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National Electric Power Regulatory Authority

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No. NEPRA/R/ADG(Trf)/TRF-515/LWPL -2019/102-06

January 05, 2026

Subject: Decision of the National Electric Power Regulatory Authority in the matter of Tariff Adjustment at Commercial Operations Date of Liberty Wind Power 2 (Private) Limited (Formerly Noor Solar Energy (Pvt.) Limited)

Dear Sir,

Please find enclosed herewith the subject Decision of the Authority alongwith Annex-I, II & III (total 29 pages) regarding tariff Adjustment at Commercial Operations Date of Liberty Wind Power-2 (Private) Limited (Formerly Noor Solar Energy (Pvt.) Limited) in Case No. NEPRA/ TRF-515/LWPL-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 Calendar 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



(Wasim Anwar Bhinder)

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

Copy to:

1. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad
2. Mr. Shehriyar Abbasi, Deputy Secretary, Cabinet Division, Cabinet Secretariat, Islamabad
3. Chief Executive Officer, Central Power Purchasing Agency Guarantee Limited (CPPA-G), Shaheen Plaza, 73-West, Fazl-e-Haq Road, Islamabad
4. Chief Executive Officer, Liberty Wind Power-2 Private Ltd. A/51-A, S.I.T.E., Karachi



DECISION OF THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY IN THE MATTER OF TARIFF ADJUSTMENT AT COMMERCIAL OPERATIONS DATE OF LIBERTY WIND POWER 2 LTD. (FORMERLY NOOR SOLAR ENERGY (PVT.) LIMITED)

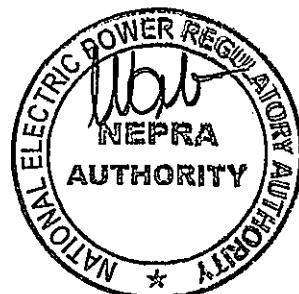
Introduction:

1. M/s. Liberty Wind Power 2 Ltd. ("LWPL" or "the petitioner" or "the company") formerly known as Noor Solar Energy (Pvt.) Ltd. is a company formed to develop 50 MW wind power project ("the Project"). The Generation License to the Company was issued by the National Electric Power Regulatory Authority ("NEPRA" or "the Authority") on August 1, 2017 and subsequent modification-I & modification-II issued dated October 04, 2019 and July 30, 2020 respectively.
2. The Authority issued the tariff determination of LWPL-2 on November 19, 2018 wherein a levelized tariff of PKR. 5.7388/kWh (US Cents 4.7824/kWh) was approved. The Authority then issued its decision on July 23, 2020 in the matter of tariff modification petition filed by LWPL-2. Afterwards, the decision in the matter of motion for leave for review filed by LWPL-2 against the tariff modification decision was issued on May 17, 2021 (all the mentioned decisions shall be collectively or separately be referred to as "Tariff Determination").

Adjustment of Tariff at Commercial Operations Date

3. Following mechanism was approved in the Tariff Determination for the adjustment of tariff at the Commercial Operations Date ("COD") of the company:
 - The EPC cost shall be 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, on production of authentic documentary evidence to the satisfaction of the Authority.
 - The petitioner has submitted M/s DNV-GL certification No. TC-236603-A-2 dated May 29, 2015 about the design, specification and country of origin of various component of the wind turbine to be installed for this project. At the time of COD stage tariff adjustments, the petitioner will have to provide a confirmation from the EPC contractor as to the fullest compliance of the equipment having same design and origin of manufacture as given in the type certificate. Where needed, the bill of lading and other support documents will also have to be submitted.
 - PDC, Insurance during construction and Financing Fee 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 120 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.
 - 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 fifteen months allowed by the Authority.
 - For full/part of conventional local or foreign loans or a mix of both, if availed by the company, the IDC shall also be allowed adjustment for change in applicable KIBOR/LIBOR.

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- 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 IRR shall be neutralized for the additional cost of debt: equity ratio.
- The reference tariff has been worked out on the basis of cost of 6% offered under SBP financing scheme. In case cost negotiated by the company under SBP scheme is less than the said limit of 6%, the savings in that cost shall be shared between the power purchaser and the power producer in the ratio of 60:40 respectively.
- For full or part of local or foreign loan, if any, the savings in the approved spreads shall be shared between the power purchaser and power producer in the ratio of 60:40.
- ROEDC will be adjusted at COD on the basis of actual equity injections (within the overall equity allowed by the Authority at COD) for the project construction period of fifteen months allowed by the Authority.

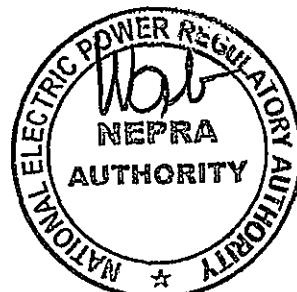
4. The Authority vide review decision issued on May 17, 2021, changed the adjustment clause with respect to O&M component of tariff which is reproduced below:

- The O&M cost, its mix, and the corresponding mechanism thereof as approved in the Tariff Determination of Liberty Wind Power 2 (Pvt) Limited shall be applicable for the period during which the petitioner has already finalized the WP and LT O&M Agreements, i.e., 13 years. During this time, however, the petitioner shall be required to submit, on an annual basis, the documentary evidence/report pertaining to actual expenditures on account of O&M. The savings, if any, in the actual O&M cost compared to the approved O&M cost shall completely be passed on to the consumers.
- Subsequent to the lapse of the LT O&M Contract, in order to claim O&M costs, the petitioner shall be required to carry out competitive bidding for the selection of the O&M contractor in accordance with NEPRA's applicable laws. Based on this competitive bidding process, the Authority shall make revisions in the O&M cost, while capping the prevailing level of the approved O&M cost. Those revisions may also entail changing the mix of the approved O&M cost (local and foreign) as well as the indexation mechanism (indices, frequency etc.).

Filing of Tariff Adjustment Request at COD

5. LWPL-2 submitted that the company has successfully achieved COD on May 27, 2022 at 00:00 Hrs. In this regard, LWPL-2 has submitted notification of COD of Complex issued by Central Power Purchasing Agency (Guarantee) Ltd. Vide letter No. DGMT(R)/MT(B&W)/LWP-2/10718-30 dated June 17, 2022.
6. The company through letter No. LWP/2023/432 dated March 09, 2023 submitted its application for adjustment of tariff at COD with supporting documents. The company requested to adjust / true-up the relevant tariff components in line with the parameters defined in the Tariff Determination.
7. It was noted that the information submitted by LWPL-2 along with its request for adjustment of tariff was not complete. Accordingly, LWPL-2 was required time and again to submit various information through numerous telephonic conversation and emails. Subsequently, LWPL-2 vide letters dated March 17, 2025 and May 29, 2025 submitted addendum to the above tariff adjustment application regarding evidence of final payment to EPC contractor and certificate issued by EPC Contractor. LWPL-2 also submitted an Undertaking for Correctness of Information dated September 17, 2025 wherein LWPL-2 has been mentioned that the information/data submitted is correct and nothing has been concealed or misstated.

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8. Below is the summary of project cost allowed by the Authority in the Tariff Determination and claimed by LWPL-2 in its tariff adjustment application:

Project Cost Heads	Determined		Claimed at COD	
	USD Million	PKR Million	USD Million	PKR Million
EPC Cost	57.94	6,952.80	57.94	10,841.96
EPC Contractor Claims	-	-	5.37	1,449.55
Duties and Taxes	-	At Actual	0.58	97.20
Project Development Cost	2.50	300.00	1.93	302.69
Insurance during construction	0.29	34.80	0.34	56.92
Financing Fee and Charges	1.22	145.80	1.79	299.53
Interest during Construction	1.96	235.32	1.53	281.76
Total Project Cost	63.91	7,668.72	69.46	13,329.61

Audit of Project Cost:

9. LWPL-2 submitted Audit Report of Munif Ziauddin & Co. dated February 23, 2023. In the said Audit Report, the project cost as verified by the Auditors is given below:

Description	Project Costs	
	USD Million	PKR Million
EPC Cost	57.94	10,841.96
EPC Contractor Claims	5.37	1,449.55
Duties and Taxes	0.58	97.20
Project Development Cost and Non-EPC cost	1.93	302.69
Insurance during construction	0.34	56.92
Financing Fee and Charges	1.79	299.53
Interest during Construction	1.53	281.76
Total Project Cost	69.46	13,329.61

Force Majeure and Construction Period:

10. The Tariff Determination stipulated that the "the targeted maximum construction period after financial close is fifteen 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 fifteen months will not invalidate the tariff granted to it."

11. In the tariff adjustment application and during the processing thereof, LWPL-2 informed that post issuance of the Tariff Determination, the company obtained Letter of Support ("LOS") from Alternative Energy Development Board ("AEDB") on November 08, 2019, signed the Energy Purchase Agreement ("EPA") with CPPAGL on November 11, 2019 and signed Implementation Agreement ("IA") with GOP on November 12,

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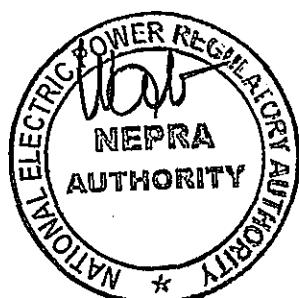




2019. Accordingly, LWPL-2 achieved Financial Closing ("FC") on November 18, 2019. In the EPA, the Required Commercial Operations Date ("RCOD") is defined as 15 months following the date on which FC occurs. However, LWPL-2 achieved Commercial Operations Date ("COD") with effect from May 27, 2022.

12. In the tariff adjustment application, LWPL-2 has requested construction period of about 22 months from the date of start of construction period (issuance of "Notice to Commence") i.e., from July 15, 2020 till actual COD May 27, 2022 as opposed to the construction period of 15 months allowed in the Tariff Determination. The main reason for the delay in achieving COD as cited by LWPL-2 is COVID-19 Pandemic (OFME) and provision of interconnection facility by the power purchaser.
13. LWPL-2 submitted that due to the situation prevailing during Pandemic, the EPC contractors issued Force Majeure Event ("FME") notices to it, pursuant to relevant provisions under the construction (onshore) and supply (offshore) contracts. The notice of FME was served by National Transmission & Despatch Company Ltd. ("NTDCL") to CPPAGL on February 06, 2020 and March 17, 2020. LWPL-2 submitted that it was not only its obligations that got impacted by COVID-19; CPPAGL also notified the company of occurrence of an Other Force Majeure Event ("OFME") vide letter dated March 27, 2020 due to the Pandemic as intimated to the power purchaser by the transmission operator, i.e., NTDCL (now National Grid Company or NGC).
14. LWPL-2 in tariff adjustment application submitted that construction work was started on July 15, 2020. LWPL-2 further submitted that extension of 237 days was granted by the power purchaser due to OFME and the delay of 198 days due to non-availability of Purchaser interconnection facilities.
15. For justification of the extended period claims, LWPL-2 also referred the Authority's decision dated September 02, 2021 in the matter of tariff modification petition filed by Pak Matiari Lahore Transmission Company (Pvt.) Ltd. ("PMLTCPPL"), decision dated July 3, 2017 in the matter of tariff adjustment at COD of Uch-II Power (Pvt.) Ltd. and decision dated November 23, 2012 in the matter of motion for leave for review filed by Sapphire Electric Company Ltd ("SECL") and requested to allow extension in RCOD as approved by the power purchaser and the corresponding justified costs incurred up to the COD.
16. The Authority has noted that under the EPA signed between LWPL-2 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 the section 6.5 (a) of the EPA that COD shall be extended on day-for-day basis in case of OFME that materially and adversely affects the purchaser's ability to perform its obligations.
17. As far as the cases (Uch-II, Sapphire) are concerned, these cases are distinguishable from the present case and further in recent precedents the Authority has subscribed to a view that the parties while signing the contracts should take into account the potential risks and the mechanism for the compensation thereof. 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. It is pertinent to mention here that considering the comments of CPPA-G and AEDB in similar cases, the Authority decided not to account for the additional cost on account of delay (OFME)/extension in RCOD. In addition, the Authority has noted that the petitioner itself acknowledged that in case of PMLTCPPL, the Authority allowed extension in RCOD without allied cost.
18. Keeping in view the above, the Authority has decided disallow Interest during Construction ("IDC") and Return on Equity during Construction ("ROEDC") for the period declared as OFME i.e., from February 06, 2020 till September 30, 2020 since no compensation for the OFME period is provided in the EPA. Accordingly,

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based on 15 months construction period allowed in the reference generation tariff works out as October 01, 2020 till RCOD of December 31, 2021 excluding OFME period. Hence the IDC and ROEDC has been calculated on the basis of allowed construction period.

Adjustment of Engineering Procurement and Construction Cost:

19. The Authority in the Tariff Determination allowed Engineering Procurement and Construction ("EPC") cost of USD 57.94 million to LWPL-2 while stating the following mechanism for its adjustment at COD;

"The EPC cost shall be 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, 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."

".....the petitioner will have to provide a confirmation from the EPC contractor as to the fullest compliance of the equipment having same design and origin of manufacture as given in the type certificate. Where needed, the bill of lading and other support documents will also have to be submitted."

20. LWPL-2 in its adjustment application followed by addendum application has claimed EPC cost of USD 57.94 million (PKR 10,841.96 million). The breakup of the EPC cost as approved in the Tariff Determination, claimed by LWPL-2 and as verified through Audit Report submitted by the Company is given hereunder:

Description	Tariff Determination		Claimed at COD		Audit Report	
	USD Million	PKR Million	USD Million	PKR Million	USD Million	PKR Million
Offshore EPC	57.94	6,952.80	45.94	8,776.79	45.94	8776.79
			12.00	2,065.17	12.00	2,065.17
Total	57.04	6,952.80	57.94	10,841.96	57.94	10,841.96

Offshore EPC Cost:

21. For the claim of EPC offshore cost, the petitioner has submitted copy of offshore supply contract dated October 15, 2019 signed with Hangzhou Huachen Electric Power Control Company Limited ("HEPCCL") for the amount of USD 45.94 million. In addition to above said contract, LWPL-2 submitted copies of commercial invoices, SWIFT payment messages, relevant bank statements, SBP (Weighted average exchange rates used on the invoices) and NBP exchange rate sheets. Further, the milestone completion certificates issued by Lenders' Technical Adviser's / Owner's Engineer namely DNV GL, and import documents such as copy of Commercial Invoices, Goods Declaration ("GD"), Bill of Lading ("BL") were also submitted by LWPL-2.

22. During processing, LWPL-2 has also submitted the certificate of compliance issued by HEPCCL dated February 22, 2023 which states that the wind turbines installed at LWPL-2 Site contains equipment of same design, specification, and country of origin as mentioned in M/s DNV-GL certification No. TC-236603-A-2 dated May 29, 2015.

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

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matched with the respective invoice dates, invoice amount in USD, exchange rate and payment date with copy of commercial invoice, milestone completion certificate, swift acknowledgement, NBP exchange rate sheets (for payments made from Faysal Bank Limited/ United Bank Limited) and bank statement, where applicable and no difference was found. The Audit Report also indicated payable amount which is converted into Pakistan rupee based on exchange rate of PKR 270.10/USD for the Equipment Supply Contract.

24. In the supply contract, it is noted that the price of USD 45.94 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 41.35 million while the rest of the contractual amount pertains to the completion of reliability run tests and final delivery of the equipment which amounts to USD 4.59 million.
25. It is noted that LWPL-2 has made payments of EPC offshore cost from the bank accounts i.e., PKR Currency Account and USD Currency Account Habib Bank Limited. For the payments made from USD Account, LWPL-2 has converted PKR Rupees into USD using the exchange rates used by the interbank applicable on the payment dates to compute the corresponding PKR amount. For the payments made from PKR Accounts, the petitioner has used exchange rates as agreed with the said banks, for which intimation letters to banks and swift messages were provided and verified.
26. The comparison of offshore EPC cost as claimed by LWPL-2, verified by Auditors and allowed is given below:

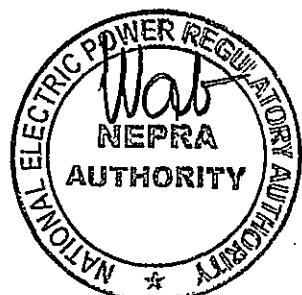
Claimed by LWPL-2		Verified by Auditors		Approved	
USD Million	PKR Million	USD Million	PKR Million	USD Million	PKR Million
45.94	8,776.79	45.94	8,776.79	45.94	7,879.31

27. The difference is due to the payments made by the petitioner beyond RCOD has been restricted to the exchange rate applicable on December 31, 2021 i.e., PKR 177.95/USD.

Onshore EPC Cost

28. For the claim of the EPC onshore cost, the petitioner has submitted copy of EPC construction contract dated October 15, 2019 signed with Hydrochina International Engineering Company Limited ("HIECL") for USD 12 million and subsequent amendments thereon. In addition to the said contract, LWPL-2 also submitted copies of sales tax invoices, pay orders, real-time gross settlement ("RTGS") message, relevant bank statements, SBP weighted average customer exchange rates sheets, Withholding Tax ("WHT") Computerized Payment Receipts ("CPR") and milestone completion certificates issued by Owner's Engineer namely Renewable Resources (Pvt.) Ltd. and Tractebel Engineering , where applicable.
29. 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, payment date with copy of vendor invoice, sales tax invoice, swift acknowledgement, SBP's weighted average exchange rates sheets, milestone completion certificates, cheque, CPR for WHT paid to FBR, CPR number with copy of sales tax invoice, pay order and CPR to Sindh Revenue Board ("SRB") and bank statement, where applicable and no difference was found. The Audit Report further stated that for the amounts payable, schedule of costs prepared by management were obtained and matched with the Schedule of Payment of Contracts and converted into Pakistan Rupee as per the mechanism defined under the Contract.

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30. In the onshore contract, it is noted that the price of USD 12 million was agreed between the parties. The parties also agreed on the schedule based on milestones for the payment.

31. The onshore contract provides that 50 % of the USD amount shall be converted into equivalent PKR at the exchange rate on the date of Notice to Proceed ("NTP") (PKR 166.90 /USD prevailing on July 15,2020) while the remaining 50% being converted into equivalent PKR on the date of payment. LWPL-2 claimed PKR 2,065.17 million (USD 12 million) on the basis of 50% on @ 166.90 rate at the date of NTP and 50% on the basis of exchange rates of respective invoice dates. The total assessed amount on the basis of 50% @ 166.90 (rate on Date of NTP) while the remaining 50 % on the basis of dates of invoices and for payments made after RCOD (restricted exchange rate to December 31, 2021) works out to be PKR 1,977.78 million. The claimed amount includes a supplementary payment of PKR 27.40 million due to exchange rate adjustment on advance payment. As per clause 14.1 A (b) sub clause (a) of the construction contract, the preliminary payment shall be converted at the exchange rate prevailing on the date of issuance of such invoice. Since invoices have already been raised on May 21, 2020 and June 19, 2020 and paid on June 2020 and June 26, 2020, respectively, therefore differential claim on account of supplementary payment has not been allowed. The payable amount of USD 2.98 million equivalent to PKR 572.96 million has been claimed as paid, vide Addendums dated March 17, 2025 and May 29, 2025 and the same has been verified. The Authority has noted that LWPL-2 used SBP weighted average exchange rate (sell side) on the date of invoice instead of date of payment for conversion of 50 % invoice payment.

32. The comparison of onshore EPC cost, as claimed by LWPL-2, verified by Auditors and allowed after review and verification of the above documents , is given below:

Claimed by LWPL-2		Verified by Auditors		Approved	
USD Million	PKR Million	USD Million	PKR Million	USD Million	PKR Million
12	2,065.17	12	2,065.17	12	1,977.78

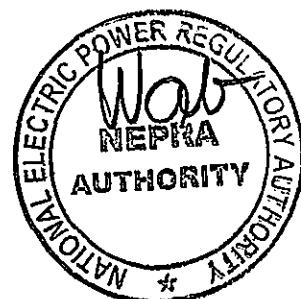
33. Below is the comparison of total EPC cost claimed by LWPL-2 and as allowed by the Authority :

EPC	Claimed by LWPL-2		Approved	
	USD	PKR	USD	PKR
	Million			
Offshore	45.94	8,776.79	45.94	7,879.31
Onshore	12.00	2,065.17	12.00	1,977.78
Total	57.94	10,841.96	57.94	9,857.09

EPC Contractor Claims

34. LWPL-2 has submitted that due to overall delays on account of FME (i.e., delay in construction works and delay in provision of Purchaser Interconnection Facilities), the additional costs borne by the Company are mentioned as below:

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Description	Claimed by LWPL-2	
	USD	PKR
	Million	
Additional Logistics cost claim	2.73	737.78
Delay in Milestone Payments-ESC	0.29	79.10
Delay in Milestone Payments-CC	0.07	18.84
Exchange Loss	0.15	39.86
Extra Travelling Cost	0.10	27.43
Idle Cost – OEM's service	0.55	149.61
Port Storage and Demurrage Cost	0.08	21.54
Anti Covid-19 Pandemic Costs	0.25	67.32
Extra Travelling Cost	0.11	30.04
Idle cost due to delay in approval of design & drawings	0.95	255.87
Idle cost due to strong winds	0.08	22.16
Total	5.36	1449.55

35. The Authority allowed fixed EPC cost to LWPL-2 in Tariff determination with exchange rate variation on foreign portion. No upward revision of EPC cost was allowed in the reference generation tariff. In view thereof the claim of LWPL-2 on account of EPC contractor's claim is not in the scope of COD adjustment and the same has been disallowed in the instant case.

Adjustment of Duties and Taxes:

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

"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."

37. LWPL-2 in its COD tariff application has requested for the duties and taxes of USD 0.58 million (PKR 97.20 million). Breakup of which is given hereunder:

Description	Tariff Determination		Claimed by LWPL-2		Verified by Auditors
	USD Million	PKR Million	USD Million	PKR Million	
SIDC Cess	As per actual		0.58	97.20	97.20

38. The Audit Report provides that schedule of SIDC prepared by management was obtained by the Auditors. Then the amounts paid were matched with the details appearing therein with respect to respective Goods Declaration (GD) number, GD date, Bill of Lading (BL) number, BL date, invoice date, invoice amount (USD), commercial invoice, packing list, SIDC challan, pay order/customer's advice to excise & taxation (if any), invoice from clearing agent (if any), and bank statement, where applicable. The schedule of Stamp duty prepared by management and the amounts paid in this regard along with the details appearing therein with respect to respective invoice date, invoice amount (PKR) with copy of invoice and bank statements.

39. In support of its claim with respect to the SIDC payment, LWPL-2 has submitted copies of relevant commercial invoices, shipment invoices, GDs, BLs, Cess CPRs, cheques, bank statement and certificate of Independent Engineer etc.

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40. The Authority examined the submitted documents by LWPL-2. Accordingly, the comparison of duties and taxes, as claimed by LWPL-2, verified by Auditors and allowed, after review and verification of the above documents, is given below:

Description	Claimed by LWPL-2		Verified by Auditors	Approved	
	USD Million	PKR Million	PKR Million	USD Million	PKR Million
SIDC	0.58	97.20	97.20	0.58	97.20

Adjustment of Project Development Cost:

41. The Authority in the Tariff Determination allowed USD 2.50 million in respect of the Project Development Cost ("PDC") to LWPL-2 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 amount allowed on this account in USD will be converted in PKR using the reference PKR/USD rate of 120 to calculate the maximum limit of the amount to be allowed at COD."

42. As per the above mechanism, the maximum amount allowed to LWPL-2 under PDC head @PKR 120/USD works out to be about PKR 300 million.

43. The petitioner in its COD adjustment request has claimed PDC of PKR 302.69 million, equivalent to about USD 1.93 million. The petitioner submitted that due to higher exchange rate during the construction period, the company filed Modification Petition for reconsideration of exchange rate from PKR 120/USD to PKR 160/USD at the then prevailing exchange rate. According to the LWPL-2, the Authority vide decision dated July 23, 2020 decided that *"18. the revision/adjustments of tariff on account of debt mix, repayment terms and exchange rate as requested by the Petitioner in the subject modification petition shall be made at the time of COD of the Project."*

44. LWPL-2 further submitted that during construction and development phase Company was required to engage some services where fees and costs were payable in foreign currency. However, the Authority in its determination stated that the amount allowed under PDC will be converted to PKR using the reference PKR/USD rate of 120 to calculate the maximum limit of the amount to be allowed at COD which restricts the petitioner to recover the legitimate costs incurred under Project Development budget. LWPL-2 further stated that the Authority in the past had allowed variation of PKR/USD exchange rate on PDC heads which are denominated in foreign currency. LWPL-2 submitted that in view of the above and the extension in RCOD, requested the Authority to allow the actual incurred cost under PDC. LWPL-2 submitted following detailed breakup of the claimed PDC:

PDC Heads	Claimed	
	PKR	USD
		Million
Legal Advisors	0.11	16.35
Fixed Assets	0.32	42.67
Government Authorities	0.21	30.28
Technical & Financial Consultants	0.62	101.96
Salaries and Benefits	0.41	67.82
Legal Fees & Subscription	0.08	12.66
Travelling and Vehicle Running Expenses	0.07	11.14
Communication Charges	0.03	5.78
Other General Expenses	0.08	14.02
Total	1.93	302.69

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45. The Auditor's Report provides that the company incurred PDC amounting to PKR 302.69 million (USD 1.93 million). The Audit Report also provides that the schedules of costs prepared by the management were obtained and the amount paid were checked with the details appearing therein the supporting documents with respect to nature of services/expenses. The supporting documents included invoices/claim expense form and verified for invoices dates, amounts, vendors name and payment dates. The amounts paid are matched with copies of invoices/claim expense vouchers to the pay orders/petty cash vouchers where applicable and relevant bank statements. The Auditor also stated that no difference was found.
46. It is pertinent to note here that petitioner's understanding regarding tariff modification decision dated July 23, 2020 that "*18. the revision/adjustments of tariff on account of debt mix, repayment terms and exchange rate as requested by the Petitioner in the subject modification petition shall be made at the time of COD of the Project.*" also relates to PDC is not correct since the cost allowed under PDC i.e., PKR 300 million was the maximum limit allowed. Hence, no further adjustment in the rupee term was allowed by the Authority in the decision of July 23, 2020.
47. The claim submitted by LWPL-2 has been analysed considering the expenses incurred till revised RCOD. The Authority has noted that the company incurred the total cost of PKR 302.69 million till actual COD. The relevant documents as submitted by the company in relation to the claim of the PDC have been checked. Considering the above details, the Authority has decided to allow the expenses on account of PDC to the limit of Tariff Determination, i.e., PKR 300 million. To convert the approved PKR amount in USD, the average exchange rate of PKR 163.21/USD has been taken into account. The said 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 construction period of 15 months i.e., from October 01, 2020 till December 31, 2021. Accordingly, the corresponding USD amounts works out to be about USD 1.84 million, which is being allowed on account of PDC.

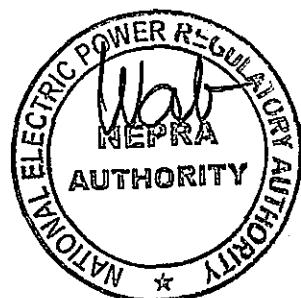
Adjustment of Insurance during Construction

48. The Authority in the Tariff Determination allowed USD 0.29 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 120 to calculate the maximum limit of the amount to be allowed at COD."
49. As per the above mechanism, the maximum amount allowed to LWPL-2 under captioned head @PKR 120/USD works out to be about PKR 34.76 million.
50. The petitioner in its adjustment request has claimed insurance amount of PKR 56.92 million (equivalent to about USD 0.34 million). LWPL-2 submitted that owing to 224 days delay in achieving COD due to the FME, it had to extend its construction period insurance cover over entire actual construction period.
51. As per the details submitted by LWPL-2 the breakup of the claimed insurance during construction for the period from July 15, 2020 till May 26, 2022 is given hereunder:

Description	Claimed Premium
	PKR Million
Advance Premium	3.15
Marine Cargo & Marine Delay in start up	43.51

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Erection/ Construction All Risk, Delay in Startup , Third Party Liability, Terrorism-Erection	
Extension Phase of Erection, Construction All Risk , Third party Liability & Terrorism Insurance	10.26
Total	56.92
PKR/USD exchange rate	168.76
Total Premium USD	0.34

52. The Auditors in their Report has also verified the amount of PKR 56.92 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 bills, premium paid receipts and bank statement were matched and no difference was found. Further it provides that for the amount payable the PKR/USD exchange rate as on the date of COD was used.

53. In support of its claim, the petitioner has submitted copies of insurance policies, premium invoices, premium payment receipts, extension letters, withdrawal requests and bank statements. An amount equivalent to PKR 1.00 million and PKR 2.15 million is paid as upfront premium dated November 17, 2020 and November 24, 2020, respectively. The remaining amount of PKR 53.77 million was paid on December 14, 2020 and September 01, 2022 to insurers i.e. UBL Insurers Limited and Atlas Insurance Limited having share of 70% and 30 % respectively. The claim of the petitioner has been checked and found that the claimed amount under insurance during construction is higher than the approved maximum limit. Considering the above details and allowed in precedent cases, the Authority has decided to allow the expenses under the captioned head to the limit of Tariff Determination, i.e., PKR 34.76 million. The corresponding USD amount has been worked out on the basis of the average of the exchange rates prevailing on the respective payment dates prior to December 31, 2021. The resultant amount works out to be about USD 0.21 million which is being allowed as such.

Adjustment of Financing Fee and Charges:

54. The Authority in the Tariff Determination had allowed financing fee and charges of USD 1.215 million. The caption head was allowed at the rate of 2.50% of the approved debt in the Tariff Determination. Following mechanism for the adjustment of financing fee 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 120 to calculate the maximum limit of the amount to be allowed at COD."

55. As per the above mechanism, the maximum amount allowed to LWPL-2 under this head @ PKR 120/USD works out to be about PKR 145.8 million.

56. The petitioner in its COD adjustment application has claimed financing fee and charges amounting to PKR 299.53 million (USD 1.79 million). Below is the detailed breakup of financing fee and charges as claimed by the petitioner and as verified by the Auditors:

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Description	Claim		Audited	
	USD	PKR	USD	PKR
	Million			
Arrangement/ Front End Fee	0.34	56.48	1.79	299.53
Commitment fee	0.35	58.33		
Agency, Monitoring Security Trustee Fees	0.05	9		
Lender-Legal, Technical & Insurance Advisors	0.64	110.54		
Other Expenses	0.40	65.17		
Total	1.79	299.53	1.79	299.53

57. LWPL-2 submitted that the decision to allow financing fee and charges at the reference exchange rate of PKR 120 was based on the assumption of 100% local SBP financing. As submitted in the Tariff Modification Petition, the SBP financing was available up to maximum of 50% of the total debt requirements, therefore, the company arranged the balance amount in form of foreign financing through BII (British International Investment plc (formerly CDC Group plc). Accordingly, the fees and costs under foreign financing were directly linked to exchange rate fluctuations. LWPL-2 further stated that the increase in Financing Fee and Charges from allowed limit of USD 1.215 million to actual incurred USD 1.79 million is due to extended construction period and the increase should therefore be allowed.

58. The Audit Report provides that for financing fee and charges, schedule of costs prepared by management were obtained and compared the amount paid and the details appearing therein with respect to invoice amount, invoice date, instrument of payment such as cheque, remittance debit advice, swift message and payment date, FBR CPR if any where WHT was paid, and bank statement, were verified and no difference was found.

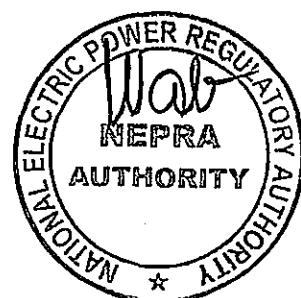
59. LWPL-2 in support of its claim has submitted copies of financing agreements and Lender's Legal and Technical Contracts/agreement, Invoices, payment evidences bank statements including tax challans, relevant exchange rate etc. which have been checked. It was noted that although the Authority vide modification decision issued on July 23, 2020 recognized that the foreign financing be also obtained by LWPL-2. However, the term of adjustment of financing fee and charges was not modified. Considering the decision for not allowing additional cost related to extended period, the Authority has decided to allow the expenses under the captioned head to the limit of Tariff Determination, i.e., PKR 145.8 million. The corresponding USD amount has been worked out on the basis of the average of the exchange rates prevailing on the respective payment dates prior to December 31, 2021. The resultant amount works out to be about USD 0.89 million which is being allowed on account of financing fee and charges.

Project Financing:

The reference Tariff Determination was issued on debt-to-equity ratio of 80:20 while stating that the tariff shall be adjusted on actual debt to equity mix at the time of COD, subject to equity share of not more than 20%. In the COD adjustment application, LWPL-2 has submitted that the total project cost has been financed by the company as per the following details:

Description	PKR	USD
	Million	
Equity	2,134.72	13.00

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Debt Financing:		
SBP-Local	4,308.84	25.94
Commercial-Foreign	4,512.22	25.46
Total Debt	8,821.06	51.40
Total Project Cost	10,955.77	64.26

Equity:

60. The total equity injected by the different shareholders, as submitted by LWPL-2 and certified by Auditors' Certificate (Deloitte Yousuf Adil Chartered Accountants) dated June 23, 2020 is PKR 2,134.716 million. The amount of equity was injected by the company before the RCOD i.e., December 31, 2021. All the injected equity amount were deposited in Meezan Bank Limited and Bank Al Habib Limited.
61. The Audit Report provides that the schedule of equity contribution by company shareholders prepared by management were obtained and matched the amount received and the details appearing therein with respect to shares and their amount, with copy of share certificate, return of allotments of shares (SECP – Form A), bank statements, and NBP Rate Sheets, where applicable and no difference was found. The amount of total equity as verified by the auditors is PKR 2,134.716 million.
62. LWPL-2 in support of the equity injections submitted copies of bank statements in which equity was injected, SECP Form A/Form 3, exchange rate sheets and audited accounts for the construction period.
63. Recapitulating the above, following table shows the injections of the debt and equity amounts by the company:

Source of Funds	Amount USD in million	Amount PKR in million
SBP RE Scheme debt	25.94	4,308.84
Commercial Foreign debt (LIBOR)	25.46	4,512.22
Total Debt	51.40	8,821.06
Equity	12.85	2,134.72
Total Funding	64.26	10,955.77

Based on above verified numbers of the injections of debt and equity, the debt-to-equity ratio works out to be following:

Source of Funds	USD Terms	PKR Terms
Debt	80.00 %	80.52 %
Equity	20.00 %	19.48 %

64. The Authority in Tariff Determination allowed debt: equity ratio of 80:20 whereas the equity beyond 20% was considered to be neutralized with the notional debt. The actual debt equity ratio works out to be 80 %: 20 % in USD terms. Accordingly, the COD tariff has been worked out on the same basis.

Adjustment of Debt Amount and Interest during Construction:

65. The Tariff Determination of LWPL-2 was approved on the basis of 100% SBP concessionary debt refinancing scheme for renewable energy projects issued on June 02, 2016 ("SBP Scheme 2016") with the following provisions:

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"In case the petitioner is not able to secure financing under SBP scheme then the tariff of LWPL-2 shall be adjusted on conventional local/foreign financing, or a mix of both, at the time of its COD. However, the petitioner shall have to prove through documentary evidence that it exhausted the option of availing financing under SBP scheme before availing part/full of conventional local/foreign loan."

66. The aforesaid refinancing scheme was revised by SBP on July 26, 2019 ("SBP Scheme 2019") and allowed renewable energy projects, having capacity of more than 20 MW, to obtain up to 50% of financing (debt) under the said Scheme. Since the Project is of more than 20 MW capacity, therefore, the petitioner filed Tariff Modification Petition dated October 29, 2019 requesting the Authority to base tariff on a mix of foreign and local financing, on the pretext that not more than 50% financing can be obtained under SBP Scheme 2019. The decision of the Authority on the Modification Petition was issued on July 23, 2020 whereby the Authority decided that the adjustment of tariff on mix of local and foreign financing shall be made at the time of tariff adjustment at COD of the Project.

67. LWPL-2 submitted that in view of the SBP Scheme 2019 as stated above, the company was only able to secure concessionary finance under the Revised SBP Scheme for the maximum of fifty percent (50%) of its debt requirement. Accordingly, LWPL-2 had to arrange the balance debt financing in foreign currency from CDC. Stating that LWPL-2 requested the Authority to adjust the tariff determination and tariff table to reflect the 50:50 financing mix of local and foreign financing, instead of hundred percent (100%) SBP Scheme local financing.

68. On the review of the latest financing documents as submitted by the petitioner, it was noted that following debt commitments were secured by the LWPL-2:

Source of debt	Financiers	Debt Commitment
SBP RE Scheme debt	<ul style="list-style-type: none">• Habib Bank Limited• Askari Bank Limited• Soneri Bank Limited• Pak Kuwait Investment Company	<ul style="list-style-type: none">• PKR 2500 million• PKR 2000 million• PKR 396 million
Commercial Foreign debt (LIBOR)	<ul style="list-style-type: none">• British International Investment	USD 27.2 million

69. LWPL-2 submitted that out of total debt financing, 50% was secured in local debt (PKR) and 50% in foreign debt (USD). The amount of debt as claimed by LWPL-2 and verified by the Auditors is provided as under:

Source of debt	Claimed by LWPL-2		Verified by Auditors	
	Amount in USD (Million)	Amount in PKR (Million)	Amount in USD (Million)	Amount in PKR (Million)
SBP RE Scheme debt-Local	25.94	4,308.84	25.94	4,308.84
Commercial Foreign debt	25.46	4,512.22	25.46	4,512.22
Total	51.40	8,821.06	51.40	8,821.06

70. It is noted that the SBP loan has been secured by the company for 10 years repayment period at the cost of 4.75 % (5.25% inclusive of savings) to be paid on quarterly basis having equal principal instalments. The foreign loan has been obtained by the company for 13 years repayment period (51 quarters) at the Cost of LIBOR + 4.25% to be paid on quarterly basis having certain fixed percentage of principal repayments.

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71. The Audit Report provides that schedule of debt drawdown prepared by management were obtained and match the amount received and the details appearing therein with respect to receipt date and amount, with copy of bank statements, swift messages for loan receipt (for foreign loan), and NBP Exchange Rate Sheet, where applicable and no difference was found.

72. LWPL-2 has submitted copies of financing agreements, copies of bank statements in which debt drawdown were credited, NBP Exchange rate sheets and audited financial statements for the construction period. The submission of LWPL-2 has been checked with source document. 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 and for local currency loan was converted to USD using the PKR/USD exchange rate prevailing on the date of disbursement. The final position and terms of different loans, as obtained by LWPL-2 and approved, is provided below:

Debt Sources	Amount in USD (Million)	Amount in PKR (Million)	%age of debt in USD term	Interest Rate	Repayment Period
SBP RE Scheme	25.08	4,260.38	50.47%	<ul style="list-style-type: none">• Rate before refinancing is KIBOR+2%• SBP Refinancing rate is 4.75%+0.5% saving	10 years
Commercial.Foreign loan	24.62	4,181.73	49.53%	3 month LIBOR + 4.25%	13 years (51 quarters)
Total	49.70	8,442.11	100.00%		

73. In the Tariff Determination, the IDC of USD 1.96 million (PKR 235.32 million) was approved. The said amount of IDC was computed on the basis of 100% SBP refinancing scheme at 6% interest rate using certain percentage of drawdowns for the construction period of 15 months. 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 fifteen months allowed by the Authority. "

"The reference tariff has been worked out on the basis of cost of 6% offered under SBP financing scheme. In case cost negotiated by the company under SBP scheme is less than the said limit of 6%, the savings in that cost shall be shared between the power purchaser and the power producer in the ratio of 60:40 respectively."

"In case the company shall secure full or part of local conventional loan then the tariff of company shall be adjusted at the time of COD at applicable KIBOR + spread of 2.25%. The savings in the approved spreads during the loan tenor shall be shared between the power purchaser and power producer in the ratio of 60:40. The tenor of the debt servicing shall not be less than thirteen years for this loan."

"In case the company shall secure full or part of foreign conventional loan then the tariff of company shall be adjusted at the time of COD at applicable LIBOR + spread of 4.25%. The savings in the approved spreads during the loan tenor shall be shared between the power purchaser and power producer in the ratio of 60:40. The tenor of the debt servicing shall not be less than thirteen years for this loan."

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"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 yearly outstanding principal and interest amounts. For that purpose, the spread over that full/part of loan shall be considered as 3.5% as the maximum limit. The savings in the spread during the loan tenor shall be shared between the power purchaser and power producer in the ratio of 60:40."

74. LWPL-2 in its COD tariff application has requested for IDC based on actual debt drawdown for the actual construction period of almost 21 months. Below are the details of IDC as claimed by LWPL-2 and as verified by Auditors:

Description	Claimed by LWPL-2		Verified by Auditors	
	USD Million	PKR Million	USD Million	PKR Million
SBP RE scheme	1.14	206.46		
Commercial Foreign Loan	0.51	96.63	1.53	281.76
Less: Interest Income	(0.13)	(21.34)		
Net IDC	1.53	281.76	1.53	281.76

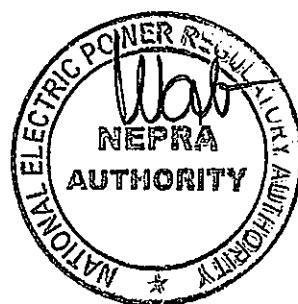
75. LWPL-2 claimed net IDC after adjustment of interest income. The amount of IDC come out to be USD 1.53 million (PKR 281.76 million) after adjustment of interest income.

76. The Audit Report provides that schedule of costs prepared by management was obtained and matched with the amount paid and the details appearing therein with respect to payment date, interest rate and exchange rate with copy of invoice, swift acknowledgement, bank debit advice, SBP's KIBOR rate sheet, LIBOR rate and bank statement, where applicable and no difference was found.

77. LWPL-2 in support of the claim has submitted copies of financing agreement, interest payment invoices, bank statement, exchange rate sheets, KIBOR rate sheets, swift acknowledgement, bank debit advice, LIBOR rates, where applicable which have been checked. In addition, as per the sharing mechanism provided in the tariff determination the calculation of saving in SBP loan (i.e., 0.5 %) as a result of sharing of spread in a ratio of 60:40 (Purchaser: Producer) has also been checked and considered. Based on the documentary evidence submitted by the company, the interest payments made by the company as verified on account of local and foreign debt for the construction period from October 01, 2020 till December 31, 2021 excluding OFME period of 237 days i.e. from February 06, 2020 till September 30, 2020 and as per precedent cases is given hereunder:

IDC	Total Drawdowns	Interest Rate	Interest Amount	
			USD in million	PKR in million
Local Loan:	PKR in million			
SBP RE scheme	4,260.38	<ul style="list-style-type: none"> Rate before refinancing is KIBOR+2% SBP Refinancing rate is 4.75%+0.5% saving 	0.64	109.94
Foreign Loan:	USD in million			
Commercial Foreign loan	24.62	• LIBOR+4.25%	0.13	22.48
Total Interest payment			0.77	132.43

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78. The interest amount of PKR 109.94 million in respect of SBP loan includes interest amount of PKR 36.60 million paid at KIBOR +1.75 % till the time before loan was refinanced by the SBP excluding the OFME period as mentioned above. After which the interest has been paid at the refinance rate of 5.25 %.

79. The amount of PKR has been converted in USD using the rate prevailing on the date of the interest payment, as obtained from NBP's website. Likewise, the amount of interest amount paid in USD has been converted in PKR using the above said mechanism.

80. As discussed above, the Authority has decided to allow the construction period of 15 months therefore, the amount of IDC to be allowed to the petitioner has also been restricted till December 31, 2021 excluding OFME period of 237 days i.e., from February 06, 2020 till September 30, 2020, which has been computed using the following steps:

- The amount of IDC as actually paid and verified till RCOD and actual COD has been added in the capital cost (EPC, Duties, PDC, insurance during construction, Financing Fee) as allowed in this decision to arrive at the verified project cost.
- The amount of verified project cost was then segregated between debt and equity in the ratio of 80.08 :19.92 as was approved in the Tariff Determination
- That amount of debt was then sub-divided into their actual percentages i.e., SBP loan (50.47%) and foreign loan (49.53%).
- The percentage of each loan as actually disbursed till COD was applied on the verified debt amount.
- The IDC was then recomputed on the portion of debt amounts which is disbursed till COD using the actual schedule of drawdowns.

Adjustment of Interest Income

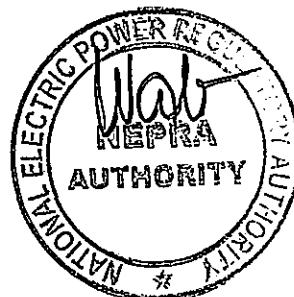
81. The petitioner has claimed that it has earned an interest income to the tune of PKR 21.34 million against debt and equity injections. The said amount of the interest income has also been verified by the Auditors. The Audit report provide that the schedule of interest income prepared by management was obtained and the amount received and the details appearing therein with respect to receipt date and exchange rate with copy of bank statements and SBP exchange rate sheet were matched and no difference was found.

82. Given the fact that interest cost to the limit of COD (December 31, 2021) excluding the OFME period has been allowed, therefore, the impact of interest income has also been limited to COD excluding the OFME period, i.e., PKR 3.09 million.

83. Accordingly, the amount of allowed IDC net of interest income, worked out as under:

Description	Approved IDC	
	USD	PKR
	Million	
SBP Loan	0.64	109.94
Commercial Foreign loan	0.13	22.48
Interest income	(0.09)	(14.55)
Total	0.68	117.88

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84. 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 is as under:

Description	Determined		Claimed		Auditors		Allowed	
	USD	PKR	USD	PKR	USD	PKR	USD	PKR
	Million							
Total EPC Cost	57.94	6,952.80	57.94	10,841.96	57.94	10,841.96	57.94	9,857.09
EPC Contractor Claims			5.37	1,449.55	5.37	1,449.55		
Duties and Taxes	-	-	0.58	97.20	0.58	97.20	0.58	97.20
Project Development Cost	2.50	300.00	1.93	302.69	1.93	302.69	1.84	300.00
Insurance during construction	0.29	34.76	0.34	56.92	0.34	56.92	0.21	34.76
Financing Fee and Charges	1.22	145.80	1.79	299.53	1.79	299.53	0.88	145.80
Interest during Construction	1.96	235.32	1.65	303.09	1.65	303.09	0.77	132.43
Interest Income	-	-	(0.13)	(21.34)	(0.13)	(21.34)	(0.09)	(14.55)
Total Project Cost	63.91	7,668.12	69.46	13,329.59	69.46	13,329.59	62.13	10,552.73

85. Based on the above project cost, the amount of debt and equity, as per the prescribed ratio of 80:20, works out as following:

Debt and Equity	31-Dec-21	
	USD	PKR
	Million	
Equity Share (20 %)	12.43	2,110.62
Debt Share (80 %)	49.70	8,442.11

86. The following table shows the amount of different debts which have been used to compute the debt servicing component of the tariff being approved in this decision:

Loans	USD	PKR
	Million	
SBP loan	25.08	4,260.38
Foreign loan	24.62	4,181.73
Total	49.70	8,442.11

Adjustment of Equity Amount, Return on Equity and Return on Equity during Construction ("ROEDC"):

87. The total equity injected by the different shareholders, as submitted by LWPL-2, is provided as under:

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Equity	Amount PKR in million
Liberty Mills Limited	2,134,714,000
Muhammad Kashif	500
Azam Sakrani	500
Muhammad Ali	1000
Total	2,134,716,000

88. The Audit Report provides that the schedule of equity contribution by company shareholders prepared by management were obtained and matched the amount received and the details appearing therein with respect to shares and their amount, with copy of share certificate, return of allotments of shares (SECP – Form 3), bank statements, and NBP Rate Sheets, where applicable and no difference was found.

89. All the injected equity amount were deposited in Meezan Bank Limited and Bank Al Habib Ltd. PKR Current account before the RCOD. For the purpose of verification, equity claim has been verified from the audited accounts for the financial year ending June 2022.

90. Based on the review and verification of the above documents, the claim of LWPL-2 has been found correct. The equity amount in terms of equivalent USD amount comes out to be 12.85 million.

91. LWPL-2 in support of equity injections has submitted copies of copies of bank statements in which equity was injected, exchange rate sheets and audited accounts. 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 within the prescribed percentage allowed in the Tariff Determination therefore, the Authority has decided to consider the actual equity contribution. Based on the project cost being approved in this decision, the amount of equity works out as under:

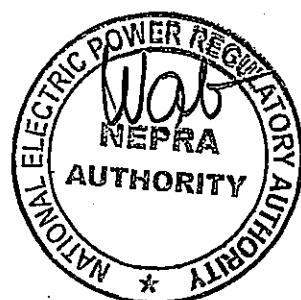
Equity Share	USD	PKR
	Million	
	12.43	2,110.62

92. The ROEDC component of PKR 0.3331/kwh was approved in the Tariff Determination, while stating the following mechanism for its adjustment:

"ROEDC will be adjusted at COD on the basis of actual equity injections (within the overall equity allowed by the Authority at COD) for the project construction period of fifteen months allowed by the Authority."

93. It is noted that about 100% of the equity amount had been disbursed till COD. Therefore, the amount of ROEDC to be allowed has been computed while proportionating the same on the approved equity amount over the actual equity amount. The detailed computations are explained in the following table:

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Computation of ROEDC	USD Million
A. Actual Equity Injection	12.85
B. Percentage of Actual Injections over Total	100%
C. Total Approved Equity Amount	12.43
D. Amount Drawn (C*B)	12.43
E. ROEDC Verified	2.29
F. ROEDC Assessed (E/A*D)	2.21

94. Using the PMT formula, the ROEDC component works out to be PKR 0.3331/kWh (using exchange rate of PKR 183.20/USD as on 31st March, 2022). The amount of annual ROE, using rate of 14%, at approved equity amount of USD 12.85 million comes out as USD 1.64 million. Accordingly, the ROE component works out to be PKR 1.8021/kWh (using exchange rate of PKR 183.20/USD as on 31st March, 2022).

95. It is important to mention here that the equity IRR of 14% per annum was allowed to LWPL-2 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 similar COD cases.

Operation and Maintenance ("O&M") Cost

96. The Authority in the Tariff Determination allowed O&M cost of USD 23,000 per MW per annum for LWPL-2. The allowed O&M had approved in the ratio of 50:50 in local and foreign components. Detail is as under:

O&M	Tariff (PKR/kWh)	Indexation
Local	0.4146	CPI (General)
Foreign	0.4146	US-CPI and PKR/USD Exchange rate
Total	0.8292	

97. Further, the Authority vide review motion decision dated May 17, 2021 decided as under:

"The O&M cost, its mix, and the corresponding mechanism thereof as approved in the Tariff Determination of Liberty Wind Power 2 (Private) Limited shall be applicable for the period during which the Petitioner has already finalized the WP and LT O&M Agreements, i.e., 13 years. During this time, however, the Petitioner shall be required to submit, on an annual basis, the documentary evidence/report pertaining to actual expenditures on account of O&M. The savings, if any, in the actual O&M cost compared to the approved O&M cost shall completely be passed on to the consumers.

Subsequent to the lapse of the LT O&M Contract, in order to claim O&M costs, the Petitioner shall be required to carry out competitive bidding for the selection of the O&M contractor in accordance with NEPRA's applicable law. Based on this competitive bidding process, the Authority shall make revisions in the O&M cost, while capping the prevailing level of the

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approved O&M cost. Those revisions may also entail changing the mix of the approved O&M cost (local and foreign) as well as the indexation mechanism (indices, frequency etc.)."

98. The petitioner in its COD adjustment application has claimed local O&M of PKR 0.9946/kWh and foreign O&M of PKR 0.7981/kWh. The tariff being approved in this decision is to be applicable for the energy supplied by the company during the quarter April-June, 2022, therefore, the O&M Cost being allowed in this decision has been adjusted/indexed, as per the prescribed mechanism, on the indices applicable for the said quarter which is detailed as under:

O&M Cost	Determined	Claimed	Approved
	PKR/kWh		
Local O&M	0.4146	0.9946	0.5946
Foreign O&M	0.4146	0.7981	0.7121
Indexation values:			
CPI (General) / N-CPI	229.27/113.93	161.88	160.61
PKR/USD exchange rate	120	202.60	183.20
US-CPI	252.146	287.50	283.72

- For the purpose of calculation of approved numbers; N-CPI, US CPI for month of Feb, 2022 has been used. The exchange rate of Mar 31, 2022 has been used.
- Due to discontinuation of CPI, the Authority vide decision dated March 10, 2021 (notified in the official Gazette) has replaced the same with N-CPI. The reference generation tariff was determined on CPI (General). Accordingly, the CPI of August 2018 i.e., 229.27 was revised with the equivalent N-CPI of May 2020 i.e., 131.01. Subsequently the same was indexed with N-CPI of Feb 2022.

Insurance during operation:

99. The Tariff Determination provide following provision with regard adjustment of insurance during operations at COD:

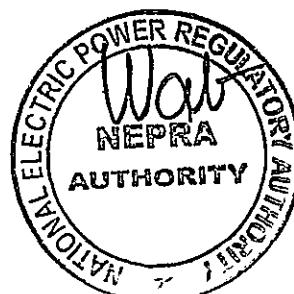
"The actual insurance cost for the minimum cover required under contractual obligations with the power purchaser, not exceeding 0.4% of the approved EPC cost, will be treated as pass through. Insurance component of reference tariff shall be adjusted annually as per actual upon production of authentic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

LWPL-2 has not submitted documentary evidence of operational insurance. It is noted that in the Tariff Determination, reference insurance component has been calculated considering 0.4% of the allowed EPC cost (USD 57.94 million) which works out USD 0.23 million per annum. Based on same mechanism, the insurance component has been adjusted/revised at COD and is being allowed as PKR 0.2551/kWh. The adjustment mechanism of operational insurance is given in order part of this decision.

100. ORDER

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 Liberty Wind Power 2 Ltd. ("LWPL-2") (formerly Noor Solar Energy (Pvt.) Limited) for its 50 MW wind power project for delivery of electricity to the power purchaser:

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- Levelized tariff works out as PKR 8.2171/kWh and US Cents 4.4853/kWh.
- Net Annual Plant Capacity Factor of 38% has been approved.
- The aforementioned tariff is applicable for twenty five (25) years from COD.
- Debt to Equity ratio of 80:20 has been approved.
- Debt Repayment period of 10 years has been taken into account for local financing under SBP Scheme.
- Debt Repayment period of 13 years (51 quarters) has been taken into account for foreign financing.
- The cost of financing of debt of 5.25 % (inclusive of saving) for SBP 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.
- Construction period of 15 months has been used for the workings of ROEDC and IDC from October 01, 2020 till RCOD of December 31, 2021 (excluding OFME period of 237 days).
- Insurance during operation has been calculated at 0.4% of the allowed EPC cost.
- Reference Exchange Rate of 183.20 PKR/USD of March 31, 2022 has been used.
- Detailed component wise tariff is attached as Annex-I of this decision.
- Debt Servicing Schedule for SBP financing is attached as Annex-II of this decision.
- Debt Servicing Schedule for foreign financing is attached as Annex-III of this decision.

A. Indexation

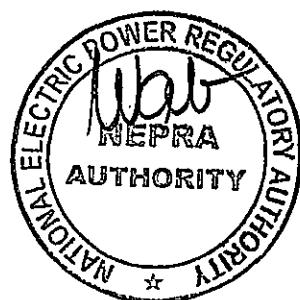
Adjustment of O&M, return on equity, return on equity during construction shall be made on quarterly basis for the quarters starting from 1st January, 1st April, 1st July and 1st October, based on latest available information. Adjustment of debt servicing components, where applicable, shall also be made on quarterly basis. Insurance component shall be adjusted on annual basis starting from either 1st January or 1st July. The indexation for the 1st quarter i.e., April-June2022 except for insurance component has already been made.. The indexation mechanisms for subsequent quarters is given hereunder:

i) Operation and Maintenance Costs

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

F. O&M _(REV)	=	F. O&M _(REF) * US CPI _(REV) / US CPI _(REF) * ER _(REV) / ER _(REF)
L. O&M _(REV)	=	L. O&M _(REF) * N-CPI _(REV) / N-CPI _(REF)
Where;		
F. O&M _(REV)	=	The revised O&M Foreign Component of Tariff

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L. O&M _(REV)	=	The revised O&M Local Component of Tariff
F. O&M _(REF)	=	The reference O&M Foreign Component of Tariff
L. O&M _(REF)	=	The reference O&M Local Component of Tariff
US CPI _(REV)	=	The revised US CPI (All Urban Consumers) of the middle month of preceding quarter as notified by US Bureau of Labor Statistics
US CPI _(REF)	=	The reference US CPI (All Urban Consumers) of 283.72 of February, 2022
N-CPI _(REV)	=	The revised N-CPI of the middle month of preceding quarter as notified by Pakistan Bureau of Statistics
N-CPI _(REF)	=	The reference N-CPI of 160.61 for the month of February, 2022
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
ER _(REF)	=	The reference TT & OD selling rate of PKR 183.20/USD of March 31, 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 to the satisfaction of the Authority according to the following formula:

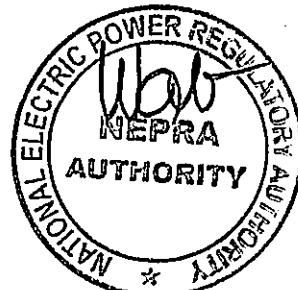
AIC	=	Ins _(Ref) / P _(Ref) * P _(Act)
Where;		
AIC	=	Adjusted insurance component of tariff
Ins _(Ref)	=	Reference insurance component of tariff
P _(Ref)	=	Reference premium @ 0.4% of approved EPC Cost (USD 57.94 million) at PKR 183.20/USD of March 31, 2022
P _(Act)	=	Actual premium or 0.4% of the EPC Cost converted into PKR on exchange rate prevailing at the time of insurance premium payment of the insurance coverage period, whichever is lower.

iii) Return on Equity

The total ROE (ROE + ROEDC) component of the tariff will be adjusted on quarterly 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 as at the last day of the preceding quarter
ER _(Ref)	=	The reference TT & OD selling rate of PKR 183.20/USD of March 31, 2022

iv) Indexations applicable to debt

The principal component of foreign debt 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 period, over the applicable reference exchange rate. The interest part of tariff component for the foreign loan shall also be adjusted with respect to change in applicable LIBOR according to the following formula:

ΔI	=	$P_{(REV)} * (LIBOR_{(REV)} - 0.9616\%) / 4$
Where;		
ΔI	=	The variation in interest charges applicable corresponding to variation in 3 month LIBOR. ΔI can be positive or negative depending upon whether 3 month LIBOR (REV) per annum > or < 0.9616%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each quarter under adjustment.
$P_{(REV)}$	=	The outstanding principal (as indicated in the attached debt service schedule to this order at Annex-III), on a quarterly basis at the relevant calculations date.
LIBOR (REV)	=	Revised 3 month LIBOR as at the last day of the preceding quarter.

Note: The revised LIBOR shall be replaced with SOFR with effect from July 01, 2023 in light of the decision of the Authority regarding Suo moto proceedings for transition from LIBOR to SOFR dated December 5, 2024 and December 13, 2024. The Company shall submit the indexation of the debt service component (foreign) in light of the aforesaid decision.

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:

- The O&M Cost, its mix, and the corresponding mechanism thereof as approved shall be applicable for 13 years from COD. During this time, however, the Petitioner shall be required to submit, on an annual basis, the documentary evidence/report pertaining to actual expenditures on account of O&M. The savings, if any, in the actual O&M cost compared to the approved O&M cost shall completely be passed on to the consumers.
- Subsequent to the lapse of the LT O&M Contract, in order to claim O&M costs, the Petitioner shall be required to carry out competitive bidding for the selection of the O&M contractor in accordance with NEPRA's applicable law. Based on this competitive bidding process, the Authority shall make revisions in the O&M cost, while capping the prevailing level of the approved O&M cost. Those revisions may also entail changing the mix of the approved O&M cost (local and foreign) as well as the indexation mechanism (indices, frequency etc.).

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- This tariff will be limited to the extent of net annual energy generation supplied to the power purchaser up to 38% net annual plant capacity factor. Net annual energy generation supplied to the power purchaser in a year, in excess of 38% 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 38% up to 40%	5%
Above 40% up to 42%	10%
Above 42% up to 44%	20%
Above 44% up to 46%	40%
Above 46% up to 48%	80%
Above 48%	100%

- The risk of wind resource shall be borne by the power producer.
- The company is required to maintain the availability levels as declared in the Tariff Petition and the studies provided therein. Power purchaser shall conduct detailed monitoring/audit of the operational record/log of all the wind turbines to verify output/capacity of the power plant so that the power producer cannot intentionally suppress the capacity factors.
- 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.
- In case the company is obligated to pay any tax on its income from generation of electricity, or any duties and/or taxes, not being of refundable nature, are imposed on the company, the exact amount paid by the company on these accounts shall be reimbursed on production of original receipts. This payment shall be considered as a pass-through payment. However, withholding tax on dividend shall not be a pass-through item.
- No provision for the payment of Workers Welfare Fund and Workers Profit Participation has been made in the tariff. In case, the company has to pay any such fund, that will be treated as pass through item in the EPA.
- The quarterly indexation already allowed on interim basis shall not be applicable after the notification of this decision. Subsequent to notification, the indexations/adjustment shall be made in line with the COD true-up decision.
- This decision is based on the data/information provided by the petitioner. In case it comes to the knowledge of the Authority subsequently that any document or information submitted is incorrect, false, forged, untrue or that the petitioner has misrepresented, the Authority reserves the right to make any consequential modifications/adjustment in the tariff and appropriate action will be initiated against the petitioner in accordance with the NEPRA Act, Rules and Regulations made thereunder.

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101. The instant decision along with three Annexures is intimated to the Federal Government 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

(Amina Ahmed)
Member

(Eng. Maqsood Anwar Khan)
Member

(Waseem Mukhtar)
Chairman



LIBERTY WIND POWER 2 LIMITED

Year	Revised Tariff PKR/kWh									
	O&M - Local	O&M - Foreign	Insurance	ROE	ROEDC	Foreign Loan - Principal	Foreign Loan - Interest	SBP Loan - Principal	SBP Loan - Interest	Total
1	0.5946	0.7121	0.2551	1.8021	0.3331	1.4339	1.3842	2.5597	1.2935	10.3682
2	0.5946	0.7121	0.2551	1.8021	0.3331	1.5014	1.3086	2.5597	1.1591	10.2258
3	0.5946	0.7121	0.2551	1.8021	0.3331	1.5981	1.2285	2.5597	1.0247	10.1081
4	0.5946	0.7121	0.2551	1.8021	0.3331	1.7041	1.1432	2.5597	0.8903	9.9943
5	0.5946	0.7121	0.2551	1.8021	0.3331	1.8152	1.0522	2.5597	0.7559	9.8801
6	0.5946	0.7121	0.2551	1.8021	0.3331	1.9339	0.9554	2.5597	0.6215	9.7675
7	0.5946	0.7121	0.2551	1.8021	0.3331	2.0596	0.8522	2.5597	0.4871	9.6557
8	0.5946	0.7121	0.2551	1.8021	0.3331	2.1943	0.7423	2.5597	0.3528	9.5461
9	0.5946	0.7121	0.2551	1.8021	0.3331	2.3380	0.6251	2.5597	0.2184	9.4382
10	0.5946	0.7121	0.2551	1.8021	0.3331	2.4905	0.5004	2.5597	0.0840	9.3316
11	0.5946	0.7121	0.2551	1.8021	0.3331	2.6542	0.3674	-	-	6.7187
12	0.5946	0.7121	0.2551	1.8021	0.3331	2.8260	0.2258	-	-	6.7489
13	0.5946	0.7121	0.2551	1.8021	0.3331	2.5512	0.0709	-	-	6.3192
14	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
15	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
16	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
17	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
18	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
19	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
20	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
21	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
22	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
23	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
24	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
25	0.5946	0.7121	0.2551	1.8021	0.3331	-	-	-	-	3.6970
Levelized Tariff	0.5946	0.7121	0.2551	1.8021	0.3331	1.5126	0.7380	1.7328	0.5367	8.2171

Levelized Tariff in US Cents is 4.4853/kWh



LIBERTY WIND POWER 2 LIMITED
DEBT SERVICING SCHEDULE

Debt Repayment Plan - SBP Refinance

SBP refinance rate	3.00%	p.a
Spread	2.25%	p.a
All-in Rate	5.25%	p.a

Period	PKR			PKR/kWh	
	Outstanding	Principal Repayment	Interest	Principal	Interest
1	4,260,377,745	106,509,444	55,917,458	2.5597	1.2935
2	4,153,868,301	106,509,444	54,519,521		
3	4,047,358,857	106,509,444	53,121,585		
4	3,940,849,414	106,509,444	51,723,649		
5	3,834,339,970	106,509,444	50,325,712	2.5597	1.1591
6	3,727,830,527	106,509,444	48,927,776		
7	3,621,321,083	106,509,444	47,529,839		
8	3,514,811,639	106,509,444	46,131,903		
9	3,408,302,196	106,509,444	44,733,966	2.5597	1.0247
10	3,301,792,752	106,509,444	43,336,030		
11	3,195,283,309	106,509,444	41,938,093		
12	3,088,773,865	106,509,444	40,540,157		
13	2,982,264,421	106,509,444	39,142,221	2.5597	0.8903
14	2,875,754,978	106,509,444	37,744,284		
15	2,769,245,534	106,509,444	36,346,348		
16	2,662,736,090	106,509,444	34,948,411		
17	2,556,226,647	106,509,444	33,550,475	2.5597	0.7559
18	2,449,717,203	106,509,444	32,152,538		
19	2,343,207,760	106,509,444	30,754,602		
20	2,236,698,316	106,509,444	29,356,665		
21	2,130,188,872	106,509,444	27,958,729	2.5597	0.6215
22	2,023,679,429	106,509,444	26,560,793		
23	1,917,169,985	106,509,444	25,162,856		
24	1,810,660,541	106,509,444	23,764,920		
25	1,704,151,098	106,509,444	22,366,983	2.5597	0.4871
26	1,597,641,654	106,509,444	20,969,047		
27	1,491,132,211	106,509,444	19,571,110		
28	1,384,622,767	106,509,444	18,173,174		
29	1,278,113,323	106,509,444	16,775,237	2.5597	0.3528
30	1,171,603,880	106,509,444	15,377,301		
31	1,065,094,436	106,509,444	13,979,364		
32	958,584,993	106,509,444	12,581,428		
33	852,075,549	106,509,444	11,183,492	2.5597	0.2184
34	745,566,105	106,509,444	9,785,555		
35	639,056,662	106,509,444	8,387,619		
36	532,547,218	106,509,444	6,989,682		
37	426,037,774	106,509,444	5,591,746	2.5597	0.0840
38	319,528,331	106,509,444	4,193,809		
39	213,018,887	106,509,444	2,795,873		
40	106,509,444	106,509,444	1,397,936		

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LIBERTY WIND POWER 2 LIMITED
DEBT SERVICING SCHEDULE

Debt Repayment Plan -Foreign Financing

LIBOR	0.9616%	p.a
Spread	4.25%	p.a
All-In Rate	5.21%	p.a

Period	USD				PKR/kWh	
	Outstanding	Repayment percentage	Principal	Interest	Principal	Interest
1	24,621,191	1.37%	336,572	320,790		
2	24,284,620	1.29%	317,860	316,404	1.4339	1.3842
3	23,966,760	1.31%	321,553	312,263		
4	23,645,207	1.33%	326,723	308,073		
5	23,318,484	1.36%	334,602	303,817		
6	22,983,882	1.38%	338,541	299,457	1.5014	1.3086
7	22,645,341	1.39%	342,727	295,046		
8	22,302,614	1.41%	348,144	290,581		
9	21,954,470	1.44%	355,038	286,045		
10	21,599,433	1.47%	360,700	281,419	1.5981	1.2285
11	21,238,732	1.48%	365,132	276,719		
12	20,873,600	1.51%	371,041	271,962		
13	20,502,559	1.54%	379,166	267,128		
14	20,123,392	1.56%	384,091	262,188	1.7041	1.1432
15	19,739,302	1.58%	389,261	257,183		
16	19,350,041	1.61%	395,663	252,112		
17	18,954,378	1.64%	403,541	246,957		
18	18,550,837	1.66%	409,204	241,699	1.8152	1.0522
19	18,141,632	1.69%	414,867	236,367		
20	17,726,765	1.71%	421,515	230,962		
21	17,305,251	1.75%	429,640	225,470		
22	16,875,611	1.77%	435,795	219,872	1.9339	0.9554
23	16,439,816	1.80%	442,197	214,194		
24	15,997,619	1.83%	449,337	208,433		
25	15,548,282	1.86%	456,969	202,579		
26	15,091,313	1.89%	464,109	196,625	2.0596	0.8522
27	14,627,204	1.91%	471,250	190,578		
28	14,155,954	1.95%	478,882	184,438		
29	13,677,072	1.98%	486,515	178,199		
30	13,190,557	2.01%	494,394	171,860	2.1943	0.7423
31	12,696,164	2.04%	502,272	165,418		
32	12,193,891	2.07%	510,397	158,874		
33	11,683,494	2.10%	518,030	152,224		
34	11,165,464	2.14%	526,401	145,475	2.3380	0.6251
35	10,639,063	2.18%	535,511	138,616		
36	10,103,552	2.21%	544,128	131,639		
37	9,559,424	2.24%	551,268	124,550		
38	9,008,155	2.28%	560,871	117,367	2.4905	0.5004
39	8,447,285	2.32%	570,719	110,060		
40	7,876,565	2.36%	579,829	102,624		
41	7,296,736	2.39%	587,954	95,069		
42	6,708,782	2.43%	597,310	87,409	2.6542	0.3674
43	6,111,472	2.47%	608,143	79,626		
44	5,503,329	2.51%	617,992	71,703		
45	4,885,337	2.54%	624,393	63,651		
46	4,260,943	2.58%	636,212	55,516	2.8260	0.2258
47	3,624,732	2.63%	648,276	47,227		
48	2,976,456	2.68%	658,617	38,780		
49	2,317,839	2.70%	664,772	30,199		
50	1,653,067	2.75%	677,575	21,538	2.5512	0.0709
51	975,492	3.96%	975,492	12,710		
52	-	0	-	0		

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