National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

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No. NEPRA/R/DG(Tariff)/TRF-518/ASPL-2020/14286-88 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 Solar (Pvt) Ltd** (Case No. NEPRA/TRF-518/ASPL-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 SOLAR (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 Solar (Pvt.) Ltd. ("ASPL" or "the Company") for Determination of Reference Generation Tariff in respect of its 11.52 MW solar PV power Project ("Tariff Determination" or "the Impugned Determination") and thereby approved levelized tariff of US Cents. 4.7206/kWh for 25 years.

2. Central Power Purchasing Agency (Guarantee) Limited ("CPPAGL" or "the power purchaser" or "the petitioner") vide it 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, ASPL 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 ASPL, 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, ASPL 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 clawback mechanism and ROE
- Degradation factor
- Non-Project Missed Volume Compensation

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5. The written submissions of the petitioner on the listed above grounds are summarized below;

EPC Cost

6. CPPAGL submitted that the approved EPC cost of USD 0.680 million per MW (i.e. USD 7.834 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 ASPL 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 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 ASPL also been approved on PERC technology, then the capacity factor of ASPL would have been increased. Vide its communication dated January 04, 2023 also, CPPAGL submitted that it assumed that ASPL 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 ASPL 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 on 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 project 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 ASPL'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

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addressing the impact of the degradation factor and also failed to point out any mistake or error 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 project 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 Impugned 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 decision 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.

ORDER

21. 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 Solar (Pvt.) Limited (ASPL) for its 11.52 MWp solar PV power project for delivery of electricity to the power purchaser as follows:

- Levelized tariff works out to be Rs. 9.1901/kWh (US Cents 4.5950/kWh).
- The tariff has been worked out on Build Own and Operate basis.
- EPC cost of USD 7.834 million has been approved.

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- Project Development Cost of USD 0.287 million has been approved.
- Prior Period Development cost of USD 0.364 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 amount of degradation, as approved in this determination, shall be converted in PKR using the exchange rate of Rs. 200/USD at the time of COD.

viii. 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%.

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ix. 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.

x. 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.

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

xii. 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.

xiii. 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

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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.

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 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

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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.*

C. Terms and Conditions

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

- All plant and equipment to be utilized shall be new and conform 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 11.52 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.

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- ASPL is directed to ensure that all the equipment is installed as per the details/specifications given in the generation license and tariff determination.

- ASPL 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.

- 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 the Company and the mechanism for reimbursement for the same shall be provided in the Energy Purchase Agreement.

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- 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.
- 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.

22. 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

* My additional note attached

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* My additional note

Annex-I

ACCESS SOLAR (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	1.9681	0.0830	4.8311	3.7379	11.9584
2	1.0521	0.2862	1.9681	0.0830	5.1276	3.4414	11.9584
3	1.0521	0.2862	1.9681	0.0830	5.4422	3.1268	11.9584
4	1.0521	0.2862	1.9681	0.0830	5.7762	2.7928	11.9584
5	1.0521	0.2862	1.9681	0.0830	6.1306	2.4384	11.9584
6	1.0521	0.2862	1.9681	0.0830	6.5068	2.0622	11.9584
7	1.0521	0.2862	1.9681	0.0830	6.9061	1.6629	11.9584
8	1.0521	0.2862	1.9681	0.0830	7.3299	1.2391	11.9584
9	1.0521	0.2862	1.9681	0.0830	7.7796	0.7893	11.9584
10	1.0521	0.2862	1.9681	0.0830	8.2570	0.3119	11.9584
11	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
12	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
13	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
14	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
15	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
16	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
17	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
18	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
19	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
20	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
21	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
22	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
23	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
24	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
25	1.0521	0.2862	1.9681	0.0830	-	-	3.3894
Levelized Tariff	**1.0521**	**0.2862**	**1.9681**	**0.0830**	**4.1411**	**1.6595**	**9.1901**

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Annex-II

ACCESS SOLAR (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	1,403,416,941	25,860,907	21,051,254	1,377,556,035	46,912,161	4.8311	3.7379
2	1,377,556,035	26,248,820	20,663,341	1,351,307,214	46,912,161		
3	1,351,307,214	26,642,553	20,269,608	1,324,664,662	46,912,161		
4	1,324,664,662	27,042,191	19,869,970	1,297,622,471	46,912,161		
5	1,297,622,471	27,447,824	19,464,337	1,270,174,647	46,912,161	5.1276	3.4414
6	1,270,174,647	27,859,541	19,052,620	1,242,315,106	46,912,161		
7	1,242,315,106	28,277,434	18,634,727	1,214,037,672	46,912,161		
8	1,214,037,672	28,701,596	18,210,565	1,185,336,076	46,912,161		
9	1,185,336,076	29,132,120	17,780,041	1,156,203,956	46,912,161	5.4422	3.1268
10	1,156,203,956	29,569,101	17,343,059	1,126,634,855	46,912,161		
11	1,126,634,855	30,012,638	16,899,523	1,096,622,217	46,912,161		
12	1,096,622,217	30,462,828	16,449,333	1,066,159,389	46,912,161		
13	1,066,159,389	30,919,770	15,992,391	1,035,239,619	46,912,161	5.7762	2.7928
14	1,035,239,619	31,383,567	15,528,594	1,003,856,053	46,912,161		
15	1,003,856,053	31,854,320	15,057,841	972,001,733	46,912,161		
16	972,001,733	32,332,135	14,580,026	939,669,598	46,912,161		
17	939,669,598	32,817,117	14,095,044	906,852,481	46,912,161	6.1306	2.4384
18	906,852,481	33,309,374	13,602,787	873,543,107	46,912,161		
19	873,543,107	33,809,014	13,103,147	839,734,093	46,912,161		
20	839,734,093	34,316,149	12,596,011	805,417,944	46,912,161		
21	805,417,944	34,830,892	12,081,269	770,587,052	46,912,161	6.5068	2.0622
22	770,587,052	35,353,355	11,558,806	735,233,697	46,912,161		
23	735,233,697	35,883,655	11,028,505	699,350,042	46,912,161		
24	699,350,042	36,421,910	10,490,251	662,928,132	46,912,161		
25	662,928,132	36,968,239	9,943,922	625,959,893	46,912,161	6.9061	1.6629
26	625,959,893	37,522,762	9,389,398	588,437,130	46,912,161		
27	588,437,130	38,085,604	8,826,557	550,351,526	46,912,161		
28	550,351,526	38,656,888	8,255,273	511,694,638	46,912,161		
29	511,694,638	39,236,741	7,675,420	472,457,897	46,912,161	7.3299	1.2391
30	472,457,897	39,825,292	7,086,868	432,632,605	46,912,161		
31	432,632,605	40,422,672	6,489,489	392,209,933	46,912,161		
32	392,209,933	41,029,012	5,883,149	351,180,921	46,912,161		
33	351,180,921	41,644,447	5,267,714	309,536,474	46,912,161	7.7796	0.7893
34	309,536,474	42,269,114	4,643,047	267,267,361	46,912,161		
35	267,267,361	42,903,150	4,009,010	224,364,210	46,912,161		
36	224,364,210	43,546,698	3,365,463	180,817,512	46,912,161		
37	180,817,512	44,199,898	2,712,263	136,617,614	46,912,161	8.2570	0.3119
38	136,617,614	44,862,897	2,049,264	91,754,718	46,912,161		
39	91,754,718	45,535,840	1,376,321	46,218,878	46,912,161		
40	46,218,878	46,218,878	693,283	(0)	46,912,161		

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ADDITIONAL NOTE

It's worth noting that the CCOE's decision dated April 04, 2019, placed ASPL in Category I (LOS Stage). In accordance with the above referred decision, the tariff of ASPL was determined by the Authority on December 29, 2021. Subsequent to the expiry of the tariff, ASPL 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 ASPL'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 0.17/kWh on ASPL 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., prices are locked for the period of 01 year 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.

Tauseef H. Farooqi
Chairman