



**Registrar**

# National Electric Power Regulatory Authority Islamic Republic of Pakistan

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No. NEPRA/ADG(Trf)/TRF-482/ZPNECL-2019/ 6011-15

May 03, 2024

**Subject: Decision of National Electric Power Regulatory Authority in the matter of Tariff Adjustments at Commercial Operations Date (COD) of Atlas Solar Limited**

Dear Sir,

Please find enclosed herewith the subject Decision of the Authority along with Annex-I, II & III (total 23 Pages), Dissent note of Mr. Mathar Niaz Rana (nsc) Member, NEPRA and Additional note by majority Members of the Authority in the matter of Tariff Adjustments at Commercial Operations Date (COD) of Atlas Solar Limited in Case No. NEPRA/TRF-482/ZPNECL-2019.

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 Decision within the time period specified in Section 31(7), then the Authority shall notify the same in the official Gazette pursuant to Section 31(7) of NEPRA Act.

Enclosure: As above

(Engr. Mazhar Iqbal Ranjha)

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

**Copy to:**

1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad
3. Chief Executive Officer, Central Power Purchasing Agency Guarantee Limited (CPPA-G), Shaheen Plaza, 73-West, Fazl-e-Haq Road, Islamabad
4. Director, Zhenfa Pakistan New Energy Company (Pvt.) Ltd., 01, 6<sup>th</sup> Floor, 10-C, Liberty Gate Plaza, MM Alam Road, Gulberg-III, Lahore



**DECISION OF NATIONAL ELECTRIC POWER REGULATORY AUTHORITY IN THE MATTER  
OF TARIFF ADJUSTMENTS AT COMMERCIAL OPERATIONS DATE (“COD”) OF ATLAS  
SOLAR LIMITED**

**Introduction:**

1. M/s. Atlas Solar Limited (“ASL” or “the petitioner” or “the project company”) formerly known as Zhenfa Pakistan New Energy Company (Private) Limited (“ZPNECPL”) is a company established for the purpose of developing a 100 MW solar PV power project (“the Project”) at Rakh Chaubara, District Layyah, Punjab. The Generation License to the ZPNECPL was issued by the National Electric Power Regulatory Authority (“NEPRA” or “the Authority”) on July 10, 2017. Subsequently, the decision on Licensee’s Proposed Modification (“LPM”) was issued on December 30, 2020.
2. The Authority issued the tariff determination of ASL on February 21, 2020 (“Tariff Determination”) wherein a levelized tariff of PKR 5.8085/kWh (US Cents 3.7390/kWh) was approved.
3. ASL vide letter dated January 16, 2023 informed that the name of the company has been changed to “Atlas Solar Limited from ZPNECPL. In this regard a copy of “Certificate of Incorporation on Change in Name” was also submitted by ASL.

**Adjustment of Tariff at Commercial Operations Date:**

4. The following mechanism was approved in the Tariff Determination dated February 21, 2020 for the adjustment of tariff at Commercial Operations Date (“COD”) of the company:
  - The EPC cost shall be verified and adjusted at actual considering the approved amount as the maximum limit. Applicable foreign portion of the EPC cost will be adjusted at COD on account of variation in PKR/USD parity during the construction period, on production of authentic documentary evidence to the satisfaction of the Authority. The adjustment in approved EPC cost shall be made only for the currency fluctuation against the reference parity values.
  - PDC, Insurance during construction and Financing Fee and Charges shall be adjusted at actual at the time of COD considering the approved amount as the maximum limit. The amounts allowed on these accounts in USD will be converted in PKR using the reference PKR/USD rate of 155.35 to calculate the maximum limit of the amount to be allowed at COD.
  - Duties and/or taxes, not being of refundable nature, relating to the construction period directly imposed on the company up to COD will be allowed at actual upon production of verifiable documentary evidence to the satisfaction of the Authority.
  - The tariff has been determined on debt: equity ratio of 80:20. The tariff shall be adjusted on actual debt: equity mix at the time of COD, subject to equity share of not more than 20%. For equity share of more than 20%, allowed return on equity shall be neutralized for the additional cost of debt : equity ratio.
  - IDC will be recomputed at COD on the basis of actual timing of debt draw downs (for the overall debt allowed by the Authority at COD) for the project construction period of 10 months starting from the date of FC. IDC shall also be allowed adjustment for change in applicable LIBOR.
  - ROEDC will be adjusted at COD on the basis of actual equity injections (within the overall equity allowed by the Authority at COD) during the project construction period of 10 months from the date of FC.
  - The savings in the approved spreads shall be shared between the power purchaser and power producer in the ratio of 60:40.

**Filling of Tariff Adjustment Request at COD:**

5. Following the achievement of COD on April 14, 2022, ASL through letter No. ZPNECL/NEPRA/TARIFF/01 dated November 07, 2022 submitted its application for adjustment of tariff at COD, along with supporting documents (in 22 box files). ASL has requested a tariff of Rs. 7.7800/kWh (USCent 4.2467/kWh). Additionally, ASL submitted an Audit Report on the claimed project cost by BDO Ebrahim & Co. Chartered Accountants dated November 04, 2022.

*ASL*





6. Subsequently, ASL also submitted the affidavit stating that the information/data submitted is correct and nothing has been concealed or misrepresented. Therefore, the responsibility of the veracity of the provided information lies with the petitioner.
7. Below is the summary of project cost allowed by the Authority in the Tariff Determination and claimed by ASL in its COD tariff adjustment application dated November 07, 2022 and as verified by auditors:

Project Cost Heads	Determined		Claimed at COD		Verified by Auditors	
	USD	PKR	USD	PKR	USD	PKR
	in million					
EPC Cost	53.55	8,318.99	53.55	9,081.52	53.55	9,081.52
Duties and Taxes	-	-	0.57	98.11	0.57	98.11
Project Development Cost	1.70	264.10	1.70	264.10	1.84	285.63
Insurance during Construction	0.21	33.24	0.22	34.10	0.22	34.10
Financing Fee and Charges	0.89	137.87	0.89	137.87	1.10	170.90
Interest during Construction	1.04	161.41	2.13	379.09	2.13	379.09
Degradation	1.94	301.07	1.94	327.98	-	-
<b>Total</b>	<b>59.33</b>	<b>9,216.68</b>	<b>60.99</b>	<b>10,322.77</b>	<b>59.41</b>	<b>10,049.34</b>

8. The petitioner informed that the reason of the difference between the project cost as claimed by the company and as verified by the auditors is the cost overruns that have been incurred by the project company on account of Project Development Cost and Financing Fee and Charges, however, the same have not been claimed in the COD tariff application.

**Force Majeure and Construction Period:**

9. In the Tariff Determination, a construction period of 10 months from Financial Close (“FC”) was allowed to ASL. The relevant extracts of the tariff determination are reproduced as under:

*“The targeted maximum construction period from prescribed date/time of FC is 10 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 10 months will not invalidate the tariff granted to it.”*

10. It has been noted that the EPA also provides that the Required Commercial Operations Date (“RCOD”) is 10 months following the date on which FC occurs. Based on above, the RCOD in the instant matter was December 18, 2021.
11. In the tariff adjustment application, ASL informed that post-issuance of the Tariff Determination, ASL obtained a Letter of Support (“LOS”) from Alternative Energy Development Board (“AEDB”) on September 03, 2020, signed the Energy Purchase Agreement (“EPA”) with Central Power Purchasing Agency Guarantee Limited (“CPPAGL”) on January 29, 2021, and signed Implementation Agreement (“IA”) with Government of Pakistan (“GoP”) on February 01, 2021. The project company further informed that it achieved Financial Close (“FC”) on February 18, 2021, and achieved COD on April 14, 2022. The letter of achievement of FC, and a copy of the notification of COD issued by CPPAGL on April 27, 2022, was submitted by the petitioner. In the said notification, CPPAGL has stated that pursuant to issuance of the certificate by the Independent Engineer, the COD of the Complex is notified w.e.f. April 14, 2022 at 00:00 Hrs under the EPA. Accordingly, ASL has requested a construction period of about 14 months from the date of FC i.e. from February 18, 2021, till actual COD i.e. April 14, 2022 as compared to the construction period of 10 months allowed in the Tariff Determination. The reason for the delay in achieving COD as cited by ASL is primarily the COVID-19 Pandemic.
12. ASL in its COD adjustment request has submitted that due to the COVID-19 Pandemic, the working environment was significantly impacted, causing delays in achieving the FC and executing contracts. As a result, both the Supplier and Construction Contractors submitted Force Majeure Event (“FME”) notices under their respective contracts. Accordingly, the project company issued a letter regarding the declaration of Other Force Majeure

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- Event (“OFME”) to CPPAGL on June 17, 2021. These challenging conditions persisted until November 2021, during which the major equipment had arrived at the project’s site and an adequate labor force was available for construction. Recognizing this progress, the project company issued a letter to CPPA-G on November 23, 2021, about the cessation of the OFME situation. CPPAGL acknowledged and accepted this notification, and extended the RCOD under the EPA by 159 days till May 25, 2022, vide its letter No. CPPAGL/DGM(REN)/ZPNECL/820-24 dated January 13, 2022. ASL informed that it has achieved COD 42 days earlier than the extended RCOD i.e. on April 14, 2022, and that insurance cost, interest during construction, and ROEDC have been claimed for the extended period.
13. For these extended period claims, ASL referred the decision of the Authority related to Sapphire and UCH-II projects. Additionally, ASL submitted that that similar costs have been admitted by the GoP in a very recent development with the Independent Power Projects (“IPPs”) under the 2002 power policy. It was explained that a number of projects could not purchase the fuel due to non-performance of the obligation by the power purchaser and its Guarantor, i.e. GOP. The matter went for international arbitration and the IPPs won their claims against both the parties. ASL submitted that after years of battle in courts, the power purchaser admitted it under OFME and consequently paid the insurance cost, administrative cost (Fixed O&M), and financial cost to the IPPs along with the extension of the term of the agreement.
  14. The Authority has noted that under the EPA signed between ASL and CPPAGL, a complete chapter is devoted to the FME. The FMEs have been divided into 03 categories namely, i.e. (i) CLFME (ii) PPFME and (iii) OFME. The instances under which above stated FMEs can be invoked have also been listed under the respective categories. The Authority further noted that the compensation to the power producer due to the delay in the construction period has only been allowed under CLFME and PPFME, whereas no such compensation is provided for the occurrence of OFME. However, it is given in the EPA that the timelines that the parties are obligated to meet shall be extended. Particularly, it is provided in section 6.5 (a) of the EPA that COD shall be extended on a day-for-day basis in case of OFME that materially and adversely affects the purchaser’s ability to perform its obligations.
  15. The Authority considers it pertinent to refer here to the similar case of MGEL wherein AEDB, and CPPAGL commented that no additional cost on account of this delay/extension should be allowed.
  16. As far as the cases (Uch-II, Sapphire) are concerned, these cases are distinguishable from the present case. Furthermore, in recent precedents, the Authority has consistently departed from this practice and subscribed to a view that parties while signing the contracts should take into account the potential risks and the mechanism for the compensation thereof. The relevant provisions and scope of FME given in the EPA should be the main reference for deciding any compensation to the power producer in this regard. In the absence of any such compensation on the occurrence of OFME, it is not appropriate to allow any additional cost to the petitioner in this respect.
  17. It is also pertinent to discuss the cases where CPPAG-L agreed to make payments to certain IPPs while treating the same under OFME as referred by ASL. In this regard, it is noted that in the case of 9 thermal IPPs, CPPA-G withheld the capacity payments on account of the non-availability of the power plants due to fuel constraints. The IPPs took up the matter to the London Court of International Arbitration (“LCIA”). LCIA through its award decided the matter in favor of IPPs. While the proceedings were pending in LHC for implementation of the award, CPPA-G and IPPs negotiated and reached an out-of-court settlement of the award wherein inter-alia the subject non-availability period was declared as OFME. It was agreed between the parties that the power purchaser shall pay fixed O&M, insurance, and cost of working capital components during this OFME period along with an increase in the term of the tariff control period by corresponding days. In return, the IPPs agreed to forego the amount of the LCIA award. The Authority is of the view that the decision by CPPA-GL to pay certain IPPs under OFME was specific to that situation and cannot be seen and adopted as a standard practice for other cases.
  18. Keeping in view the above and considering the facts that no compensation for the OFME period is provided in the EPA, the Authority has decided not to allow Interest during Construction (“IDC”) and Return on Equity during Construction (“RoEDC”) for the period declared as OFME i.e. from June 17, 2021, till November 22, 2021. Accordingly, the Authority has decided to allow IDC and ROEDC for the period from FC (February 18, 2021) till the declaration of OFME (June 17, 2021) and then from cessation of OFME (November 23, 2021) till actual COD



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(April 14, 2022). Accordingly, the allowed construction period for the purpose of IDC and ROEDC works out to be 8 months and 21 days.

**Adjustment of Engineering Procurement and Construction Cost (EPC):**

**Tariff determination:**

19. The Authority in the Tariff Determination dated February 21, 2020, allowed EPC Cost of USD 53.55 million to ASL while stating the following mechanism for its adjustment at COD;

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

20. ASL in its COD tariff adjustment application has claimed EPC cost of USD 53.55 million (PKR 9,081.52 million). The breakup of the EPC cost as approved in the Tariff Determination, claimed by ASL and as provided in the Audit report is given hereunder:

Description	Contractor	Tariff Determination		Claimed at COD		Audit Report	
		USD	PKR	USD	PKR	USD	PKR
Million							
Offshore EPC	Hangzhou Huachen Electric Power Control Company Limited (HHEPCCL)			43.55	7,437.49	43.55	7,437.49
Onshore EPC	Hydrochina International Engineering Company Limited (HIECL)	53.55	8,318.99	9.94	1,634.05	9.94	1,634.05
	Other Supplies			0.06	9.99	0.06	9.99
<b>Total</b>		<b>53.55</b>	<b>8,318.99</b>	<b>53.55</b>	<b>9,081.52</b>	<b>53.55</b>	<b>9,081.52</b>
<b>Supplier Cost overrun</b>		-	-	<b>9.037</b>	-	-	-

21. In the COD application, ASL submitted that USD 2.41 million is payable. Subsequently, during the processing of the case, the payments were made and documentary evidence in this regard was submitted by ASL.

**Offshore EPC Cost:**

22. For the claim of EPC offshore cost, the petitioner has submitted a copy of the offshore supply contract dated December 15, 2020, signed with Hangzhou Huachen Electric Power Control Company Limited (“HEPCCL”) for the amount of USD 43.550 million. In addition to the aforementioned contract, ASL also submitted copies of commercial invoices, SWIFT payment messages, relevant bank statements, withdrawal requests, funds transfer form, NBP exchange rate sheets, milestone completion certificates, taking over certificate dated March 16, 2023. In addition to above, import documents such as copies of Goods Declaration (“GD”), Bill of Lading (“BL”), were also submitted by ASL for the purpose of reconciliation of offshore cost with import documents.
23. The Audit Report provides that the schedule of costs, as prepared by management of the company, with respect to EPC offshore was obtained. Then the amounts paid and other details appearing therein were matched with the respective invoice dates, invoice amount in USD/PKR, exchange rate, and payment date with copy of commercial invoice, milestone completion certificate, swift acknowledgment, NBP exchange rate sheet and bank statement, where applicable and no difference was found. The Audit report also indicated the payable amount which is converted into Pakistan rupee based on the exchange rate as of date of COD for the supply contract.
24. In the supply contract, it is noted that the price of USD 43.55 million was agreed between the parties. They also agreed on the schedule stating the different milestones based on which the above price was to be paid to the supply contractor. It is noted that as per the milestone schedule, the cost of the equipment under different milestones is USD 42.81 million (96%) while the rest of the payment pertains to the final delivery of the equipment which amounts to USD 1.74 million (4%)

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25. It is noted that ASL has made all the payments from different accounts. ASL has used the exchange rates applicable on the payment dates, as obtained from the NBP's website. For the payments made after actual COD the petitioner has applied the PKR/USD exchange rate of COD.
26. The comparison of offshore EPC cost, as claimed by ASL, verified by auditors and as being allowed in this decision, after review and verification of the submitted documents, is given below:

Description	Claimed by ASL		Verified by Auditors		Approved	
	USD	PKR	USD	PKR	USD	PKR
	Million					
Offshore EPC	43.55	7,437.49	43.55	7,437.49	43.55	7,437.49

**Onshore EPC Cost**

27. For the claim of the EPC onshore cost, the petitioner has submitted copy of EPC construction contract dated January 21, 2021 signed with Hydrochina International Engineering Company (Pvt) Limited ("HIECL") for USD 10 million. As per contract 40% of the agreed amount was subject to indexation whereas 60% of the amount was locked with the exchange rate of NTP which was Rs. 160.23/USD. ASL also submitted copy of Notice to Proceed, commercial sales tax invoices, relevant bank statements, State Bank of Pakistan ("SBP") weighted average customer exchange rates sheets, Withholding Tax ("WHT") Computerized Payment Receipts ("CPR"), and milestone completion certificate issued by DNVGL.
28. With regards to the amount of other supplies the petitioner submitted that these claims pertains to the electrical items, kitchen items, furniture, IT equipment etc. paid to miscellaneous vendors (19 nos.) to fulfill employer's O&M requirements. ASL further informed that the same were the responsibility of the EPC Onshore contractor under clause 2.11 of the contract, which is reproduced as under:

*"2.11 FURNISHING IN PERMANENT RESIDENCE BUILDING AND PERMANENT CONTROL/OFFICE BUILDING:*

*The furnishing comprises of beds, chairs, sofas, tables, LCDs, wardrobes, cabinets, kitchen Appliances and other amenities subject to Employer's approval and is the Contractor's scope of work. The extent of these items in permanent residence building and permanent control/office building together is capped at a combined worth of 60,000 USD."*

29. Regarding payment of the above referred supplies ASL has submitted copy of letter dated February 21, 2022 issued by HIECL to CEO ASL stating that:

*"the Contractor and the Employer reached a mutual agreement that the Contractor will pay the required amount to the Employer who will take charge of the Furnishing in Permanent Residence Buildings and Permanent Control/Office Buildings comprising of beds, chairs, sofas, tables, LCDs, wardrobe, cabinets, kitchen appliances and other amenities subject to Employer's demands. Meanwhile, the Employer shall be entitled to deduct the full amount of 60,000 USD for Furnishing from the designated Onshore Payment Milestone achieved under Construction Contract."*

30. Accordingly, ASL informed that the USD 0.060 million were adjusted by ASL from 8<sup>th</sup> milestone payment.
31. The Audit Report provides that the schedule of costs, as prepared by management of the company, with respect to EPC onshore was obtained. Then the amounts paid and other details appearing therein were matched with respect to the invoice date, invoice amount, exchange rate and payment date with copy of commercial invoice, sales tax invoice, swift acknowledgement, milestone completion certificates, SBP's weighted average exchange rates sheets, and Bank Statements.
32. It has been noted that the petitioner has made onshore payments in PKR as per the terms of the onshore contract. The invoices were also raised in PKR based on the SBP weighted average PKR/USD exchange rate of Notice to Proceed date which in the instant case is February 04, 2021, when the applicable ER was PKR 160.23/USD and the remaining 40% of the respective USD invoice amount was converted and paid in PKR based on SBP weighted average PKR/USD exchange rate of the date of invoice.

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33. The comparison of onshore EPC cost, as claimed by ASL, verified by auditors and as being allowed in this decision, after review and verification of the submitted documents, is given below:

Description	Claimed by ASL		Verified by Auditors		Approved	
	USD	PKR	USD	PKR	USD	PKR
Million						
Onshore EPC	9.95	1,634.05	9.95	1,634.05	9.95	1,634.05
Supplies	0.06	9.99	0.05	9.99	0.05	9.99
<b>Total Onshore EPC</b>	<b>10.00</b>	<b>1,644.04</b>	<b>10.00</b>	<b>1,644.04</b>	<b>10.00</b>	<b>1,644.04</b>

34. Below is the comparison of EPC cost as claimed by ASL and as allowed by the Authority in this decision:

EPC Onshore	Claimed by ASL		Approved	
	USD	PKR	USD	PKR
Million				
Offshore	43.55	7,437.49	43.55	7,437.49
Onshore EPC	10.00	1,644.04	10.00	1,644.04
<b>Total</b>	<b>53.55</b>	<b>9,081.53</b>	<b>53.55</b>	<b>9,081.53</b>

**Supplier Cost Overrun:**

35. The tariff determination does not provide any provision for the consideration of cost overruns. Further, following provision is provided in the tariff determination regarding financial impact due to delayed construction period:

*"...No adjustment will be allowed in this tariff to account for financial impact of any delay in project construction..."*

36. ASL provided some background information, stating that the contract was signed in January 2021, but there were delays due to the COVID-19 Pandemic, causing disruptions in the supply chain and increasing prices. ASL informed that the supplier submitted documents in Chinese to ASL to support their claim, stating that the actual cost exceeded the approved tariff determination by USD 9.04 million. ASL also mentioned that other recent tariff determinations (Siachen, Zorlu) supports supplier's claim. Stating above, ASL requested the Authority to include this cost overrun of USD 9.04 million in the overall EPC cost, which would amount to a total EPC cost of USD 62.60 million. However, no documentary evidence in this regard has been provided by the company.
37. The ASL request has been considered and it was observed that this cost overrun of the supplier is out of the scope of the COD adjustment, thus does not merit consideration of the Authority.

**Adjustment of Duties and Taxes:**

38. The Tariff Determination did not account for the impact of duties and taxes and provides the following with respect to the adjustment of this head at COD:

"Duties and/or taxes, not being of refundable nature, relating to the construction period directly imposed on the company up to COD will be allowed at actual upon production of verifiable documentary evidence to the satisfaction of the Authority."

39. ASL in its COD tariff application has requested for the duties and taxes of USD 0.57 million (PKR 98.11 million). In support of this claim, ASL has submitted copies of relevant commercial invoices, shipment invoices, GDs, BLs, Cess CPRs, cheques, and bank statement.

40. The Audit Report provides that the schedule of Sindh Infrastructure Development Cess ("SIDC") prepared by management was obtained by the Auditors. Then the amounts paid were matched with the details appearing therein concerning respective GD number, GD date, BL number, BL date, invoice date, invoice amount (USD), commercial invoice, packing list, Sindh Infrastructure Development Cess ("SIDC") challan, pay order/customer's advice to excise & taxation (if any) and bank statement, where applicable and no difference was found. The Audit Report further provides that certain accruals have been made by the company out of which certain amounts have been paid subsequent to the COD and remaining are still outstanding.

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41. It has been noted that the out of the claimed duties and taxes, PKR 94.72 million pertains to SIDC, PKR 0.05 million related to Punjab Infrastructure Development Cess (“PIDC”) and PKR 3.34 million pertains to additional sales tax.
42. The comparison of duties and taxes, as claimed by ASL, verified by auditors and as being allowed in this decision, after review and verification of the submitted documents, is given below:

Description	Claimed at COD		Verified by Auditors		Approved	
	USD	PKR	USD	PKR	PKR	
	million					
SIDC/PIDC	0.57	98.11	0.57	98.11	0.55	94.77

43. The reason for difference of PKR. 3.34 million in the claimed and approved amount is due to the fact that the same pertains to additional sales tax which is reimbursable in nature.

**Adjustment of Project Development Cost:**

44. The Authority in the Tariff Determination allowed USD 1.70 million in respect of the Project Development Cost (“PDC”) to ASL while stating the following mechanism for its adjustment at COD;

“PDC...shall be adjusted at actual at the time of COD considering the approved amount as the maximum limit. The amounts allowed on this account in USD will be converted in PKR using the reference PKR/USD rate of 155.35 to calculate the maximum limit of the amount to be allowed at COD.”

45. As per the above mechanism, the maximum amount allowed to ASL under PDC head @PKR 155.35/USD works out to be about PKR 264.10 million.
46. The petitioner in its COD adjustment request has submitted that the actual cost incurred in this head is PKR 285.63 million (USD 1.84 million), however, the amount claimed in the COD tariff application is PKR 264.10 million (equivalent to USD 1.70 million) as per maximum limit of reference tariff. ASL submitted the following breakup of the actual cost incurred under PDC:

PDC Heads	Claimed	
	PKR	USD
	million	
Consultancy cost & technical studies — Pre FC	110.51	0.71
Owner's engineer supervision- Post FC	31.16	0.20
Independent Engineer- as per Energy Purchase Agreement (EPA)	4.00	0.03
Permits, permissions and related costs	37.19	0.24
Site, security and infrastructure	8.92	0.06
Administration Cost	78.11	0.50
Travelling Cost	15.74	0.10
<b>Total</b>	<b>285.63</b>	<b>1.84</b>

47. The Auditor’s Report provides that the company incurred PDC amounting to PKR 285.63 million (USD 1.84 million). The Audit report also provides that the schedules of costs prepared by the management were obtained and the amount paid was checked with the documents as mentioned under different heads:

- Consultancy cost and technical studies and Advisors fee: Copy of sales tax invoice, pay order to the consultants/FBR, CPR and bank statements, where applicable.
- Owner Engineer Supervision: Copy of invoices, vouchers, pay order/withdrawal request and bank statement, where applicable.
- Independent Engineer: Copy of invoice/claim expense voucher, pay order/withdrawal request and trace with the bank statement, where applicable.

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- Permits, permissions and related costs (Regulatory Authorities): Copy of invoice/challan and cheque/pay order, where applicable.
  - EPC- Site security and infrastructure: Lease Land: Copy of lease agreement, treasury challan and pay order, where applicable. Fixed Assets: Copy of invoice, voucher, pay order and bank statement, where applicable.
  - Admin Cost: Copy of invoice/claim expense voucher, pay order and bank statements, where applicable.
  - Other Admin Cost: Copy of salary sheet and bank statements, where applicable.
  - Travelling and Conveyance: Copy of invoice/claim expense voucher, pay order, and bank statements, where applicable.
48. The Auditor also stated that in some cases the company has paid the withholding tax amounting to PKR 2.459 million on behalf of the consultants and vendors as per their engagement letter/contract, instead of as a deduction from their payment. Further, the health insurance premium amount of PKR 32,951 has been paid for the period covered after the COD (April 14, 2022) and certain accruals have been made by the company out of which certain amounts have been paid subsequent to the COD and remaining are still outstanding.
49. Based on the documentary evidence submitted by the company regarding the claim of the PDC, the Authority has decided to approve the expenses up to the limit specified in the Tariff Determination, i.e. PKR 264.10 million. To convert the approved PKR amount to USD, an average exchange rate of PKR 176.75/USD has been taken into account. The average exchange rate has been computed using three rates of each month, i.e. rate at the start, middle, and end of that month as published by NBP on its website for the period from February 18, 2021 till actual COD. Accordingly, the corresponding USD amount works out to be about USD 1.49 million, which is being allowed in the decision.

#### Adjustment of Insurance during Construction

50. The Authority in the Tariff Determination allowed USD 0.214 million for insurance during construction while stating the following mechanism for its adjustment at COD;
- “...Insurance during construction...shall be adjusted at actual at the time of COD considering the approved amount as the maximum limit. The amounts allowed on these accounts in USD will be converted in PKR using the reference PKR/USD rate of 155.35 to calculate the maximum limit of the amount to be allowed at COD.”
51. As per the above mechanism, the maximum amount allowed to APL under captioned head @PKR 155.35/USD works out to be about PKR 33.24 million.
52. The petitioner in its adjustment request has claimed insurance amount of PKR 34.10 million (equivalent to about USD 0.214 million) paid to Atlas Insurance Company Limited. ASL in support of its claim has submitted copies of insurance policies, premium invoices, premium payment receipts, withdrawal requests and bank statements.
53. The Auditors in their Report has also verified the amount of PKR 34.10 million in respect of the insurance cost. The Audit Report provides that the schedule of costs prepared by management was obtained and the amount paid and the details appearing therein with respect to insurance policy date, insurance policy amount and payment date with copy of insurance policies, premium bill, premium paid receipts and bank statement were matched and no difference was found.
54. As per the details submitted by ASL, it was noted that PKR 0.40 million pertains to advance payment for operational phase insurance. Accordingly, the breakup of the insurance during construction is given hereunder:

Description	Premium net of Sales Tax
	PKR (million)
Erection All Risk, Delay in Startup and Third Party Liability, Operational All Risk, Business Interruption and Third Party Liability	19.77
Marine Cargo & Marine Delay in start up	11.26
Political Violence	2.67

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<b>Total</b>	<b>33.70</b>
PKR/USD average exchange rate	<b>153.83</b>
<b>Total Premium USD</b>	<b>0.22</b>

55. Considering the above details and after reviewing the documentary evidences submitted by the petitioner, the Authority has decided to allow the expenses under the captioned head to the limit of Tariff Determination, i.e. PKR 33.24 million. The corresponding USD 0.22 million has been worked out on the basis of the average of the exchange rates prevailing on the respective payment dates which is being allowed in this decision.

**Adjustment of Financing Fees and Charges**

56. The Authority in the Tariff Determination had allowed financing fees and charges of USD 0.887 million. This cost was allowed at the rate of 2.50% of the approved debt portion of the allowed capital expenses in the Tariff Determination. The following mechanism for the adjustment of financing fees and charges at the time of COD was prescribed;

*“... Financing Fee and Charges shall be adjusted at actual at the time of COD considering the approved amount as the maximum limit. The amounts allowed on these accounts in USD will be converted in PKR using the reference PKR/USD rate of 155.35 to calculate the maximum limit of the amount to be allowed at COD.”*

57. As per the above mechanism, the maximum amount allowed to ASL under this head @ PKR 155.35/USD works out to be about PKR 137.87 million.

58. The petitioner in its COD adjustment request has submitted that although the actual expense incurred in this head is PKR 170.89 million (Equiv. USD 1.10 million @ PKR 155.35/USD), but the claimed amount is PKR 137.87 million (Equiv. USD 0.887 million @ PKR 155.35/USD) as per maximum limit of reference Tariff determination. ASL in support of its claim has submitted copies of financing agreements and Lender’s Legal and Technical Contracts/agreements, Invoices, payment evidence bank statements including tax challans, relevant exchange rates, etc.

59. Below is the detailed breakup of actual financing fees and charges as incurred by the petitioner and as verified by the Auditors:

Description	Actual incurred as per ASL		Audited	
	USD	PKR	USD	PKR
	Million			
<b>Foreign Financing fee (CDC)</b>				
Upfront Fee	0.25	39.57	0.25	39.57
Commitment fee	0.04	5.93	0.04	5.93
Appraisal Fee	0.03	4.82	0.03	4.82
<b>Local Financing fee (HBL)</b>				
Arrangement Fee	0.07	11.61	0.07	11.61
Advisory Fee	0.14	21.57	0.14	21.57
<b>Onshore Security Agency Fee (HBL)</b>	0.03	4.50	0.03	4.50
<b>Offshore Security Agency Fee (HBL-UK)</b>	0.01	0.93	0.01	0.93
<b>Offshore Bank Account Fee (HBL-UK)</b>	0.01	1.67	0.01	1.67
<b>Lenders Advisors Fee</b>	0.48	73.85	0.48	73.85
<b>WHT</b>	0.04	6.44	0.04	6.44
<b>Total</b>	<b>1.10</b>	<b>170.89</b>	<b>1.10</b>	<b>170.89</b>

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60. The Audit Report provides that for financing fees and charges, a schedule of costs prepared by management was obtained and the amount paid and the details appearing therein with respect to the invoice amount, invoice date, instrument number and payment date with the copy of the invoice, payment instrument such as debit advice, swift message, bank statement where applicable were verified.
61. Considering the above details and after reviewing the documentary evidence submitted by the petitioner, the Authority has decided to allow the expenses under the captioned head to the limit of Tariff Determination, i.e. PKR 137.87 million. The corresponding USD 0.87 million has been worked out on the basis of the average of the exchange rates prevailing on the respective payment dates which is being allowed in this decision.

**Adjustment of Debt Amount and Interest during Construction:**

62. The Tariff Determination was issued on debt to equity ratio of 80:20 while stating that the tariff shall be adjusted on the actual debt-to-equity mix at the time of COD, subject to an equity share of not more than 20%. For equity shares of more than 20%, the allowed return on equity shall be neutralized for the additional cost of debt: equity ratio.
63. In the COD tariff adjustment application, ASL has submitted that the total project cost has been financed by the company as per the following details:

Description	PKR in million	USD in million
Debt	7,795.03	48.47
Equity	1,950.00	12.18

64. ASL in support of debt drawdown submitted copies of financing agreements, copies of bank statements in which debt was drawn, NBP exchange rate sheets, and audited accounts for the construction period.
65. The Tariff Determination of ASL was approved based on 100% foreign financing. However, upon request of ASL dated November 10, 2020, regarding clarification on debt mix owing to the refusal of one of their foreign lenders i.e. Asian Development Bank, the Authority vide its letter No. NEPRA/DD/(TRF-IV)/TRF-482/ZPNECL-2019/42926 dated November 24, 2020, allowed ASL to change the debt mix (foreign, local or a combination of both) and clarified that the tariff will be adjusted at COD based on actual financing mix subject to the provisions of NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018 ("Benchmark Guidelines") regarding terms of foreign and local financing.
66. On the review of the financing documents as submitted by the petitioner, it was noted that the following debt commitments were secured by the ASL:

Source of Funds	Financiers	Debt Commitment
Commercial Foreign debt (LIBOR)	CDC Group PLC – British International Investment	USD 28.00 million
Commercial Local debt (KIBOR)	Habib Bank Limited (HBL)	PKR 3,318.00 million
Running Finance Facility (KIBOR) - Financing of Sales Tax	Habib Bank Limited (HBL)	PKR 217.838 million

67. ASL did not submit any document in support of the Running Finance Facility, hence, the same could not be verified. Further, as per ASL it was secured to pay sales tax which being adjustable is not allowed by the Authority hence the financing obtained for the purpose is also not allowed.
68. The final position of the commercial foreign and local debt as at actual COD is provided below (For calculating the debt mix, the foreign currency loan was converted to PKR using the PKR /USD exchange rate prevailing on the date of disbursement):

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Source of Funds	USD in million	PKR in million	% of Debt	Terms	Repayment
Commercial Foreign Loan (LIBOR)	28.00	4,508.80	57.84%	3 months LIBOR+4.25%	14 years
Commercial Local Loan (KIBOR)	20.47	3,286.23	42.16%	3 months KIBOR+1.75%	14 years
<b>Total</b>	<b>48.47</b>	<b>7,795.03</b>	<b>100%</b>		

69. The Audit Report did not provide any procedures and relevant findings on debt drawdowns and equity injections. Accordingly, ASL was directed to provide the same. In response, ASL provided the auditor's certificate regarding debt drawdown and equity injections.
70. In the Tariff Determination, the IDC of USD 1.04 million (PKR 161.41 million) was approved. The said amount of IDC was computed based on 100% foreign financing at LIBOR (1.90838%) +4.25% spread. The Tariff Determination provides the following mechanism with respect to adjustment of IDC at the time of COD:  
"IDC will be recomputed at the time of COD on the basis of actual timing of debt drawdowns (for the overall debt allowed by the Authority at COD) for the project construction period of 10 months starting from the date of FC. IDC shall also be allowed adjustment for change in applicable LIBOR."
71. In addition, the Tariff Determination also provides that the savings in the approved spreads shall be shared between the power purchaser and power producer in the ratio of 60:40.
72. Subsequently, the Authority vide letter dated November 24, 2020 allowed that the company can change debt mix (foreign, local or a combination of both) and clarified that tariff at COD will be adjusted based on actual financing mix subject to the provisions of NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018 ("Benchmark Guidelines") regarding terms of foreign and local financing.
73. ASL in its COD tariff application has requested net IDC of USD 2.13 million (PKR 379.10 million) based on actual debt drawdown for the actual construction period of 14 months. Below are the details of IDC as claimed by ASL and as verified by Auditors:

Description	Claimed by ASL		Verified by Auditors	
	USD	PKR	USD	PKR
	Million			
Commercial Foreign Loan	0.89	159.78	0.89	159.78
Commercial Local Loan	1.19	210.13	1.19	210.13
Local WCF-Financing for Sales Tax	0.05	9.18	0.05	9.18
<b>Net Interest Expense</b>	<b>2.13</b>	<b>379.09</b>	<b>2.13</b>	<b>379.09</b>

74. The petitioner informed that the above claim includes an adjustment of interest income to the tune of PKR 47.63 million (USD 0.27 million).
75. ASL in support of the claim has submitted copies of the financing agreement, interest payment invoices, bank statements, exchange rate sheets, KIBOR/LIBOR rate sheet, where applicable and swift acknowledgement, bank debit advice
76. The Audit report provides that a schedule of costs prepared by management was obtained and the amount paid and the details appearing therein were matched with respect to amount, payment date, and interest rates with a copy of the invoice, bank statement, swift acknowledgement, bank debit advice, KIBOR/LIBOR rate where applicable, NBP rate sheets. With regards to interest income, the Audit Report provides that the schedule of interest income prepared by management was obtained and the amount received and the details appearing therein with respect to receipt date and exchange rate were matched with the copy of bank statements and NBP exchange rate sheet where applicable. The Audit Report further provides that the company has claimed interest cost amounting to PKR 379.09 million including the extended period due to the OFME (COVID-19) Pandemic
77. Based on the above and as per the documentary evidence submitted by the petitioner, the interest payments made by the company on account of local and foreign debt are verified. In addition, as per the sharing mechanism

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provided in the tariff determination, the impact of saving in local loans as a result of the sharing of spread in a ratio of 60:40 (Purchaser: Producer) has also been incorporated. Accordingly, the IDC for the construction period from February 18, 2021, till April 14, 2022, excluding the OFME period of 159 days from June 17, 2021, till November 22, 2021, has been computed using the following steps:

- The amount of IDC calculated based on actual drawdowns has been added to the capital cost+ financing fee as assessed to arrive at the verified project cost.
- The amount of verified project cost was then segregated between debt and equity in the ratio of 80:20 as was approved in the Tariff Determination
- The assessed debt amount was then subdivided into Local loan (42%), foreign loan (58%).
- The percentage of respective loan amounts as actually disbursed (100% in case of both loans) till COD was applied on the verified debt amount.
- The IDC was then recomputed on that portion of the assessed debt amount disbursed till COD. The method and drawdown schedule as used for the calculation of verified IDC has been applied for the calculation of assessed IDC.
- The interest income of PKR 20.21 million (USD 0.11 million) for the actual construction period excluding the OFME period was then subtracted from the assessed IDC.

78. Accordingly, the amount of allowed IDC following all the above steps worked out as under, which is being approved in this decision:

Loans	Approved Interest Amount	
	PKR in millions	Equiv. USD in million
Commercial Foreign loan	102.72	0.57
Commercial Local loan	157.22	0.88
Less: Interest Income	(20.21)	(0.11)
<b>Total net IDC</b>	<b>239.73</b>	<b>1.33</b>

**Adjustment of Degradation:**

- In the tariff determination the Authority allowed USD 1.94 million (PKR. 301.07 million) @ PKR 155.35/USD as part of the project cost in the Tariff Determination. That amount was worked out on the basis of 3.62% of the approved EPC cost.
- ASL in its COD tariff adjustment request has claimed USD 1.94 million at a weighted average PKR/USD exchange rate of 169.24.
- Since, no adjustment of degradation limit was allowed in the tariff determination, therefore, the maximum limit of USD 1.94 million (PKR. 301.07 million) in the tariff determination has been allowed by the Authority.
- Recapitulating above, the project cost determined in the Tariff Determination, claimed in the tariff adjustment application, verified in the Audit Report and being allowed by the Authority in this decision is provided as under:

Description	Determined		Claimed		Auditors		Approved	
	USD	PKR	USD	PKR	USD	PKR	USD	PKR
Million								
Total EPC Cost	53.55	8,318.99	53.55	9,081.52	53.55	9,081.52	53.55	9,081.52
Duties and Taxes	-	-	0.57	98.11	0.57	98.11	0.55	94.77
Project Development Cost	1.70	264.10	1.70	264.10	1.84	285.63	1.49	264.10
Insurance during construction	0.21	33.24	0.22	34.10	0.22	34.10	0.22	33.24

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Financing Fee and Charges	0.89	137.87	0.89	137.87	1.10	170.90	0.87	137.87
Net Interest during Construction	1.04	161.41	2.13	379.09	2.13	379.09	1.33	239.73
Degradation	1.94	301.07	1.94	327.98	-	-	1.94	301.07
<b>Total Project Cost</b>	<b>59.33</b>	<b>9,216.68</b>	<b>60.99</b>	<b>10,322.77</b>	<b>59.41</b>	<b>10,049.34</b>	<b>59.95</b>	<b>10,152.30</b>

83. Based on the above project cost, the following table shows the amounts of different debts that have been used to compute the debt servicing component of the tariff being approved in this decision:

Loans	USD in million
Commercial Foreign loan	27.70
Commercial Local loan	20.25

84. The Authority noted that the commercial local loan has been secured by the company for 14-year repayment period at the cost of KIBOR+1.75% to be paid on a quarterly basis having equal quarterly payments. Since the negotiated spread is 1.75% so the benefit of sharing i.e. 0.2% (40%(2.25%-1.75%)) has also been allowed. Accordingly, the local debt servicing component allowed at KIBOR+1.95% works out Rs. 2.9634/kWh at a weighted average exchange rate of PKR 169.35/USD project cost. Similarly, the foreign loan has been obtained by the company for 14-year repayment period at the cost of LIBOR + 4.25% to be paid on quarterly basis having equal quarterly payments. Accordingly, the foreign debt servicing component allowed at LIBOR+4.25% works out Rs. 2.7225/kWh (using exchange rate of PKR 183.20/USD as on 31<sup>st</sup> March, 2022). The approved debt servicing components are subject to quarterly adjustment as per the mechanism provided in the order part of this decision

**Adjustment of Equity Amount Return on Equity (“ROE”) and Return on Equity during Construction (“ROEDC”) Component**

85. The total equity injected by the different stakeholders, as submitted by ASL and endorsed by auditors is provided as under:

Shareholders	PKR	USD
	Million	
Atlas Power Limited	1,170.00	7.36
Shirazi Investments	390.00	2.42
Zhenfa Group	390.00	2.39
<b>Total</b>	<b>1,950.00</b>	<b>12.18</b>

86. ASL in support of equity injections submitted copies of bank statements in which equity was injected, NBP exchange rate sheets, share certificates, SECP form 3, and audited accounts for the construction period. Based on the review and verification of the above documents, there is no difference noted in the equity amount as injected by the petitioner and as audited by the Auditors. The ratio of equity contribution comes out to be higher (20.08%) than what was prescribed in the Tariff Determination therefore, the Authority has decided to consider the equity contribution more than 20% as being financed by debt, in accordance with the Tariff Determination. Based on the project cost being approved in this decision, the amount of equity works being allowed in this decision comes out as follows:

Equity Share (20%)	USD
	11.99

87. The ROEDC component of PKR 0.0775/kWh was approved in the Tariff Determination while stating the following mechanism for its adjustment:

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*“ROEDC will be adjusted at COD on the basis of actual equity injections (within the overall equity allowed by the Authority at COD) during the project construction period of 10 months from the date of FC”*

88. The ROEDC on actual equity injections for the actual construction period excluding the OFME period of 159 days works out to be about USD 0.82 million. The total equity amount (excluding the impact of degradation) that has been approved in this decision come out as USD 11.60 million. Therefore, the amount of ROEDC to be allowed has been computed while proportionating the same on the assessed equity amount over the actual equity amount. The detailed computations are explained in the following table:

Computation of ROEDC	USD in million
A. Actual Equity Injection	12.18
B. Total Assessed Equity Amount (Excluding degradation impact)	11.60
C. ROEDC Verified	0.82
D. ROEDC Assessed (C/A*B)	0.78

89. Using the PMT formula, the ROEDC component works out to be PKR 0.1045/kWh (using an exchange rate of PKR 183.20/USD as of 31<sup>st</sup> March 2022) to be applicable for the quarter April-June 2022. Subsequent quarterly indexation shall be made as per the indexation mechanism provided in the order part of this decision.
90. It is important to mention here that the equity IRR of 14% per annum was allowed to ASL and the calculations in the Tariff Determination were made assuming the payment is to be made on annual basis, whereas the payment of ROE is to be paid on monthly basis as per EPA. Therefore, the Authority has decided to approve IRR while using the monthly payment of return components as has also been allowed in the recent COD tariff adjustment case i.e. MGEL.
91. The amount of annual ROE, using the rate of 14% on a monthly payment basis, at an approved equity amount of USD 11.99 million (including degradation impact) comes out as USD 1.58 million. Accordingly, the ROE component works out to be PKR 1.5357/kWh (using an exchange rate of PKR 183.20/USD as of 31<sup>st</sup> March, 2022) to be applicable for the quarter April-June 2022. Subsequent quarterly indexation shall be made as per the indexation mechanism provided in the order part of this decision.

**Operation and Maintenance (O&M) Cost Component:**

92. The Authority in the tariff determination approved O&M cost of USD 9,500 per MW per annum i.e. PKR 0.7832/kWh for ASL. The allowed O&M was 100% local. The O&M component was allowed to be indexed on quarterly basis on account of change in CPI (General). Subsequently, the Authority issued its decision on March 10, 2021 in the matter of the replacement of CPI (General) with N-CPI. The said decision was notified on August 09, 2023.
93. In its COD adjustment request, the petitioner has claimed local O&M of PKR 0.9771/kWh pursuant to the aforementioned decision of the Authority dated March 10, 2021.
94. In view of the above, the Authority has decided to approve the indexed O&M component for the quarter April-June 2022. A comparison of claimed and approved O&M cost component for the quarter April-June 2022 is provided as under:

O&M Cost	Determined		Revised Ref	Claimed	Approved O&M Component
	%age	PKR/kWh	PKR/kWh	PKR/kWh	PKR/kWh
Local O&M	100%	0.7832	0.7971	0.9771	0.9772
<b>Indexation values:</b>					
N-CPI			131.01	160.61	160.61
CPI (General)		263.59	268.25		

*Note: The N-CPI of Feb 2022 and reference CPI of 268.25 of May 2020 as per the decision of the Authority dated March 10, 2021, notified on August 09, 2023, has been used for the calculation of revised O&M for the first operational quarter i.e. Apr-June 2022 after COD.*

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**Insurance during operation:**

95. The tariff determination provides following provision with regard to insurance during operations:  
“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...”
96. Since the adjustment of the insurance component is required to be made for the operational period based on submission of documentary evidence. Accordingly, the required adjustment on annual basis shall be made upon submission of documentary evidences as per the indexation mechanism provided in the order part of this decision.
97. The reference insurance component of Rs. 0.2083/kWh has been worked out at 0.4% of the allowed EPC cost (USD 53.55 million) using exchange rate of PKR 183.20/USD as on 31<sup>st</sup> March, 2022.

**ORDER**

98. In pursuance of section 7(3)(a) read with Rule 3 of the NEPRA (Tariff standards & Procedure) Rules, 1998, the Authority hereby approves the following generation tariff along with terms and conditions for Atlas Solar Limited for its 100 MWp solar power project for delivery of electricity to the power purchaser:

Tariff Components	Rs./kWh
O&M (Local)	0.9772
Insurance	0.2083
ROE	1.5357
ROEDC	0.1045
Debt Servicing (Foreign)	2.2095
Debt Servicing Local	2.4050
<b>Levelized Tariff</b>	<b>7.4401</b>

- Levelized tariff works out to be US Cents 4.0612/kWh at exchange rate of PKR 183.20/USD as on 31<sup>st</sup> March, 2022.
- Net Annual Plant Capacity Factor of 21.51% has been approved.
- The aforementioned tariff is applicable for twenty five (25) years from COD
- Debt to Equity of 80:20 has been used.
- Debt Repayment period of 14 years for commercial local and foreign loans has been taken into account
- The cost of financing of KIBOR+ 1.95% for commercial local loan and LIBOR+4.25% for foreign loan, both for construction and operation period has been considered.
- Return on Equity during construction and operation of 14% on monthly payment basis has been allowed.
- Actual Construction period of excluding OFME period of 159 days has been used for the workings of ROEDC and IDC.
- Insurance during Operation has been calculated as 0.4% of the allowed EPC Cost.
- Degradation factor of 0.5% per year has been approved. The financial impact of the allowed degradation of USD 1.938 million (PKR 301.07 million) has been taken into account in the approved project cost.
- Reference Exchange Rates of 183.20 PKR/USD of 31<sup>st</sup> March, 2022 has been used.
- Detailed component wise tariff is attached as **Annex-I** of this decision.
- Debt Servicing Schedule for Commercial Foreign financing is attached as **Annex-II** of this decision.
- Debt Servicing Schedule for Commercial Local Financing is attached as **Annex-III** of this decision.

**A. Indexations**

Adjustment of O&M, ROE, ROEDC, Debt Servicing Components shall be made on quarterly basis to be applicable from 1<sup>st</sup> July, 1<sup>st</sup> October, 1<sup>st</sup> January and 1<sup>st</sup> April based on latest available information. Insurance component shall be adjusted on annual basis. The indexation for the 1<sup>st</sup> quarter i.e. April-June 2022 except for insurance component has already been made in this decision. The indexation mechanisms for the subsequent quarters is given hereunder:

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i) **Operation and Maintenance Costs**

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

L. O&M (REV)	=	L. O&M (REF) * N-CPI (REV) / N-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
N-CPI (REV)	=	The revised N-CPI of the middle month of preceding quarter
N-CPI (REF)	=	The reference N-CPI of 160.61 for the month of February, 2022.

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. 183.20/USD as on 31 <sup>st</sup> March, 2022
P (Act)	=	Actual premium or 0.4% of the approved EPC Cost converted into Pak Rupees on exchange rate prevailing on 1 <sup>st</sup> day of the insurance coverage period whichever is lower

iii) **Return on Equity**

The ROE (ROE + ROEDC) component of the tariff will be adjusted 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 as at the last day of the preceding quarter.

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ER (Ref)	=	The reference TT & OD selling rate of Rs. 183.20/USD as on 31 <sup>st</sup> March, 2022
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iv) **Indexations applicable to debt**

The principal component of foreign loan will be adjusted on quarterly basis, on account of revised TT & OD selling rate of US Dollar, as notified by the National Bank of Pakistan as at the last day of the preceding quarter, over the applicable reference exchange rate. The interest part of the foreign and commercial local loan shall be adjusted with respect to change in the applicable LIBOR and KIBOR respectively as per the following formula:

$\Delta I$ (Foreign)	=	$P_{(REV)}(\text{Foreign}) * (\text{LIBOR (REV)} - 0.96157\%) / 4$
$\Delta I$ (Local)	=	$P_{(REV)}(\text{Local}) * (\text{KIBOR (REV)} - 11.95\%) / 4$
Where;		
$\Delta I$ (Foreign)	=	The variation in interest charges applicable corresponding to variation in 3 month LIBOR. $\Delta I$ can be positive or negative depending upon whether 3 month LIBOR (REV) per annum > or < 0.96157%. The interest payment obligation will be enhanced or reduced to the extent of $\Delta I$ for each quarter under adjustment.
$\Delta I$ (Local)	=	The variation in interest charges applicable corresponding to variation in 3 month KIBOR. $\Delta I$ can be positive or negative depending upon whether 3 month KIBOR (REV) per annum > or < 11.95%. The interest payment obligation will be enhanced or reduced to the extent of $\Delta I$ for each quarter under adjustment.
$P_{(REV)}(\text{Foreign})$	=	is the outstanding principal of foreign debt (as indicated in the attached debt service schedule to this order at Annex-II) on a quarterly basis at the relevant calculations date
$P_{(REV)}(\text{Local})$	=	is the outstanding principal of Local debt (as indicated in the attached debt service schedule to this order at Annex-III) on a quarterly basis at the relevant calculations date
LIBOR (REV)	=	Revised 3 month LIBOR offered rate as at the last day of the preceding quarter.
KIBOR (REV)	=	Revised 3 month KIBOR offered rate as at the last day of the preceding quarter.

*Note: The foreign interest component will also be adjusted on quarterly basis, on account of revised TT & OD selling rate of US Dollar, as notified by the National Bank of Pakistan as at the last day of the preceding quarter, over the applicable reference exchange rate.*

**B. Terms and Conditions**

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

- This tariff will be limited to the extent of net annual energy generation supplied to the power purchaser up to 21.51% net annual plant capacity factor. Net annual energy generation supplied to the power purchaser in a year, in excess of 21.51% net annual plant capacity factor, will be charged at the following tariffs:

<u>Net annual plant capacity factor</u>	<u>% of prevalent tariff allowed to power producer</u>
Above 21.51% to 21.59%	

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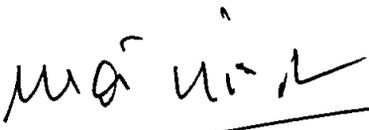


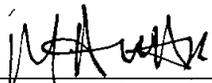
Above 21.59% to 22.34%	20%
Above 22.34% to 23.09%	40%
Above 23.09% to 23.84%	60%
Above 23.84%	70%

- The risk of solar resource shall be borne by the power producer.
- The maximum plant PV capacity shall not exceed 100 MWp.
- In the tabulated above tariff no adjustment for certified emission reductions has been accounted for. However, upon actual realization of carbon credits, the same shall be distributed between the power purchaser and the power producer in accordance with the applicable GOP Policy, amended from time to time.
- The savings in the cost of any financing during any time of debt servicing period shall be shared between the company and the power purchaser in the ratio of 40: 60.
- Allowed limit of degradation has been made part of the approved project cost. No extra financial compensation shall be provided in the EPA.
- In case the company is obligated to pay any tax on its income from generation of electricity, or any duties and/or taxes, not being of refundable nature, are imposed on the company, the exact amount paid by the company on these accounts shall be reimbursed on production of original receipts. This payment shall be considered as a pass-through payment. However, withholding tax on dividend shall not be passed through.
- No provision for the payment of Workers Welfare Fund and Workers Profit Participation has been made in the tariff. In case, the company has to pay any such fund, that will be treated as pass through item in the EPA.
- General assumptions, which are not covered in this determination, may be dealt with as per the standard terms of the EPA.

99. The Order part along with 3 Annexures is recommended for notification by the Federal Government in the official gazette in accordance with Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

**AUTHORITY**

\*   
\_\_\_\_\_  
(Mathar Niaz Rana (nsc))  
Member

  
\_\_\_\_\_  
(Engr. Maqsood Anwar Khan)  
Member

  
\_\_\_\_\_  
(Rafique Ahmed Shaikh)  
Member

\_\_\_\_\_  
(Amina Ahmed)  
Member

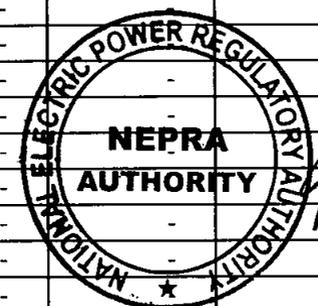
  
\_\_\_\_\_  
(Waseem Mukhtar)  
Chairman



\* My dissent on certain items is attached mathar niaz 18/23

**Atlas Solar Limited**  
**Tariff Table**

Year	O&M - Local	Insurance	ROE	ROEDC	Foreign Loan - Principal	Foreign Loan - Interest	Local Loan - Principal	Local Loan - Interest	Total
	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh				
1	0.9772	0.2083	1.5357	0.1045	1.3447	1.3778	0.4609	2.5025	8.5115
2	0.9772	0.2083	1.5357	0.1045	1.4161	1.3063	0.5283	2.4350	8.5115
3	0.9772	0.2083	1.5357	0.1045	1.4914	1.2311	0.6057	2.3577	8.5115
4	0.9772	0.2083	1.5357	0.1045	1.5707	1.1518	0.6944	2.2690	8.5115
5	0.9772	0.2083	1.5357	0.1045	1.6541	1.0684	0.7960	2.1673	8.5115
6	0.9772	0.2083	1.5357	0.1045	1.7420	0.9804	0.9126	2.0508	8.5115
7	0.9772	0.2083	1.5357	0.1045	1.8346	0.8879	1.0462	1.9171	8.5115
8	0.9772	0.2083	1.5357	0.1045	1.9321	0.7904	1.1994	1.7640	8.5115
9	0.9772	0.2083	1.5357	0.1045	2.0348	0.6877	1.3750	1.5884	8.5115
10	0.9772	0.2083	1.5357	0.1045	2.1429	0.5796	1.5763	1.3870	8.5115
11	0.9772	0.2083	1.5357	0.1045	2.2568	0.4657	1.8071	1.1562	8.5115
12	0.9772	0.2083	1.5357	0.1045	2.3767	0.3457	2.0717	0.8916	8.5115
13	0.9772	0.2083	1.5357	0.1045	2.5030	0.2194	2.3750	0.5883	8.5115
14	0.9772	0.2083	1.5357	0.1045	2.6361	0.0864	2.7228	0.2406	8.5115
15	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
16	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
17	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
18	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
19	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
20	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
21	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
22	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
23	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
24	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
25	0.9772	0.2083	1.5357	0.1045	-	-	-	-	2.8256
<b>Levelized Tariff- Rs./kWh</b>	<b>0.9772</b>	<b>0.2083</b>	<b>1.5357</b>	<b>0.1045</b>	<b>1.4428</b>	<b>0.7667</b>	<b>0.8571</b>	<b>1.5479</b>	<b>7.4401</b>



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**Atlas Solar Limited**  
**Debt Servicing - Foreign Debt**

Period	Outstanding	Principal	Interest	Total Debt Servicing	Annual Principal	Annual Interest
	USD	USD	USD	USD	Rs./kWh	Rs./kWh
1	27,704,698	339,078	360,962	700,041	-	-
2	27,365,620	343,496	356,545	700,041	-	-
3	27,022,124	347,971	352,069	700,041	-	-
4	26,674,152	352,505	347,536	700,041	1.3447	1.3778
5	26,321,647	357,098	342,943	700,041	-	-
6	25,964,549	361,750	338,290	700,041	-	-
7	25,602,799	366,464	333,577	700,041	-	-
8	25,236,335	371,238	328,802	700,041	1.4161	1.3063
9	24,865,097	376,075	323,965	700,041	-	-
10	24,489,022	380,975	319,066	700,041	-	-
11	24,108,047	385,939	314,102	700,041	-	-
12	23,722,108	390,967	309,074	700,041	1.4914	1.2311
13	23,331,141	396,061	303,980	700,041	-	-
14	22,935,080	401,221	298,819	700,041	-	-
15	22,533,859	406,449	293,592	700,041	-	-
16	22,127,410	411,744	288,296	700,041	1.5707	1.1518
17	21,715,666	417,109	282,932	700,041	-	-
18	21,298,557	422,543	277,497	700,041	-	-
19	20,876,014	428,049	271,992	700,041	-	-
20	20,447,965	433,626	266,415	700,041	1.6541	1.0684
21	20,014,339	439,275	260,765	700,041	-	-
22	19,575,064	444,999	255,042	700,041	-	-
23	19,130,065	450,796	249,244	700,041	-	-
24	18,679,269	456,670	243,371	700,041	1.7420	0.9804
25	18,222,599	462,620	237,421	700,041	-	-
26	17,759,979	468,647	231,393	700,041	-	-
27	17,291,332	474,753	225,287	700,041	-	-
28	16,816,579	480,939	219,102	700,041	1.8346	0.8879
29	16,335,640	487,205	212,836	700,041	-	-
30	15,848,435	493,553	206,488	700,041	-	-
31	15,354,883	499,983	200,058	700,041	-	-
32	14,854,900	506,497	193,543	700,041	1.9321	0.7904
33	14,348,403	513,096	186,944	700,041	-	-
34	13,835,306	519,781	180,259	700,041	-	-
35	13,315,525	526,554	173,487	700,041	-	-
36	12,788,971	533,414	166,627	700,041	2.0348	0.6877
37	12,255,557	540,364	159,677	700,041	-	-
38	11,715,193	547,404	152,636	700,041	-	-
39	11,167,789	554,536	145,504	700,041	-	-
40	10,613,252	561,761	138,279	700,041	2.1429	0.5796
41	10,051,491	569,081	130,960	700,041	-	-
42	9,482,410	576,495	123,546	700,041	-	-
43	8,905,915	584,006	116,035	700,041	-	-
44	8,321,909	591,615	108,426	700,041	2.2568	0.4657
45	7,730,294	599,323	100,717	700,041	-	-
46	7,130,971	607,132	92,909	700,041	-	-
47	6,523,839	615,042	84,999	700,041	-	-
48	5,908,797	623,055	76,985	700,041	2.3767	0.3457
49	5,285,742	631,173	68,868	700,041	-	-
50	4,654,569	639,397	60,644	700,041	-	-
51	4,015,172	647,727	52,313	700,041	-	-
52	3,367,445	656,166	43,874	700,041	2.5030	0.2194
53	2,711,278	664,716	35,325	700,041	-	-
54	2,046,563	673,376	26,665	700,041	-	-
55	1,373,187	682,149	17,891	700,041	-	-
56	691,037	691,037	9,003	700,041	2.6361	0.0864

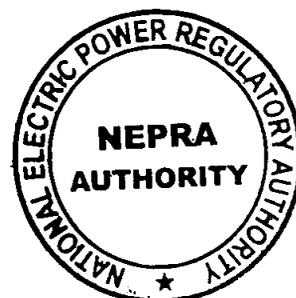
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**Atlas Solar Limited**  
**Debt Servicing - Local Debt**

Period	Outstanding	Prinicipal	Interest	Total Debt Servicing	Annual Prinicipal	Annual Interest
	Rs.	Rs.	Rs.	Rs.	Rs./kWh	Rs./kWh
1	3,424,006,890	20,610,286	118,984,239	139,594,526	-	-
2	3,403,396,604	21,326,494	118,268,032	139,594,526	-	-
3	3,382,070,110	22,067,589	117,526,936	139,594,526	-	-
4	3,360,002,521	22,834,438	116,760,088	139,594,526	0.4609	2.5025
5	3,337,168,082	23,627,935	115,966,591	139,594,526	-	-
6	3,313,540,148	24,449,006	115,145,520	139,594,526	-	-
7	3,289,091,142	25,298,608	114,295,917	139,594,526	-	-
8	3,263,792,534	26,177,735	113,416,791	139,594,526	0.5283	2.4350
9	3,237,614,799	27,087,411	112,507,114	139,594,526	-	-
10	3,210,527,387	28,028,699	111,565,827	139,594,526	-	-
11	3,182,498,688	29,002,696	110,591,829	139,594,526	-	-
12	3,153,495,992	30,010,540	109,583,986	139,594,526	0.6057	2.3577
13	3,123,485,452	31,053,406	108,541,119	139,594,526	-	-
14	3,092,432,046	32,132,512	107,462,014	139,594,526	-	-
15	3,060,299,534	33,249,117	106,345,409	139,594,526	-	-
16	3,027,050,417	34,404,524	105,190,002	139,594,526	0.6944	2.2690
17	2,992,645,893	35,600,081	103,994,445	139,594,526	-	-
18	2,957,045,812	36,837,184	102,757,342	139,594,526	-	-
19	2,920,208,629	38,117,276	101,477,250	139,594,526	-	-
20	2,882,091,353	39,441,851	100,152,675	139,594,526	0.7960	2.1673
21	2,842,649,502	40,812,455	98,782,070	139,594,526	-	-
22	2,801,837,046	42,230,688	97,363,837	139,594,526	-	-
23	2,759,606,358	43,698,205	95,896,321	139,594,526	-	-
24	2,715,908,153	45,216,717	94,377,808	139,594,526	0.9126	2.0508
25	2,670,691,436	46,787,998	92,806,527	139,594,526	-	-
26	2,623,903,438	48,413,881	91,180,644	139,594,526	-	-
27	2,575,489,557	50,096,264	89,498,262	139,594,526	-	-
28	2,525,393,293	51,837,109	87,757,417	139,594,526	1.0462	1.9171
29	2,473,556,184	53,638,448	85,956,077	139,594,526	-	-
30	2,419,917,736	55,502,384	84,092,141	139,594,526	-	-
31	2,364,415,352	57,431,092	82,163,433	139,594,526	-	-
32	2,306,984,260	59,426,823	80,167,703	139,594,526	1.1994	1.7640
33	2,247,557,437	61,491,905	78,102,621	139,594,526	-	-
34	2,186,065,532	63,628,748	75,965,777	139,594,526	-	-
35	2,122,436,784	65,839,847	73,754,678	139,594,526	-	-
36	2,056,596,936	68,127,782	71,466,744	139,594,526	1.3750	1.5884
37	1,988,469,154	70,495,223	69,099,303	139,594,526	-	-
38	1,917,973,932	72,944,932	66,649,594	139,594,526	-	-
39	1,845,029,000	75,479,768	64,114,758	139,594,526	-	-
40	1,769,549,232	78,102,690	61,491,836	139,594,526	1.5763	1.3870
41	1,691,446,543	80,816,758	58,777,767	139,594,526	-	-
42	1,610,629,784	83,625,141	55,969,385	139,594,526	-	-
43	1,527,004,644	86,531,114	53,063,411	139,594,526	-	-
44	1,440,473,529	89,538,071	50,056,455	139,594,526	1.8071	1.1562
45	1,350,935,459	92,649,518	46,945,007	139,594,526	-	-
46	1,258,285,940	95,869,089	43,725,436	139,594,526	-	-
47	1,162,416,851	99,200,540	40,393,986	139,594,526	-	-
48	1,063,216,311	102,647,759	36,946,767	139,594,526	2.0717	0.8916
49	960,568,552	106,214,768	33,379,757	139,594,526	-	-
50	854,353,784	109,905,732	29,688,794	139,594,526	-	-
51	744,448,052	113,724,956	25,869,570	139,594,526	-	-
52	630,723,096	117,676,898	21,917,628	139,594,526	2.3750	0.5883
53	513,046,198	121,766,170	17,828,355	139,594,526	-	-
54	391,280,028	125,997,545	13,596,981	139,594,526	-	-
55	265,282,483	130,375,959	9,218,566	139,594,526	-	-
56	134,906,524	134,906,524	4,688,002	139,594,526	2.7228	0.2406

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## Dissent Note of Member Tariff

1. The tariff determinations of ASL provides that the EPC cost shall be verified and adjusted at actual considering the approved amount as the maximum limit. Further, it has been provided in the tariff determination that only the applicable foreign portion of the EPC costs will be subjected to the PKR/USD exchange rate fluctuations during the construction period. It has been noted that ASL has claimed EPC cost of USD 53.55 million (equivalent to PKR 9,081.52 million) bifurcated into EPC offshore cost of USD 43.55 million (PKR 7,437.485) and EPC onshore cost of USD 10 million (PKR 1,644.035 million). Since, the tariff determination only allows for the PKR/USD indexation for the foreign portion of the EPC cost therefore the maximum limit of local portion of the EPC cost works out to be PKR 1,553.5 million (USD. 10 million \* Rs.155.35/USD). In addition while working out equivalent USD the exchange rate applicable on the date of payment should be used as this will otherwise result in allowing more USD than actually paid. After adjusting for maximum limit and using the applicable PKR/USD of the date of payment the allowed onshore EPC amount worked out by tariff department is USD 8.78 million. The additional impact of allowing the EPC onshore cost as per the claim of the petitioner on the levelised tariff works out to be US cent 0.06/kWh may not be passed onto the consumers.
2. The Tariff determination provides that the targeted maximum construction period from prescribed date/time of FC is 10 months. No adjustment will be allowed in this tariff to account for financial impact of any delay in project construction. Based on the above the insurance during construction cost during the OFME period amounting to Rs. 10.92 million may not be passed on to the end consumer. The additional impact of allowing this additional cost on levelized tariff works out to be US cent 0.0038/kWh may not be passed onto the consumers.



*Mathar Niaz Rana*

Mathar Niaz Rana (nsc)  
Member Tariff

## Additional Note by Majority Members of the Authority

### Onshore EPC Cost

It is noted that before the issuance of the tariff determination for the current project, NEPRA had granted tariffs for 08 other solar power projects. Each of those projects had been allowed exchange rate variations on both the offshore and onshore portions of the total EPC cost. Even in the recent RFP approvals for the 600 MW for PPIB in 2023 and 620 MW for K-Electric in 2024, the Authority has allowed exchange rate variations on both onshore and offshore EPC portions. This means that both the offshore and onshore EPC costs are considered the foreign portion, and have accordingly been allowed variations due to changes in exchange rates. Therefore, the Authority is of the view that the applicable foreign portion in the instant case should include the onshore portion of the EPC cost, and variation due to change in parity be allowed. This interpretation was also applied by the Authority in cases including Master Wind and Ghara Solar, both of which had similar wording of adjustment in their respective determinations.

In this relation, it is also important to take note of the fact that the cost items such as Project Development Cost, Insurance during Construction, and Financing Fees were locked in PKR in the tariff determination of Atlas Solar, and were not allowed exchange rate variations during the construction period. Likewise, if the then Authority had decided not to allow exchange rate variations on the onshore portion of the EPC cost, it would have been mentioned in similar language in the tariff determination of the company. It is pertinent to mention here that the onshore costs being allowed for the project are the actual expenses incurred by the company, and they have been verified by the Tariff Department, as mentioned in the report of the case. This means that no additional expenses are being allowed, but only the ones that have been incurred and verified.

### Insurance during Construction

Regarding insurance during construction, it is noted that NEPRA has prescribed a certain percentage of EPC cost to compute this cost item in the Benchmarking Guidelines. This percentage remains constant irrespective of the construction period of the projects. In other words, if the insurance is prescribed to be 0.4% of the EPC cost for renewable energy projects, the same percentage is applied to projects with various construction periods. Given the above, it may not be justified to deduct the amount due to a lesser construction period, owing to OFME or other reasons. Therefore, the insurance to the maximum cap as stated in the tariff determination has been allowed. It is important to note that the same treatment has been followed for the cost heads of Project Development Cost and Financing Fee.

  
(Rafique Ahmed Shaikh)  
Member

  
(Maqsood Anwar Khan)  
Member

  
(Waseem Mukhtar)  
Chairman

