National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

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No. NEPRA/R/DG(Tariff)/TRF-517/AEPL-2020/14280-82 June 09, 2023

Subject: **Decision of National Electric Power Regulatory Authority in the matter of Motion for Leave for Review filed by Central Power Purchasing Agency (Guarantee) Limited against Determination of Authority dated September 07, 2022 in the matter of Tariff Petition filed by Access Electric (Pvt) Ltd** (Case No. NEPRA/TRF-517/AEPL-2020)

Dear Sir,

Please find enclosed herewith the subject decision of the Authority including Annex-I, Annex-II along with Additional Note of Mr. Mathar Niaz Rana (nsc) Member, NEPRA & Mr. Tauseef H. Farooqui Chairman, NEPRA (Total 17 Pages).

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 within 30 days from the intimation of this Decision. In the event the Federal Government fails to notify the subject tariff Determination or refer the matter to the Authority shall notify the same in the official Gazette pursuant to Section 31 (7) of NEPRA Act.

3. The Order, including two Annex-I & Annex-II are to be notified in the official Gazette.

Enclosure: As above

09/06/23

(Engr. Mazhar Iqbal Ranjha)

Secretary
Ministry of Energy
'A' Block, Pak Secretariat
Islamabad

CC:

1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.

DECISION OF NATIONAL ELECTRIC POWER REGULATORY AUTHORITY IN THE MATTER OF MOTION FOR LEAVE FOR REVIEW FILED BY CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED AGAINST DETERMINATION OF THE AUTHORITY DATED SEPTEMBER 7, 2022 IN THE MATTER OF TARIFF PETITION FILED BY ACCESS ELECTRIC (PVT.) LTD

1. National Electric Power Regulatory Authority ("NEPRA" or "the Authority") issued a tariff Determination in the matter of a Tariff petition filed by Access Electric (Pvt.) Ltd. ("AEPL" or "the Company") for Determination of Reference Generation Tariff in respect of its 10 MW solar PV power Project ("Tariff Determination" or "the Impugned Determination") and thereby approved levellized tariff of US Cents. 4.6842/kWh for 25 years.

2. Central Power Purchasing Agency (Guarantee) Limited ("CPPAGL" or "the power purchaser" or "the petitioner") vide its letter dated October 19, 2022 filed the subject motion for leave for review against the Impugned Determination under section 7(2)(g) of the NEPRA Act read with regulation 3(2) of the NEPRA (Review Procedures) Regulations, 2009 as amended (the "Review Regulations") and Rules 16(6) of the NEPRA (Tariff Standards and Procedure,) Rules, 1998 (the "Tariff Rules").

3. The Authority admitted the same and decided to hold a hearing on the subject matter which was initially scheduled for December 01, 2022. Subsequently, the notices of the hearing were sent to the relevant stakeholders on November 25, 2022. However, AEPL vide letter dated November 30, 2022 requested the Authority, inter-alia to grant it two week time to appear for the hearing. The Authority acceded to the request of the petitioner, the hearing was rescheduled for December 20, 2022 and the revised notices for hearing were issued to the stakeholders on December 08, 2022. Accordingly, the hearing was held on December 20, 2022 at 10:00 A.M. which was attended by CPPAGL, AEPL and others.

Grounds of Review motion

4. The petitioner has requested the Authority for the review of Impugned Determination with respect to the following parameters:

- EPC cost
- O&M cost
- Prior period development cost
- Capacity factor
- Insurance during construction
- Provision of claw back mechanism and ROE
- Degradation factor
- Non-project missed volume compensation

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5. The written submissions of the petitioner on the aforementioned grounds are summarized as follows;

EPC Cost

6. CPPAGL submitted that the approved EPC cost of USD 0.680 million per MW (i.e. USD 6.800 million) is higher on a per-MW basis as compared to the EPC cost of USD 0.5744 million per MW allowed to Siachen Energy Ltd. ("Siachen") and EPC cost of USD 0.5355 million per MW to Zhenfa Pakistan New Energy Company (Pvt.) Ltd. ("Zhenfa"). Furthermore, CPPAGL has also contended that AEPL has not adhered to the NEPRA (Selection of EPC Contractor by IPPs) Guidelines, 2017.

O&M Cost

7. CPPAGL submitted that the Authority has approved significantly higher O&M cost on a per MW basis compared to similar projects. The petitioner referred the tariff of Zhenfa, Zorlu and Siachen in this regard.

Prior Period Development cost

8. CPPAGL submitted that Prior Period Development Cost ("PPDC") may not be passed on to the consumers as the same are covered under the head of Project Development Cost ("PDC"). Further, the cost of change in module from mono with fixed-tracking to bifacial with single axis tracking technology should be borne by the sponsor of the Company. Further, CPPAGL requested that an opener to this cost shall be allowed at the time of COD adjustment to include that portion of the cost where that delay was not attributable on part of the Company.

Capacity Factor

9. CPPAGL submitted that the Authority has approved the annual plant capacity factor of 21.70% in the Impugned Determination. It submitted that a comparable solar PV power project — i.e. Siachen — was given capacity factor of 23.20%. During the hearing, CPPAGL emphasized that better capacity factor of Siachen is due to PERC technology and contended that had the tariff of AEPL also been approved on PERC technology, then the capacity factor of AEPL would have been increased. CPPAGL vide its communication dated January 04, 2023 submitted that it assumed that AEPL shall be using PERC technology which can yield the capacity factor of about 23%-25% which warrants the revision in capacity factor. Otherwise, the Authority may advise the Company to opt the PERC technology for the better efficiency and tariffs for which generation license can be modified.

Insurance during Construction

10. CPPAGL submitted that the Authority has approved the insurance during construction at the rate of 0.4% of the approved EPC cost. The petitioner requested that this particular component

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should be determined based on the actual insurance expenses incurred, subject to a maximum cap of 0.4% of the EPC costs.

Provision of clawback mechanism and ROE

11. CPPAGL in the review motion expressed appreciation to the Authority's decisions regarding the incorporation of the provision of claw back mechanism whereby the profits of the Company, exceeding the allowed limit, shall be shared between producer and purchaser. However, the petitioner contended that the mechanism should be explicitly delineated in this regard. Furthermore, CPPAGL requested that the Return on Equity ("ROE") allowed to AEPL be reduced from 13% to the level of 12%, as allowed by the Authority to Siachen.

Degradation Factor

12. CPPAGL submitted that the Authority approved degradation factor of modules at 0.5% per year, and capitalized the impact thereof in the approved project cost. The petitioner submitted that the international standard for the degradation factor is 0.4% annually. Further, CPPAGL requested that the impact of degradation be allowed an actual basis determined through an Annual Capacity Test, subject to a maximum annual cap of 0.4%, as making it the part of the project cost enables the Company to earn return on equity and claim financing cost thereon.

Non-Project Missed Volume Compensation:

13. CPPAGL requested the Authority to provide directions on the matter of Non-Project Missed Volume ("NPMV") compensation, and whether or not the same is to be accorded to the AEPL's project. CPPAGL is of the opinion, if allowed, the NPMV shall be restricted up to the Capacity Factor.

14. The petitioner during the hearing reiterated the aforementioned submissions.

15. The arguments were heard and the record was perused.

16. The Authority has noted that Regulation 3 (2) of the Review Regulations provides that any party aggrieved from any order of the Authority and who, from the discovery of new and important matter of evidence or on account of some mistake or error apparent on the face of record or from any other sufficient reasons, may file a motion seeking review of such order. Further Regulation 3 (7) of the Review Regulations read with Rule 16(9) of the Rules provides that the motion for leave for review may be refused by the Authority if it considers that the review would not result in the withdrawal or modification of the order.

17. The Petitioner has failed to present any new and significant evidence that was not already considered by the Authority when making the original decision, with the exception of addressing the impact of the degradation factor and also failed to point out any mistake or error

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apparent on the face of the record. The fact of matter which is also evident from the perusal of the decision is that all material facts and documents were in the knowledge of the Authority and the record clearly shows that the Authority issued the Impugned Determination after consideration of all material facts and documents.

18. Regarding the treatment of the degradation factor, the Authority acknowledges that allowing for compensation of module degradation helps offset the loss of generation over the operational period. This compensation can be achieved through either capitalization, as allowed in other cases, or adjusting degradation on an as-and-when basis without capitalization. Both practices are commonly employed internationally, aiming to ensure that neither the consumer nor the Company is placed at a disadvantage.

19. It is worth noting that the power purchaser (the petitioner) involved in this particular case expressed a preference for removing the impact of degradation upfront in the project. Consequently, they have requested that degradation be addressed on an as-and-when basis. Taking this into account, the Authority has made the decision not to capitalize the impact of module degradation, as was allowed in the previous tariff determination. Instead, the Authority has opted to permit degradation at a rate of 0.5% per annum, to be applied on an as-and-when basis (if any) based on submission of documentary evidence to be provided by the Company.

20. The Authority duly acknowledged that the challenged decisions encompassed strict timelines for achieving Financial Close. However, considering that the proceedings to finalize the ongoing petition requires a significant amount of time, the Authority has decided, in the interest of fairness and justice, to grant an extension of 4 months for the Financial Close of the projects in question. This extension shall commence from the originally stipulated Financial Close dates as provided by NEPRA in its initial determination.

21. **ORDER**

22. 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 and Procedure,) Rules, 1998 (the "Tariff Rules") and NEPRA (Review Procedures) Regulations, 2009, the Authority hereby determines and approves the generation tariff along with terms and conditions for Access Electric (Pvt.) Limited (AEPL) for its 10 MWp solar PV power project for delivery of electricity to the power purchaser as follows:

- Levelized tariff works out to be Rs. 9.1172/kWh (US Cents 4.5586/kWh).
- The tariff has been worked out on Build Own and Operate basis.
- EPC cost of USD 6.800 million has been approved.
- Project Development Cost of USD 0.249 million has been approved.

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- Prior Period Development cost of USD 0.247 million has been approved.
- Insurance during construction at the rate of 0.4% of the approved EPC cost has been approved.
- Financing fee at the rate of 2% of the debt portion of the capital cost has been approved.
- Debt to Equity ratio of 80:20 has been approved.
- Tariff has been computed on 100% local financing under SBP Scheme.
- ROE and ROEDC of 13% has been allowed.
- The cost of debt of 6% (SBP Scheme) has been used.
- Debt servicing period of 10 years from COD has been used.
- O&M Cost of USD 10,000 per MW per year, including the cost of land, has been allowed.
- Insurance during Operation has been calculated as 0.40% of the allowed EPC Cost.
- Construction period of 8 months has been allowed.
- Net Annual Plant Capacity Factor of 21.70% has been approved.
- Degradation factor of 0.5% per year as a maximum limit on as and when basis has been approved from 2nd operational year subject to the provision of documentary evidence.
- Reference Exchange Rate of 200 PKR/USD has been used.
- IDC and ROEDC have been worked out using following drawdown schedule:

Month 1	5.00%
Month 2	5.00%
Month 3	15.00%
Month 4	15.00%
Month 5	15.00%
Month 6	15.00%
Month 7	15.00%
Month 8	15.00%

- Detailed component wise tariff is attached as **Annex-I** of this decision.
- Debt Servicing Schedule is attached as **Annex-II** of this decision.

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A. One Time Adjustments at COD

i. 80% of the approved EPC cost is being allowed in terms of USD, and shall be adjusted at COD at lower or equal to the corresponding approved USD amount. At the time of COD, the PKR amount for this portion of the EPC cost shall be re-computed, on the exchange rates prevailing on the respective payment dates during the approved construction period OR on the exchange rates as decided in the relevant contracts, whichever is lower.

ii. 20% of the approved EPC cost is being allowed in terms of PKR (@ Rs. 200/USD), and shall be adjusted at lower or equal to the corresponding approved PKR amount. At the time of COD, the USD amount for this portion of the EPC cost shall be re-computed, on the exchange rates prevailing on the respective payment dates during the approved construction period. The adjusted amount, in terms of USD, shall not exceed beyond the USD amount computed at Rs. 200/USD.

iii. PDC, Insurance during construction and Financing Fee & Charges shall be adjusted at COD at lower or equal to the corresponding approved PKR amount, computed using the exchange rate of Rs. 200/USD. At the time of COD, the USD amount for these cost heads shall be re-computed, on the exchange rates prevailing on the respective payment dates during the approved construction period. The adjusted amount, in terms of USD, shall not exceed beyond the USD amount computed at Rs. 200/USD.

iv. The amounts retained or payable by the Company, on account of EPC cost, PDC, Insurance during Construction and Financing Fee & Charges, till the date of COD, shall be given approval upon payment of such amount. The adjustment on such amounts under the respective heads, as per the mechanism given in (i), (ii) and (iii) above, shall be made on the exchange rate used in the COD decision, i.e. the exchange rate of the last day of the quarter, prior to the date of COD.

v. The approved amount of PPDC shall not be subject to verification at the time of COD. The PKR amount of PPDC shall be converted in USD at COD, on the exchange rate used in the COD decision.

vi. 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.

vii. The tariff has been determined on debt: equity ratio of 80:20. The tariff shall be adjusted at COD while taking actual debt : equity mix on the approved project cost, subject to equity share of not more than 20%.

viii. 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) during the project construction period.

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ix. For full/part of commercial foreign or local loan or a mix of both, if applicable and availed by the Company, the IDC shall also be allowed adjustment for change in applicable LIBOR/KIBOR.

x. The savings in the approved financing cost/spreads shall be shared between the power purchaser and power producer in the ratio of 60:40.

xi. 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.

xii. For the above adjustments, the construction period of lower or equal to eight (08) months, as approved by the Authority, shall be considered.

B. Indexations

The adjustment of O&M and ROE shall be made on annual basis, commencing from 1st July every year. The adjustment of Debt Servicing Component shall be made on quarterly/bi-annual basis, as applicable in the financing documents. The insurance component shall be adjusted on annual basis starting from either 1st January or 1st July every year. The indexation mechanisms are provided as follows:

i) Operation and Maintenance Costs

O&M component of tariff shall be adjusted on account of change in local Inflation (NCPI) as notified by the Pakistan Bureau of Statistics according to the following mechanism:

L. O&M (Rev)	=	L. O&M (Ref) * CPI (Rev) / CPI (Ref)
Where;		
L. O&M (Rev)	=	The revised O&M Local Component of Tariff
L. O&M (Ref)	=	The reference O&M Local Component of Tariff
CPI (Rev)	=	The revised N-CPI (General)
CPI (Ref)	=	The reference N-CPI (General) of 165.23 for the month of May, 2022

Note: For the adjustment of O&M component at COD, the revised N-CPI value for the month of May, prior to the date of COD, shall be considered. That revised component shall be applicable for the supply of electricity from the date of COD till the 30th of June, after COD. Afterwards, the N-CPI for the next month of May shall be used to compute the revised O&M for the next year starting from the month of July, and so on.

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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. 200/USD
P (Act)	=	Actual premium or 0.4% of the approved EPC Cost converted into Pak Rupees on exchange rate prevailing on 1st day of the insurance coverage period whichever is lower

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

iii) **Return on Equity**

The ROE (ROE + ROEDC) component of the tariff will be adjusted on a yearly basis 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. 200/USD

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

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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 shall be applicable only to the extent of net annual energy generation supplied to the power purchaser, up to a maximum 21.70% net annual plant capacity factor. Any net annual energy generation supplied to the power purchaser exceeding the 21.70% net annual plant capacity factor in a given year shall be subject to the following tariffs:

Net annual plant capacity factor	% of prevalent tariff allowed to power producer
Above 21.70% to 21.90%	-
Above 21.90% to 22.65%	10%
Above 22.65% to 24.40%	20%
Above 23.40% to 24.15%	30%
Above 24.15%	40%

- The risk of solar resource shall be borne by the power producer.
- The maximum installed plant PV capacity shall not exceed 10 MWp.
- 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 AEPL is directed to ensure that all the equipment is installed as per the details/specifications given in the generation license and tariff determination.
- The AEPL 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.
- In case the Company shall secure full or part of local commercial loan then the tariff of Company shall be computed/adjusted at the time of COD at applicable KIBOR + spread of 2.25%. The savings in the approved spreads anytime 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.

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- In case the Company shall secure full or part of foreign conventional loan then the tariff of Company shall be computed/adjusted at the time of COD at applicable LIBOR + spread of 4.25%. The savings in the approved spreads any time 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).

- For the provision of the O&M cost, the Authority retains the discretion to make modifications in the approved O&M cost, while ensuring that it does not exceed the allowed limit as determined in accordance with the NEPRA (Selection of Operation and Maintenance Contractors by Generation Companies) Guidelines, 2021.

- In case the Company earns annual profit in excess of the approved ROE, 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. That is, the receipts of the producer in respect of energy beyond the approved net annual capacity factor, shall not be considered as excess profit.

- Allowed limit of degradation is 0.5% on as and when basis (if any) from 2nd operational year based on submission of documentary evidence to be provided by AEPL and the mechanism for reimbursement for the same shall be provided in the Energy Purchase Agreement.

- The time of Financial Close is extended by 4 months starting from the Financial Close date as previously given by NEPRA in its original 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 8 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 8 months will not invalidate the tariff granted to it.

- No compensation for Pre COD sale of electricity is to be allowed to the power producer.

- Withholding tax on dividend shall not be a pass through item.

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- The approved tariff, along with terms & conditions, shall be incorporated into the Energy Purchase Agreement. General assumptions, which are not covered in this determination, shall be governed by standard terms of the Energy Purchase Agreement.

23. The Order, including two Annexures, is recommended for notification in the official gazette in accordance with Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997

AUTHORITY

* (Mathar Niaz Rana (nsc))
Member

(Eng. Maqsood Anwar Khan)
Member

(Eng. Rafique Ahmed Shaikh)
Member

(Amina Ahmed)
Member

* (Tauseef H. Farooqi)
Chairman

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09/06/23

* My additional note attached.

* My additional note -11-

Annex-I

ACCESS ELECTRIC (PVT.) LIMITED
REFERENCE TARIFF TABLE

Year	O&M Local	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	1.0521	0.2862	1.9499	0.0822	4.7863	3.7032	11.8599
2	1.0521	0.2862	1.9499	0.0822	5.0800	3.4095	11.8599
3	1.0521	0.2862	1.9499	0.0822	5.3917	3.0978	11.8599
4	1.0521	0.2862	1.9499	0.0822	5.7225	2.7669	11.8599
5	1.0521	0.2862	1.9499	0.0822	6.0737	2.4157	11.8599
6	1.0521	0.2862	1.9499	0.0822	6.4464	2.0430	11.8599
7	1.0521	0.2862	1.9499	0.0822	6.8420	1.6475	11.8599
8	1.0521	0.2862	1.9499	0.0822	7.2618	1.2276	11.8599
9	1.0521	0.2862	1.9499	0.0822	7.7074	0.7820	11.8599
10	1.0521	0.2862	1.9499	0.0822	8.1804	0.3090	11.8599
11	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
12	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
13	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
14	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
15	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
16	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
17	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
18	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
19	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
20	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
21	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
22	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
23	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
24	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
25	1.0521	0.2862	1.9499	0.0822	-	-	3.3704
Levelized Tariff	**1.0521**	**0.2862**	**1.9499**	**0.0822**	**4.1027**	**1.6441**	**9.1172**

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ACCESS ELECTRIC (PVT.) LIMITED
Debt Servicing Schedule

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	1,206,936,100	22,240,334	18,104,042	1,184,695,766	40,344,376	4.7863	3.7032
2	1,184,695,766	22,573,939	17,770,436	1,162,121,827	40,344,376		
3	1,162,121,827	22,912,548	17,431,827	1,139,209,278	40,344,376		
4	1,139,209,278	23,256,237	17,088,139	1,115,953,042	40,344,376		
5	1,115,953,042	23,605,080	16,739,296	1,092,347,962	40,344,376	5.0800	3.4095
6	1,092,347,962	23,959,156	16,385,219	1,068,388,805	40,344,376		
7	1,068,388,805	24,318,544	16,025,832	1,044,070,262	40,344,376		
8	1,044,070,262	24,683,322	15,661,054	1,019,386,940	40,344,376		
9	1,019,386,940	25,053,572	15,290,804	994,333,368	40,344,376	5.3917	3.0978
10	994,333,368	25,429,375	14,915,001	968,903,993	40,344,376		
11	968,903,993	25,810,816	14,533,560	943,093,177	40,344,376		
12	943,093,177	26,197,978	14,146,398	916,895,199	40,344,376		
13	916,895,199	26,590,948	13,753,428	890,304,251	40,344,376	5.7225	2.7669
14	890,304,251	26,989,812	13,354,564	863,314,439	40,344,376		
15	863,314,439	27,394,659	12,949,717	835,919,780	40,344,376		
16	835,919,780	27,805,579	12,538,797	808,114,201	40,344,376		
17	808,114,201	28,222,663	12,121,713	779,891,538	40,344,376	6.0737	2.4157
18	779,891,538	28,646,003	11,698,373	751,245,535	40,344,376		
19	751,245,535	29,075,693	11,268,683	722,169,843	40,344,376		
20	722,169,843	29,511,828	10,832,548	692,658,014	40,344,376		
21	692,658,014	29,954,506	10,389,870	662,703,509	40,344,376	6.4464	2.0430
22	662,703,509	30,403,823	9,940,553	632,299,686	40,344,376		
23	632,299,686	30,859,880	9,484,495	601,439,805	40,344,376		
24	601,439,805	31,322,779	9,021,597	570,117,027	40,344,376		
25	570,117,027	31,792,620	8,551,755	538,324,406	40,344,376	6.8420	1.6475
26	538,324,406	32,269,510	8,074,866	506,054,897	40,344,376		
27	506,054,897	32,753,552	7,590,823	473,301,344	40,344,376		
28	473,301,344	33,244,856	7,099,520	440,056,489	40,344,376		
29	440,056,489	33,743,528	6,600,847	406,312,960	40,344,376	7.2618	1.2276
30	406,312,960	34,249,681	6,094,694	372,063,279	40,344,376		
31	372,063,279	34,763,427	5,580,949	337,299,852	40,344,376		
32	337,299,852	35,284,878	5,059,498	302,014,974	40,344,376		
33	302,014,974	35,814,151	4,530,225	266,200,823	40,344,376	7.7074	0.7820
34	266,200,823	36,351,363	3,993,012	229,849,460	40,344,376		
35	229,849,460	36,896,634	3,447,742	192,952,826	40,344,376		
36	192,952,826	37,450,083	2,894,292	155,502,743	40,344,376		
37	155,502,743	38,011,835	2,332,541	117,490,908	40,344,376	8.1804	0.3090
38	117,490,908	38,582,012	1,762,364	78,908,896	40,344,376		
39	78,908,896	39,160,742	1,183,633	39,748,153	40,344,376		
40	39,748,153	39,748,153	596,222	(0)	40,344,376		

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ADDITIONAL NOTE

It's worth noting that the CCOE's decision dated April 04, 2019, placed AEPL in Category I (LOS Stage). In accordance with the above referred decision, the tariff of AEPL was determined by the Authority on December 29, 2021. Subsequent to the expiry of the tariff, AEPL filed 2nd tariff petitions. The compliance with CCOE decision was already made as the CCOE's decision contains no provision for determining tariffs a second time under the cost plus regime. **Instead, the project companies should have been directed to participate in competitive bidding when they filed the 2nd tariff petition as the cost of power in the country even for renewable energy projects is higher than the other regional countries.**

Furthermore, the issue of prior period development costs (PPDC) pertains to FY 2013-2018, as per the petitioners the PPDC has incurred due to delays in the project by the inefficiencies of Government agencies including CPPA-G, MOE, and IESCO. Although the Islamabad High Court recognized in its judgment that the delays were not the fault of the project company, it did not state that such costs should be borne by consumers through incorporating them in AEPL's tariff. Therefore, in my opinion it is imprudent to pass the PPDC to the consumer by increasing the tariff. Similar, delays were also witnessed by Safe Solar Power Pvt Limited, but no claims were made by them to the Authority for delay compensation. **Not allowing the PPDC costs would result in reduction of US cents 0.13/kWh on AEPL tariff.**

With regard to the cost of degradation of module, I believe it is not a prudent cost to be capitalized.

I believe that the current market price of module and current marine freight should be taken into consideration while allowing the tariff. Although the EPC price is allowed on a lump-sum basis as a maximum cap and adjusted at COD based on actual EPC cost within the maximum allowed cost, the tariff should be reflective of current market conditions. It is apprised that the module prices ending March 2023 (when this issue was being deliberated upon)—including container index used for computing marine freight —have shown a decrease in prices since the last tariff determination, i.e., from USD 0.26 million/MW to USD 0.217 million/MW inclusive of impact of marine freight. **If all else remains constant, this alone will translate into a tariff decrease of about US cent 0.26/kWh.** It is important to highlight that the above decrease in tariff don't take into account the potential increase in Capacity Utilization Factor which has also improved over time thus can lead to much higher reduction in tariff. Therefore, I believe that the tariff should prudently reflect the current market conditions and latest technology offering for which adequate time should have been given for achieving financial close with revised updated tariff.

Lastly, to guarantee that the allowed amount for the power plant is an accurate upper cap, it is my considered opinion that, during the truing up process, **the amount being allowed for individual items should be treated as an upper cap.** This is in contrast to the current approach, where the overall engineering, procurement, and construction (EPC) cost is seen as a whole. In light of the above, **I propose that a more refined methodology be implemented to determine the cost of individual items and these be set as upper caps.** This would ensure that the upper cap is effectively enforced, thereby promoting transparency and accountability in the electricity sector.

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Mathar Niaz Rana (nsc)
Member (Tariff & Finance)

COMMENTS ON ADDITIONAL NOTE OF MEMBER (TARIFF)

Decision of Cabinet Committee on Energy: The honorable Member has stated that all these three (03) companies (Access Solar, Access Electric and Zorlu Solar) should not have been given a tariff 2nd time under the cost-plus regime, rather should have been directed to participate in the competitive bidding process, in light of CCOE decision dated April 04, 2019. However, I trust the legal opinion was sought on this point at the time of admitting their tariff petitions, which states that the CCoE decision does not bar determining tariffs for Category I & II projects under cost plus regime more than one time. Additionally, this issue was also framed for the tariff proceedings on the above 03 cases, whereupon no opposition was advanced either by the Federal Government (who authored the CCoE decision).

2. **Prior Period Development Cost (PPDC):** Access Solar and Access Electric have been trying to develop their projects since 2011 and the PPDC was allowed by the Authority in respect of the development period extended due to circumstances beyond the company's control as also recognized by the Honorable Islamabad High Court. The decision to allow the PPDC was taken by the Authority back in 2018 (that decision states the reason for allowing this cost), which was then honored in the Tariff Determinations of Access Solar and Access Electric issued in 2022. CPPAGL, in the review motion, has requested to review the approval of the said cost as (i) the same has been included in the Project Development Cost (PDC – allowed as another separate line item in the Tariff Determinations), (ii) it includes cost due to change in technology by the project companies. It is noted that an issue was framed in respect of PPDC for the proceedings of the Tariff Determinations of Access Solar and Access Electric, however, no comments were advanced by the power purchaser during that time. The contention of CPPAGL that PPDC also includes the additional cost incurred due to changes in technology is totally baseless, as the same was allowed only for the extended development time for the period spanning from 2013 to 2018. Additionally, there is no overlap between approved PDC and PPDC, as the former pertains to the period from 2020 onwards. This shows that the premise put forth for the review by CPPAGL is based on a complete misunderstanding on their part of the PPDC. Authority also gave them additional time (as Authority always does to ensure justice) to provide any proof of their claim but they couldn't.

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3. **Revision of EPC Cost:** In the review motion, CPPAGL requested for the review of the said parameter while referring to the costs that were approved by the Authority previously (during the years 2020 and 2021), i.e., it was argued that the EPC cost allowed to these 03 projects is higher than the said cost allowed by NEPRA to some companies back in 2020 and 2021. The honorable Member (Tariff) has commented that the EPC cost should be revised downward, as the module prices since the time of Tariff Determinations, have come down. To start with, there is a striking difference in the basis on which the review has been filed by CPPAGL and the note written by the honorable Member (Tariff), and this suggestion by the Honorable Member is beyond the scope of the review motion. The Authority has been approving cost-plus tariffs of renewable energy projects (wind and solar) on the prices prevailing at the time of their tariff determinations while allowing a validity period of one year, i.e., <u>prices are locked for the period of 01 year</u> that are not allowed change due to increase or decrease in prices of equipment during that period. The time of one (01) year was allowed to these 03 Nos. companies also to achieve Financial Close, failing which their tariffs would lapse. In my view, the idea put forth by the Member (Tariff) may sound beneficial in this particular case, but would defeat the whole scheme of 01 year validity period of the tariff, and with the extension in the time of achieving financial close (as proposed in the note), this would warrant the opening of tariff again in case of change in prices during that time and in this way, the tariff shall never attain finality. Most importantly, the proposed idea of opening up the tariff within 1 year lock period would also be counter-beneficial to the consumers in most cases especially when the equipment prices increase during this period. It is also important to note that the instant matter remained pending before NEPRA for more than 07 months; had that been concluded on time, the issue of change in prices after the date of Tariff Determinations, would not have even risen. The worthy Member has also stated that the capacity utilization factor allowed to these projects could be increased, however, Tariff has been given to them based on the latest available equipment and since technology is changing every passing day, Authority has to draw a line and make the best decision based on the best available information at given point in time.

4. **Adjustment Mechanism of EPC Cost:** It has been proposed that instead of the overall EPC cost, the individual cost items should be treated as the upper cap to allow/adjust the said cost at the COD stage. Though this matter is not under the scope of the review motion, I shall

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be happy to see a more detailed analysis of it. Authority should consider any positive suggestion whilst staying away from micro-managing the industry through over-regulating and thus scaring the potential investors away, having much more lucrative and attractive investment opportunities all over the world.

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Tauseef H. Farooqi
Chairman