has been increased from 19.25% to 19.85% % with an energy generation of 173,886MWh per annum. The Yield Assessment Report is attached (Annexure 09).

The Authority is therefore requested to approve a capacity factor of 19.85 % for the Project.

Non-EPC and Project Development Cost:

The Authority allowed US\$ 1.513 M as project development cost in ZPNECPL Determination, however some part of the said cost has already incurred till date. The costs incurred are on account of following heads for project development:

The detailed breakup of the project development cost incurred to date and further expected to be incurred compared with cost allowed in Determination is provided hereunder.

			USD in million
Cost	Original . Determination _	Cost to be Incurred	Requested Cost
Consultancy Costs & Technical Studies- Pre-Financial Close	0.587	0.05	0.637
Owner's Engineer Supervision - Post Financial Close	0.250		0.250
Independent Engineer - Pursuant to the EPA	0.100		0.100
Permits, Permissions and Related Costs	0.050	0.020	0.070
Site, Security and Infrastructure	0.206	0.264	0.470
Administration Cost	0.120	0.030	0.150
Travelling Costs	0.200	0.025	0.225
Project Development Cost	1.513	0.389	1.902



Based on above, a further sum of US\$ 0.389 Million is required to be incurred till financial close, based on which a total project development cost of US\$ 1.902 Million is estimated.

Paragraphs below explain the reasons for increase in project development cost, provided in above table, for each of the above sub-head for Authority's consideration.

Consultancy Costs & Technical Studies (Owners & Lenders) - Pre-Financial Close:

Based on the requirements of technical consultants, due to delays in the Project, additional costs USD 0.05 million have been incurred and expected to be further incurred (updated of GIS & environment and consultants fee for resubmission of tariff petition etc.).

Permits, Permissions and Related Costs:

ZPNECPL has already paid annual generation license renewal fee for two years till Review Motion decision and a further fee for two (2) more years to be paid until 2021 (increased cost is USD 20,000).

Site, Security and Infrastructure:

. ZPNECPL is a non-QASP Project therefore kindly make its site, security and infrastructure cost USD 0.470 million, an increase of US\$ 0.264 million. USD 0.470 million is 50% less than the other non-QASP projects (USD 01 million to other projects like Meridian Energy, Helios Power and HNDS Energy).

Administration Cost:

Due to extended period of project, preparation of resubmission of tariff application, obtaining of different permits/ studies and human resource cost, the above cost has been increased by USD 0.030 million.

Travelling Cost:

This head covers costs related to travelling, accommodation, daily allowances and other allied expenses incurred for development, arrangement of financing & EPC and for progress/ monitoring meetings etc. during development and construction period of the Project. This cost has been increased by USD 0.025 million due to extended period and duplication of efforts for resubmission of tariff petition application.

Debt Financing Cost:

At the time of determination/ Review Motion decision, the rate of 3-M LIBOR was 2.50125% which is now 2.00088%. Spread on the finance obtained from China was 3.5% along with sino-sure of 0.6% which is now changed to non-Chinese foreign financing i.e. 3-M LIBOR 2.00088% plus 4.25%



12

spread. The financial cost taken in this petition has been calculated on above assumptions. The rate of financial charges @ 2.5% is taken as previous.

Construction Period:

Already allowed ten months from Financial Close. The Authority is requested to allow the same.

Other Assumptions:

As mentioned above, it is requested that the Authority may consider this Petition as a continuation of the earlier Determination/ Review Motion decision, and allow the assumptions already allowed in its earlier Determination (except the economic assumptions and indices i.e. LIBOR, Exchange rate, Pak CPI and US CPI). The tariff assumptions already allowed by the Authority are reproduced in the below table for ease of reference and the Authority is requested to allow the same.

Description	Already Allowed in Previous Decision	Assumptions for this Petition
Insurance During Construction	0.5% of the approved EPC cost.	0.5% of the approved EPC cost.
Financing Cost	2.5%	2.5%
Capitalized Degradation	US\$ 2.234 Million (3.62%)	3.62% of EPC Cost
Tariff Period	25 Years	25 Years
Debt Equity Ratio	80:20	80:20
Insurance during operation	0.4 %	0.4%
Loan Repayment Period	14 Years	14 Years
Discount Rate of Levelization	10%	10%
Return on Equity	14%	14%
True Up Conditions		er Determination except for the in exchange rate.
Sharing Mechanism	As allowed in th	ne Review Motion
Indexation	US CPI and Pak CPI to be	e established by Authority



Project Cost, Tariff & Conclusion



Project Cost, Tariff and Conclusion

Revised Project Cost

Investment/Cost	USD 🌡
EPC Cost	65,200,000
Non-EPC & Project Development Cost	1,902,000
Pre-COD Insurance Cost	326,000
Finance Charges	1,348,560
Interest During Construction	1,287,445
Total Project Cost	70,064,005

Financing Terms

Cost Head	Terms
Total Value of Debt @ 80% of total project value USD \$ 70.064/-MLN	56.051
Base Rate	2.00088%
Spread	4.25%
Repayment Period	14
Grace Period	Up to 12 months

Summary of Reference Generation Tariff

A summarized Reference Generation Tariff table setting out the two bands is provided below. An exchange rate of US\$1 = 156 PKR has been used:

Years		1 - 14 (PKR kWh)	. 15 - 25 (PKR kWh)
O&M	Local	0.5230	0.5230
Octivi	Foreign	0.5230	0.5230
Insurance		0.2340	0.2340
ROE		1.7600	1.7600
ROEDC		0.1030	0.1030
Debt Servicing		5.4423	-
Total		8.5853	3.1430



REFERENCE Generation Tariff

											-	
<u> </u>	Year	O&M Local	O&M Foreign	Insurance	Return on Equity	ROEDC	Loan Repayment	Interest Charges	Sinosure		Tariff	
		Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	\$ / I	\$ / kWh (for comparison only)
		0.5230	0.5230	0.2340	1.7600	0.1030	2.3349	3.1074		8.5853	() () () () ()	5.5034
	7	0.5230	0.5230	0.2340	1.7600	0.1030	2.4832	2.9591	•	8.5853	area E À	5.5034
	1 67	0.5230	0.5230	0.2340	1.7600	0.1030	2.6408	2.8015		8.5853	**************************************	5.5034
	4	0.5230	0.5230	0.2340	1.7600	0.1030	2.8085	2.6338	•	8.5853	nok j	5.5034
	· Lo	0.5230	0.5230	0.2340	1.7600	0.1030	2.9868	2.4555	1	8.5853	e Piji.	5.5034
	9	0.5230	0.5230	0.2340	1.7600	0.1030	3.1764	2.2659	1	8.5853	Se Si	5.5034
	7	0.5230	0.5230	0.2340	1.7600	0.1030	3.3780	2.0643	ı	8.5853	Calgini	5.5034
	8	0.5230	0.5230	0.2340	1.7600	0.1030	3.5925	1.8498	1	8.5853	e ta cay	5.5034
	6	0.5230	0.5230	0.2340	1.7600	0.1030	3.8206	1.6217	•	8.5853	e que s	5.5034
	10	0.5230	0.5230	0.2340	1.7600	0.1030	4.0631	1.3792	•	8.5853	ts ts	5.5034
	11	0.5230	0.5230	0.2340	1.7600	0.1030	4.3211	1.1212	į	8.5853		5.5034
	12	0.5230	0.5230	0.2340	1.7600	0.1030	4.5954	0.8469	,	8.5853	*	5.5034
	13	0.5230	0.5230	0.2340	1.7600	0.1030	4.8871	0.5552	,	8.5853		5.5034
	14	0.5230	0.5230	0.2340	1.7600	0.1030	5.1974	0.2449	ı	8.5853	C115.45	5.5034
	15	0.5230	0.5230	0.2340	1.7600	0.1030	,	ı	i	3.1430	n, destilen, g	2.0148
	16	0.5230	0.5230	0.2340	1.7600	0.1030	l		,	3.1430	(Ment)	2.0148
	17	0.5230	0.5230	0.2340	1.7600	0.1030	,	1	1	3.1430	tiggyn-	2.0148
	18	0.5230	0.5230	0.2340	1.7600	0.1030	,	1	1	3.1430	elaje j	2.0148
	19	0.5230	0.5230	0.2340	1.7600	0.1030	ı	1	ı	3.1430		2.0148
	20	0.5230	0.5230	0.2340	1.7600	0.1030	,	ı	ı	3.1430	36/9	2.0148
	21	0.5230	0.5230	0.2340	1.7600	0.1030	1			3.1430		2.0148
	22	0.5230	0.5230	0.2340	1.7600	0.1030	ı	ı	•	3.1430	etny-	2.0148
	23	0.5230	0.5230	0.2340	1.7600	0.1030	ı	1	1	3.1430		2.0148
••••	24	0.5230	0.5230	0.2340	1.7600	0.1030	1	,	ı	3.1430		2.0148
	25	0.5230	0.5230	0.2340	1.7600	0.1030	,	I		3.1430		2.0148
		-										
Le	Levelized Tariff	0.5230	0.5230	0.2340	1.7600	0.1030	2.6533	1.7636	-	7.5599		4.8461



fil i di zi

Relevant Quarters Base amount (USD) Principal Quarters Balance (U1B) Principal Principal Quarters Principal Quarters Annual Repayment (USD) Principal Quarters Principal Principal (USD) Principal Principal (USD) Principal Principal (USD) Principal Rs, fkWh Principal Rs, f		e de		Debt Repayment Schedule	ent Schedule			
56,051,204 1,281,299 1,751,847 54,769,905 3,033,146 2,334,9 3,103 55,445,560 1,321,345 1,711,801 53,484,560 3,033,146 2,4832 2,955 55,445,560 1,321,345 1,670,503 52,086,917 3,033,146 2,6408 2,896 55,060,685 1,449,121 1,683,994 49,231,534 3,033,146 2,6408 2,890 1,49,3444 1,538,702 47,737,090 3,033,146 2,6408 2,633 44,06,620 1,638,939 1,443,820 47,737,090 3,033,146 2,9868 2,453 42,967,627 1,690,218 1,443,820 4,167,740 3,033,146 2,9868 2,455 42,967,627 1,690,218 1,342,927 41,277,409 3,033,146 3,1764 2,268 42,967,627 1,743,045 1,290,011 3,933,146 3,1764 3,033,146 3,1764 3,174,48 3,033,146 3,1764 3,174,48 3,174,48 3,174,48 3,174,48 3,174,48 3,174,48 3,174,48 <th>Relevant Quarters</th> <th>Base amount (USD)</th> <th>Principal Repayment (USD)</th> <th>Interest (USD)</th> <th>Balance Principal (USD)</th> <th>Total Debt Service (Million USD)</th> <th>Annual Principal Repayment Rs./kWh</th> <th>Annual Interest Rs./kWh</th>	Relevant Quarters	Base amount (USD)	Principal Repayment (USD)	Interest (USD)	Balance Principal (USD)	Total Debt Service (Million USD)	Annual Principal Repayment Rs./kWh	Annual Interest Rs./kWh
5.4,769,905 1,321,345 1,711,801 5.3,485.60 3,033,146 2,537,7 5.5,448,560 1,322,643 1,670,503 52,085,917 3,033,146 2,4832 2,956 5.5,448,560 1,322,643 1,670,503 52,085,917 3,033,146 2,4882 2,956 6,680,680 1,449,151 1,627,944 49,231,534 1,494,444 1,538,702 47,737,090 3,033,146 2,6408 2,803 4,6195,939 1,680,131 1,494,444 1,538,702 47,737,090 3,033,146 2,968 2,633 4,6106,620 1,690,218 1,493,826 4,6106,620 3,033,146 2,968 2,633 4,6106,620 1,690,218 1,342,27 41,277,409 3,033,146 2,968 2,643 4,277,409 1,743,045 1,290,101 39,534,364 3,033,146 3,776 2,263 39,534,364 1,773,042 1,290,101 39,534,364 3,033,146 3,3780 1,671 35,883,138 1,911,640 1,174,402 3,033,146 3,29		56,051,204	1,281,299	1,751,847	54,769,905	3,033,146	2 33/19	3 1074
5.3.448,560 1,362,643 1,670,503 52,085,917 3,033,146 2,4832 2,958 5.2,085,917 1,449,523 1,670,503 52,086,685 3,033,146 2,6408 2,800 6,5080,685 1,449,144 1,583,994 49,231,534 3,033,146 2,6408 2,803 4,5080,685 1,549,152 1,499,444 1,538,702 47,737,090 3,033,146 2,6408 2,643 4,6195,339 1,589,319 1,443,826 44,606,620 3,033,146 2,9868 2,633 4,6195,339 1,589,319 1,443,826 44,606,620 3,033,146 2,9868 2,453 4,6195,339 1,589,319 1,443,826 44,606,620 3,033,146 2,9868 2,453 4,6195,339 1,589,313 1,443,825 42,967,627 3,033,146 3,1764 2,266 4,6195,344 1,797,42 35,883,138 1,911,640 1,179,442 35,883,148 3,033,146 3,3780 1,627 3,85,831,84 1,911,640 1,1121,506 33,971,498 3	2	54,769,905	1,321,345	1,711,801	53,448,560	3,033,146	7.70.77	1,101.1
52,085,917 1,405,232 1,627,914 50,680,685 3,033,146 2,6408 2,807 7,0260,685 1,449,151 1,538,702 47,231,534 3,033,146 2,6408 2,807 4,0231,534 1,449,444 1,538,702 47,737,090 3,033,146 2,6408 2,633 4,6105,939 1,584,153 1,449,864 44,6105,620 3,033,146 2,698 2,633 4,6105,700 1,584,153 1,445,864 44,606,620 3,033,146 2,898 2,453 4,6105,700 1,638,933 1,334,153 42,967,627 3,033,146 2,898 2,453 42,967,627 1,638,933 1,334,153 42,967,627 3,033,146 3,1764 2,266 42,967,627 1,733,045 1,2290,101 39,534,344 3,1734,444 3,1754,444 3,1734,444 3,1734,444 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 3,1744 <	1 6	53,448,560	1,362,643	1,670,503	52,085,917	3,033,146	2 4837	7 9591
50,680,685 1,449,151 1,583,994 49,231,534 3,033,146 2,6408 2,80 49,231,534 1,494,444 1,588,702 47,737,090 3,033,146 2,6408 2,633 440,606,520 1,589,319 1,443,826 46,056,20 3,033,146 2,9868 2,455 46,056,520 1,589,319 1,344,382 4,606,620 3,033,146 2,9868 2,455 42,967,627 1,690,218 1,342,927 41,277,409 3,033,146 2,9868 2,455 42,967,627 1,743,045 1,290,101 39,534,364 3,033,146 3,1764 2,266 41,277,409 1,797,523 1,279,402 3,033,146 3,1764 2,266 37,736,841 1,797,523 1,273,6841 3,033,146 3,1764 2,266 37,736,841 1,91,38 1,179,442 35,883,138 3,033,146 3,033,146 3,033,146 37,736,841 1,91,38 1,170,442 35,883,138 3,033,146 3,033,146 3,033,146 37,001,11 2,035,01	4	52,085,917	1,405,232	1,627,914	50,680,685	3,033,146	200F.12	***************************************
49,231,534 1,494,444 1,538,702 47,737,090 3,033,146 2,046 2,046	5	50,680,685	1,449,151	1,583,994	49,231,534	3,033,146	2 6408	2.8015
47,737,090 1,541,152 1,491,994 46,195,939 3,033,146 2,8085 2,633 46,195,939 1,589,319 1,443,826 44,606,620 3,033,146 2,9086 2,451 44,606,620 1,589,319 1,344,153 42,967,627 3,033,146 2,9086 2,451 44,606,620 1,638,993 1,344,153 42,967,627 3,033,146 2,908 2,451 42,967,627 1,797,527 1,235,4364 3,033,146 3,1764 2,266 35,883,138 1,797,523 1,179,442 35,883,138 3,033,146 3,780 2,066 35,883,138 1,911,640 1,121,506 33,971,498 3,033,146 3,5925 1,846 35,883,138 1,971,387 1,061,759 32,000,111 3,033,146 3,5925 1,846 35,883,138 1,971,387 1,061,759 32,000,111 3,033,146 4,0631 1,122 25,906,510 2,206,542 803,504 2,374,588 3,033,146 4,0631 1,237 25,787,508 <	9	49,231,534	1,494,444	1,538,702	47,737,090	3,033,146	4:0100	
46,195,939 1,589,319 1,443,826 44,606,620 3,033,146 2,000 44,606,620 1,638,993 1,394,153 42,967,627 3,033,146 2,9868 2,455 44,606,620 1,690,218 1,342,927 41,277,409 3,033,146 3,1764 2,265 42,967,627 1,690,218 1,290,101 39,534,364 3,033,146 3,1764 2,266 39,334,364 1,797,523 1,235,623 37,736,841 3,033,146 3,1764 2,066 35,834,364 1,911,640 1,121,740 3,033,146 3,5925 1,845 35,891,38 1,911,640 1,161,759 32,000,111 3,033,146 3,5925 1,845 32,000,111 2,036,542 93,604 27,870,568 3,033,146 3,837,6 1,621 27,870,568 2,162,068 871,078 25,708,500 3,033,146 4,0631 1,376 23,748,858 2,29,572 883,58 3,033,146 4,0631 1,376 23,708,500 2,29,67109 2,303,346 <td< td=""><td>7</td><td>47,737,090</td><td>1,541,152</td><td>1,491,994</td><td>46,195,939</td><td>3,033,146</td><td>28085</td><td>2,6338</td></td<>	7	47,737,090	1,541,152	1,491,994	46,195,939	3,033,146	28085	2,6338
44,606,620 1,638,993 1,394,153 42,967,627 3,033,146 2.9868 2,455 42,967,627 1,690,218 1,342,927 41,277,409 3,033,146 3.1764 2.266 42,967,627 1,690,218 1,290,101 39,534,364 3,033,146 3.1764 2.266 39,534,364 1,797,523 1,236,623 37,736,841 3,033,146 3.3780 2.06 37,736,841 1,811,640 1,179,442 35,883,138 3,033,146 3.3780 2.06 33,971,498 1,911,640 1,121,506 32,000,111 3,033,146 3,5925 1,845 32,000,11 2,036,542 936,604 27,870,568 3,033,146 4,0631 1,627 29,967,109 2,096,542 861,078 25,708,500 3,033,146 4,0631 1,37 25,708,500 2,229,642 803,504 23,478,858 3,033,146 4,0631 1,37 25,708,500 2,229,642 803,504 23,478,838 3,033,146 4,0631 1,13 18,808,	8	46,195,939	1,589,319	1,443,826	44,606,620	3,033,146	70007	0000
42,967,627 1,690,218 1,342,927 41,277,409 3,033,146 2.266 41,277,409 1,743,045 1,290,101 39,534,364 3,033,146 3.1764 2.266 39,534,364 1,779,523 1,235,623 37,736,841 3,033,146 3.1764 2.266 35,883,138 1,911,640 1,179,442 35,83,138 3,033,146 3.3780 2.06 35,883,138 1,911,640 1,121,506 33,971,498 3,033,146 3.5925 1.845 32,000,111 2,033,001 1,000,144 29,967,109 3,033,146 3,5925 1.845 25,7870,568 2,162,068 36,044 27,805,500 3,033,146 4,0631 1,137 25,7870,568 2,229,442 803,504 23,478,858 3,033,146 4,0631 1,137 23,478,858 2,299,422 803,504 24,78,858 3,033,146 4,5954 0,846 16,363,035 2,299,42 18,808,338 3,033,146 4,5954 0,846 11,240,763 2,601,544 <t< td=""><td>6</td><td>44,606,620</td><td>1,638,993</td><td>1,394,153</td><td>42,967,627</td><td>3,033,146</td><td>2 9868</td><td>2.4555</td></t<>	6	44,606,620	1,638,993	1,394,153	42,967,627	3,033,146	2 9868	2.4555
41,277,409 1,743,045 1,290,101 39,534,364 3,033,146 4,0631 1,027 25,708,500 2,206,542 936,604 27,870,568 3,033,146 4,0631 1,137 25,708,500 2,278,08,500 3,033,146 4,0631 1,137 21,179,530 2,279,328 733,818 21,179,530 3,033,146 4,5954 0,846 11,179,530 2,2708,500 2,371,192 661,954 18,808,338 3,033,146 4,5954 0,846 11,240,763 2,51,79,202 2,51,203,202 2,11,21,203 3,033,146 4,5954 0,846 </td <td>10</td> <td>42,967,627</td> <td>1,690,218</td> <td>1,342,927</td> <td>41,277,409</td> <td>3,033,146</td> <td>2.7000</td> <td></td>	10	42,967,627	1,690,218	1,342,927	41,277,409	3,033,146	2.7000	
39,534,364 1,797,523 1,235,623 37,736,841 3,033,146 2.06 35,883,138 1,736,841 1,853,703 1,179,442 35,883,138 3,033,146 2.06 35,883,138 1,911,640 1,121,506 33,971,498 3,033,146 3.3780 2.06 33,971,498 1,911,640 1,121,506 32,000,111 3,033,146 3.5925 1.844 29,667,109 2,096,542 936,604 27,870,568 3,033,146 3.8206 1.627 29,967,109 2,096,542 936,604 27,870,568 3,033,146 4.0631 1.37 25,708,500 2,162,068 871,078 25,708,500 3,033,146 4.0631 1.37 25,708,500 2,229,328 733,818 21,179,530 3,033,146 4.5954 1.37 21,179,530 2,371,192 661,954 18,808,338 3,033,146 4.5954 0.84 16,363,035 2,521,729 587,843 16,363,035 3,033,146 4.5954 0.84 11,240,763 2,681,	11	41,277,409	1,743,045	1,290,101	39,534,364	3,033,146	3 1764	2.2659
37,736,841 1,853,703 1,179,442 35,883,138 3,033,146 3.3780 2.06 35,883,138 1,911,640 1,21,506 33,971,498 3,033,146 3.5925 1.84 33,971,498 1,971,387 1,061,759 32,000,111 3,033,146 3.5925 1.84 29,967,109 2,096,542 936,604 27,870,568 3,033,146 3.8206 1.627 27,870,568 2,162,068 871,078 25,708,500 3,033,146 4.0631 1.37 25,708,500 2,229,642 803,504 23,478,858 3,033,146 4.0631 1.37 23,478,858 2,299,328 733,818 21,179,530 3,033,146 4.0631 1.12 21,179,530 2,445,302 587,843 16,363,035 3,033,146 4.5954 0.84 16,363,035 2,521,729 511,417 13,841,307 3,033,146 4.5954 0.84 11,240,763 2,681,822 5,793,299 3,033,146 4.8871 0.594 11,240,763 2,681,822	12	39,534,364	1,797,523	1,235,623	37,736,841	3,033,146		
35,883,138 1,911,640 1,121,506 33,971,498 3,033,146 1.846 33,971,498 1,971,387 1,061,759 32,000,111 3,033,146 3.5925 1.846 32,000,111 2,033,001 1,000,144 29,967,109 3,033,146 3.8206 1,621 29,967,109 2,096,542 936,604 27,870,568 3,033,146 3,8206 1,621 27,870,568 2,162,068 871,078 25,708,500 3,033,146 4,0631 1,376 25,708,500 2,229,528 733,818 21,179,530 3,033,146 4,0631 1,137 21,179,530 2,3478,858 2,363,346 861,954 18,808,338 3,033,146 4,5954 0,846 18,808,338 2,445,302 51,447 13,841,307 3,033,146 4,5954 0,846 11,240,763 2,600,544 432,602 11,240,763 3,033,146 4,8871 0,555 11,240,763 2,681,822 351,332 3,033,146 4,8871 0,244 2,941,220 2,941	13	37,736,841	1,853,703	1,179,442	35,883,138	3,033,146	3.3780	2.0643
33,971,498 1,971,387 1,061,759 32,000,111 3,033,146 3.5925 1.84 32,000,111 2,033,001 1,000,144 29,967,109 3,033,146 3,8206 1,623 29,967,109 2,096,542 936,604 27,870,568 3,033,146 3,033,146 4,0631 1,623 27,870,568 2,162,068 871,078 25,708,500 3,033,146 4,0631 1,375 25,708,500 2,229,642 803,504 23,478,858 3,033,146 4,0631 1,375 25,708,500 2,229,642 803,504 23,478,858 3,033,146 4,0631 1,375 23,478,858 2,248,832 733,818 21,179,530 3,033,146 4,331 1,124,333,146 4,331,46 4,331,46 4,331,46 4,595,4 0,846 11,240,763 2,681,822 351,323 8,558,940 2,681,822 3,033,146 4,8871 0,555 8,558,940 2,765,641 2,841,220 3,033,146 4,8871 0,244 2,941,220 3,033,146 <t< td=""><td>14</td><td>35,883,138</td><td>1,911,640</td><td>1,121,506</td><td>33,971,498</td><td>3,033,146</td><td></td><td></td></t<>	14	35,883,138	1,911,640	1,121,506	33,971,498	3,033,146		
32,000,111 2,033,001 1,000,144 29,967,109 3,033,146 3.8206 1.623 29,967,109 2,096,542 936,604 27,870,568 3,033,146 3.8206 1.623 27,870,568 2,162,068 871,078 25,708,500 3,033,146 4.0631 1.375 25,708,500 2,229,422 803,504 23,478,858 3,033,146 4.0631 1.375 23,478,858 2,299,328 733,818 21,179,530 3,033,146 4.3211 1.12 21,179,530 2,371,192 661,954 16,363,035 3,033,146 4.5954 0.846 16,363,035 2,521,729 511,417 13,841,307 3,033,146 4.5954 0.846 11,240,763 2,681,822 351,323 8,558,940 3,033,146 4,5954 0.846 8,558,940 2,765,641 267,505 5,793,299 3,033,146 5,1974 0.244 5,793,299 2,941,220 91,926 - 3,033,146 5,1974 0.244	15	33,971,498	1,971,387	1,061,759	32,000,111	3,033,146	3 5925	1.8498
29,967,109 2,096,542 936,604 27,870,568 3,033,146 3.8206 1.621 27,870,568 2,162,068 871,078 25,708,500 3,033,146 4.0631 1.375 25,708,500 2,229,642 803,504 23,478,858 3,033,146 4.0631 1.375 25,708,500 2,229,622 803,504 21,179,530 3,033,146 4.3211 1.121 21,179,530 2,371,192 661,954 16,363,035 3,033,146 4.3211 1.121 18,808,338 2,445,302 587,843 16,363,035 3,033,146 4.5954 0.846 16,363,035 2,521,729 511,417 13,841,307 3,033,146 4.5954 0.846 11,240,763 2,681,822 351,323 8,558,940 3,033,146 5,793,299 5,793,299 3,033,146 5,793,299 5,793,246 5,793,299 3,033,146 5,1974 0.244 2,941,220 2,941,220 - - 3,033,146 5,1974 0.244	16	32,000,111	2,033,001	1,000,144	29,967,109	3,033,146		
27,870,568 2,162,068 871,078 25,708,500 3,033,146 7.37 25,708,500 2,229,642 803,504 23,478,858 3,033,146 4.0631 1.37 23,478,858 2,299,328 733,818 21,179,530 3,033,146 4.3211 1.121 21,179,530 2,371,192 661,954 18,808,338 3,033,146 4.3211 1.121 18,808,338 2,445,302 587,843 16,363,035 3,033,146 4.5954 0.846 16,363,035 2,521,729 511,417 13,841,307 3,033,146 4.5954 0.846 11,240,763 2,681,822 351,323 8,558,940 3,033,146 4.8871 0.555 8,558,940 2,681,822 351,323 8,558,940 3,033,146 5,1974 0.244 5,793,299 2,852,080 91,926 - 3,033,146 5,1974 0.244	17	29,967,109	2,096,542	936,604	27,870,568	3,033,146	3,8206	1.6217
25,708,500 2,229,642 803,504 23,478,858 3,033,146 4.0631 1.37 23,478,858 2,229,328 733,818 21,179,530 3,033,146 4.0631 1.121 21,179,530 2,347,8958 2,371,192 661,954 18,808,338 3,033,146 4.3211 1.121 18,808,338 2,445,302 587,843 16,363,035 3,033,146 4.5954 0.846 16,363,035 2,521,729 511,417 13,841,307 3,033,146 4.5954 0.846 13,841,307 2,600,544 432,602 11,240,763 3,033,146 4.8871 0.555 8,558,940 2,765,641 267,505 5,793,299 3,033,146 5,1974 0.244 5,793,299 2,841,220 91,926 - 3,033,146 5,1974 0.244	18	27,870,568	2,162,068	871,078	25,708,500	3,033,146		
23,478,858 2,299,328 733,818 21,179,530 3,033,146 4.3211 1.123 18,808,338 2,177,953 2,371,192 661,954 18,808,338 3,033,146 4.3211 1.123 18,808,338 2,445,302 587,843 16,363,035 3,033,146 4.5954 0.846 16,363,035 2,521,729 511,417 13,841,307 3,033,146 4.5954 0.846 13,841,307 2,600,544 432,602 11,240,763 3,033,146 4.8871 0.555 8,558,940 2,765,641 267,505 5,793,299 3,033,146 5,1974 0.244 5,793,299 2,852,080 181,066 2,941,220 3,033,146 5,1974 0.244	19	25,708,500	2,229,642	803,504	23,478,858	3,033,146	4.0631	1,3792
21,179,530 2,371,192 661,954 18,808,338 3,033,146 4.3211 1.121 18,808,338 2,445,302 587,843 16,363,035 3,033,146 4.5954 0.846 16,363,035 2,521,729 511,417 13,841,307 3,033,146 4.5954 0.846 13,841,307 2,600,544 432,602 11,240,763 3,033,146 4.8871 0.555 11,240,763 2,681,822 351,323 8,558,940 3,033,146 4.8871 0.555 8,558,940 2,765,641 267,505 5,793,299 3,033,146 5,1974 0.244 5,793,299 2,852,080 181,066 2,941,220 3,033,146 5,1974 0.244	20	23,478,858	2,299,328	733,818	21,179,530	3,033,146	7000	1
18,808,338 2,445,302 587,843 16,363,035 3,033,146 4.5954 0.846 16,363,035 2,521,729 511,417 13,841,307 3,033,146 4.5954 0.846 13,841,307 2,600,544 432,602 11,240,763 3,033,146 4.8871 0.555 11,240,763 2,681,822 351,323 8,558,940 3,033,146 4.8871 0.555 8,558,940 2,765,641 267,505 5,793,299 3,033,146 5,1974 0.244 5,793,299 2,852,080 91,926 - 3,033,146 5,1974 0.244	21	21,179,530	2,371,192	661,954	18,808,338	3,033,146	43211	11212
16,363,035 2,521,729 511,417 13,841,307 3,033,146 4.5954 0.846 13,841,307 2,600,544 432,602 11,240,763 3,033,146 4.8871 0.555 11,240,763 2,681,822 351,323 8,558,940 3,033,146 4.8871 0.555 8,558,940 2,765,641 267,505 5,793,299 3,033,146 5,1974 0.244 5,793,299 2,852,080 181,066 2,941,220 3,033,146 5,1974 0.244 2,941,220 2,941,220 91,926 - 3,033,146 5,1974 0.244	22	18,808,338	2,445,302	587,843	16,363,035	3,033,146	11771	1
13,841,307 2,600,544 432,602 11,240,763 3,033,146 4.8871 0.555 11,240,763 2,681,822 351,323 8,558,940 3,033,146 4.8871 0.555 8,558,940 2,765,641 267,505 5,793,299 3,033,146 5.1974 0.244 5,793,299 2,941,220 91,926 - 3,033,146 5.1974 0.244	23	16,363,035	2,521,729	511,417	13,841,307	3,033,146	4 5954	0.8469
11,240,763 2,681,822 351,323 8,558,940 3,033,146 4.8871 0.555 8,558,940 2,765,641 267,505 5,793,299 3,033,146 4.8871 0.555 7,793,299 2,852,080 181,066 2,941,220 3,033,146 5.1974 0.244 2,941,220 91,926 - 3,033,146 5.1974 0.244	24	13,841,307	2,600,544	432,602	11,240,763	3,033,146	1 0 / 0 11	
8,558,940 2,765,641 267,505 5,793,299 3,033,146 3,033,146 5,1974 0.244 2,2,941,220 2,941,220 91,926 - 3,033,146 5,1974 0.244	25	11,240,763	2,681,822	351,323	8,558,940	3,033,146	4 8871	0.5552
5,793,299 2,852,080 7181,066 2,941,220 3,033,146 5.1974 0.244 2,941,220 2,941,220 91,926 - 3,033,146 5.1974 0.244	26	8,558,940	2,765,641	267,505	5,793,299	3,033,146	4 .00.	
2,941,220 2,941,220 - 3,033,146	27	5,793,299	2,852,080	181,066	2,941,220	3,033,146	5 1974	0.2449
	28	2,941,220	2,941,220	91,926	,	3,033,146		

Prayer:

In light of the foregoing, it is respectfully prayed that the earlier Tariff Determination and Review Motion decision may be reviewed based on the proposed technology and related factors, current market environment and consumer interest as per paragraph V and XI of the Latest CCoE Decision.

In terms of paragraph V of the CCoE decision, the Authority is also requested to allow a further period of 12 months for financial close of the Project. Authority is requested to allow change in design, change in EPC cost and capacity factor because of change in design, increase in project development cost etc. because of the prolonged development period of the Project and debt financing structure.

Authority is further requested to maintain original decision (as per the Determination/ Review Motion decision) with regard to debt equity structure, return on equity, other costs and all indexations, escalations, adjustments and sharing mechanism. Any other relief that the Petitioner may be entitled to, be also allowed to the Project in the interest of justice.

Authority is also requested to approve a reference tariff table based on assumptions as requested in the petition.

Further any taxes, stamp duties, fees and levies (sales tax of non-refundable nature) etc. of federal, provincial, local or district governments, which are not factored in the tariff calculation are requested to be allowed as pass through.

Authority is kindly requested to process the tariff petition at the earliest thereby enabling ZPNECPL to proceed further with the development process.

Respectfully submitted on the behalf of Petitioner.

Zhenfa New Energy Company (Pvt.)

Dated: 15-10 - 2019



18