

**National Electric Power Regulatory Authority**

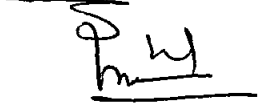
**NOTIFICATION**



Islamabad, the 27<sup>th</sup> day of May, 2022

S.R.O. 691 (I)/2022.- In pursuance of Sub-Section 7 of Section 31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997), NEPRA hereby notifies the Decision of the Authority National Electric Power Regulatory Authority in the matter of Tariff Adjustment at Commercial Operations Date of Ghara Solar Ltd. (GSL) in Case No. NEPRA/TRF-534/GSL-2020.

2. While effecting the Decision, the concerned entities including Central Power Purchasing Agency Guarantee Limited (CPPAGL) shall keep in view and strictly comply with the orders of the courts notwithstanding this Decision.

  
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(Syed Safeer Hussain)  
Registrar



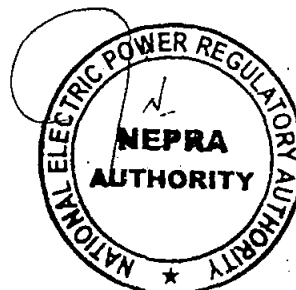


**DECISION OF THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY**  
**IN THE MATTER OF TARIFF ADJUSTMENT AT COMMERCIAL OPERATIONS DATE**  
**OF GHARA SOLAR LIMITED**

1. M/s Ghara Solar Limited ("GSL/Ghara" or "the Petitioner" or "the Company") was formed to develop a solar PV plant having capacity of 50 MWp ("the Project"). The tariff determination of GSL was issued by the National Electric Power Regulatory Authority ("NEPRA" or "the Authority") under NEPRA Tariff Standards & Procedure Rules, 1998 ("Tariff Rules") on January 25, 2018 ("Tariff Determination").
2. The Generation License to the Company was granted by NEPRA on July 17, 2018. The approval of Energy Purchase Agreement ("EPA"), as submitted by K-Electric Limited for purchase of 50 MW from GSL, was given by NEPRA on January 11, 2019. The decision on Licensee Proposed Modification was issued on December 06, 2019. Then, on August 18, 2020, the Authority issued its decision in the matter of tariff modification petition filed by GSL.
3. The tariff given to the Company was required to be adjusted at Commercial Operations Date ("COD"). GSL having successfully achieved COD with effect from December 23, 2019, filed an Application for Tariff Adjustment vide letter No. GSL/NEPRA/OTA/20-01 dated October 07, 2020 (received on October 09, 2020) for the adjustment in its tariff, in accordance with the Tariff Determination.
4. The Company was allowed construction period of 10 months in the Tariff Determination, while stating that the no adjustment will be allowed in the tariff to account for financial impact of any delay in project construction. According to the Petitioner, it achieved Financial Close ("FC") on January 24, 2019. Counting the approved time of 10 months from the FC date, the given construction period ends at November 23, 2019.
5. Upon receipt of the Tariff Adjustment Application, GSL was directed vide NEPRA letter dated December 10, 2020 to get the claimed project cost at COD audited by any of the category A firms on the penal of Auditors of State Bank of Pakistan ("SBP"), while ensuring that the selected firm has not been providing any service, including audit service, to the Company during last three years. The Terms of Reference (TORs) were also provided to the Petitioner through the above said letter.
6. Ghara appointed BDO Ebrahim & Company Chartered Accountants ("BDO") for the aforesaid assignment and submitted report of BDO on January 08, 2021 for consideration of the Authority. The contents of the report of BDO have been considered by the Authority and where deemed necessary, have been discussed in relevant portions of this Decision.
7. Copies of the following documents were submitted by Ghara, in support of its request for adjustment in tariff at COD:
  - Contracts related to Engineering, Procurement and Construction ("EPC") cost, Non-EPC cost (where applicable), land cost.
  - Financing Agreement with the Banks.
  - Certificate of Commissioning of Complex by Artelia
  - Letter dated December 23, 2019 of K-Electric Ltd. regarding notification of COD of GSL.

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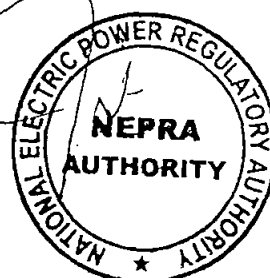
- Financial Statements of the Company for the FY 2018-2019 & FY 2019-20.
- Audit Report of BDO.
- Relevant Bank Statements & Advices.
- Cost Invoices (EPC, Non-EPC, Interest etc.).
- Relevant documents related to Duties and Taxes.
- Equity/debt drawdowns schedules reconciled with the Bank Statements.
- Other relevant source documents and related schedules

8. After scrutiny of the documents/information submitted by the Petitioner, the Authority has decided to allow the following adjustments in the reference tariff of GSL.

**Adjustment of EPC Cost:**

9. The Authority in the Tariff Determination allowed EPC Cost of USD 37.50 million to GSL while using the exchange rate of Rs. 105/USD. It was stated in the Tariff Determination that the allowed EPC cost is the maximum limit, on overall basis, and the applicable foreign portion of this cost shall be allowed variations at COD due to change in PKR/USD parity during the allowed construction period (10 months), on production of authentic documentary evidence to the satisfaction of the Authority.
10. It is noted that GSL during the proceedings of Tariff Determination informed the Authority that it does not intend to award EPC Contracts, either for whole or part of the Project, and shall implement the Project in self-EPC mode through direct supervision and management of multiple consultants, suppliers and contractors. GSL in the Tariff Adjustment Application has stated that the Project has been implemented in self-EPC mode through direct supervision and management of multiple consultants, suppliers and contractors.
11. GSL in its Adjustment Application has claimed EPC cost of USD 37.49 million (Rs. 5,710.09 million). BDO in its Audit Report has also endorsed the claim of Ghara. The breakup of the claimed EPC cost is provided as under:

S.No	Description	Contractor	Amount (USD Million)	Amount (PKR Million)
1.	Solar PV Modules	JA Solar (Xingtai) Limited	14.62	2,312.92
2.	Inverter, String Combiner Boxes & AC/DC Cables	Sungrow Power Supply Company Limited	3.54	559.59
3.	Single Axis Sun Tracking System	Optimum Tracker	6.30	977.19
4.	Electrical Balance of Plant	Siemens (Pakistan) Engineering Co Limited.	4.25	634.13
		ABB Power & Automation (Pvt.) Limited	0.13	20.68
		Ultronics PTE Limited	0.01	1.18





5.	Electrical Works	Siemens Pakistan Engineering Co. Limited	3.95	557.68
		NEPCON	0.06	9.52
		Cecon (Pvt.) Limited	0.01	1.94
		Nnergix Energy Management	0.002	0.37
6.	Civil and General Works	Banu Mukhtar Contracting (Pvt.) Limited	3.93	551.29
7.	EPC Design, Engineering and Supervision	Avant-Grade Engineers & Consultant FZC	0.25	37.19
		Engineers Guild	0.07	9.10
		Inspectest (Pvt.) Limited	0.01	0.76
		EPC Staff	0.11	16.81
8.	Insurance During Construction	Alfalah Insurance Company Limited	0.14	19.73
Total			37.49	5,710.09

12. The Petitioner has submitted the copies of contracts, variations contracts, work orders, commercial invoices, payment instruments, bill of lading, goods declaration certificate, relevant bank statements, applicable exchange rates etc. in relation to the adjustment of EPC cost. After considering and checking the documents/information/Audit Report as submitted by the Petitioner, the Authority has decided to allow EPC cost of USD 37.38 million (Rs. 5,690.17 million) against the GSL's claim of USD 37.49 million (Rs. 5,710.09 million). Following are the reasons of the difference in the claimed and the allowed EPC cost:

- (i) GSL had claimed the security cost of about Rs. 12.77 million under the civil portion of EPC head. It is noted that the security cost is allowed under the head of Project Development Cost ("PDC"), therefore, this cost has not been allowed under EPC and made part of the PDC.
- (ii) The cost of around Rs. 5.09 million was claimed in respect of certain studies (geotechnical, topography and hydrology) under the Engineering portion of the EPC cost. Again, the cost of these studies is allowed under the head of PDC and not made part of the EPC cost.
- (iii) Reduction of around Rs. 4.86 million as the Petitioner had used the higher values of exchange rates compared to their negotiated rates or parity values of the payment dates as available on the website of National Bank of Pakistan ("NBP"). However, the respective amount in terms of USD is not changed.
- (iv) Inclusion of Rs. 2.81 million in respect of taxes paid by the Petitioner on the services of Engineering Consultant. These taxes had been claimed under the head of Duties and Taxes by the Petitioner. The Tariff Determination provides that the head of Duties and Taxes shall only account for the duties/taxes imposed directly upon the Petitioner. Since these taxes are not imposed directly upon the Petitioner, therefore, the said amount has been made part of the engineering portion of the EPC cost.



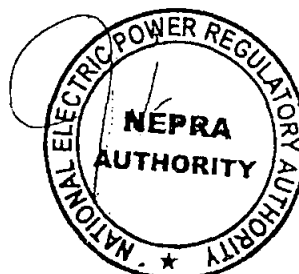


**Adjustment of Project Development Cost:**

13. It is noted that the PDC of USD 1.5 million was allowed to the Petitioner in the Tariff Determination while providing that the same shall be converted in PKR using the exchange rate of Rs. 105/USD to compute the maximum amount to be allowed at the time of COD. Accordingly, the maximum amount to be allowed under this head works out to be around Rs. 157.50 million. The Petitioner in its Adjustment Application has claimed PDC of Rs. 185.02 million; details are given hereunder:

Project Development Cost	Claimed (PKR Million)
Feasibility Studies including grid interconnection study and IEE	1.76
Owner's Engineer	12.00
Independent Engineer under EPA	2.93
Legal Advisors	67.41
Other Advisors (Insurance, Environment, etc.)	18.43
Fees and Permits	10.22
Administration Cost	72.26
<b>Total</b>	<b>185.02</b>

14. The Auditor has submitted that the Company has spent Rs. 185.02 million (USD 1.76 million) in respect of PDC. However, the Auditor has qualified that the employee's insurance premium paid by GSL for the period from March 01, 2019 to February 29, 2020 has been claimed under this head while noting that premium amounting Rs. 73,224 pertains to the period after COD (December 23, 2019).
15. The Petitioner submitted that the Authority had allowed USD 1.5 million (equivalent to PKR 157.5 million @ Rs. 105/USD) on account of PDC. GSL submitted that it has incurred significantly higher cost under this head on account of the volatile exchange rates during the construction period and challenging site conditions and requested the Authority to allow the actual cost incurred on account of development expenses.
16. As discussed above, security and certain studies cost amounting around Rs. 12.77 million and Rs. 5.09 million respectively were claimed by the Petitioner under the head of EPC, which have been considered under PDC. Further, the claim of L/C Commission amounting Rs. 1.77 million was claimed by GSL under the head of Financing Fee and Charges and the consultancy fee amounting Rs. 1.15 million, with respect to land, was claimed by Ghara under the head of land cost. The said costs are allowed by the Authority under the head of PDC in all the tariff determinations of renewable energy projects, therefore, these claims have also been considered under the head of PDC. Accordingly, the total amount of PDC, while including the above details, works out to be around Rs. 205.80 million.
17. The Petitioner has submitted the copies of contracts, invoices, payment instruments, relevant bank statements, applicable exchange rates etc. in relation to the claim/adjustment of the PDC cost. After considering and checking the documents/information/Audit Report as submitted by the Petitioner, the amount of PDC that could be verified, up till November 23, 2019, works out to be around Rs. 174.98 million. As the PDC to the maximum amount of Rs. 157.50 million (USD 1.50 million) had been allowed in the Tariff Determination, therefore, the Authority has decided to approve the said cost to the maximum allowed limit.





**Adjustment of Land Cost:**

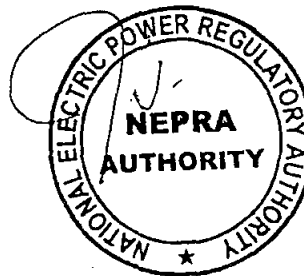
18. The cost of land amounting USD 1.19 million was allowed to the Petitioner in the Tariff Determination while providing that the same shall be converted in PKR using the exchange rate of Rs. 105/USD to compute the maximum amount to be allowed at the time of COD. Accordingly, the maximum amount to be allowed under this head works out to be around Rs. 124.95 million. The Petitioner in its Adjustment Application has claimed land cost of PKR 126.29 million; details are given hereunder:

Land Cost	Claimed (PKR Million)
Land Cost	116.63
Official Site Demarcation	0.60
Official Land Use Charges	9.06
<b>Total Land Cost</b>	<b>126.29</b>

19. BDO in its report has stated that the cost of land as claimed by the Petitioner is Rs. 126.29 million. However, the Auditor stated that withholding taxes paid on land purchased amounting Rs. 2.03 million have been claimed under the land cost which is adjustable/refundable from the Government. Further, an amount of Rs. 6.06 million has been claimed as No Objection Certificate ("NOC") charges in respect of land, however, actual amount paid in this respect was Rs. 4.25 million, which resulted in an over claimed amount of Rs. 1.81 million.

20. It is noted that the Petitioner has entered into 12 agreements with 10 different parties/land owners/sellers for the purchase of land. Accordingly, 12 different Sale Deeds were executed with the land owners from February 7, 2018 to December 31, 2018 for 250.57 acres and submitted by the Petitioner. Besides above, the Petitioner has submitted the copies of invoices, payment instruments (where applicable), relevant bank statements, in relation to the claim/adjustment of land cost. After considering and checking the documents/information/Audit Report as submitted by the Petitioner, the amount of land cost being allowed in this Decision works out to be around Rs. 120.53 million (USD 1.15 million), using the exchange rate parity of Rs. 105/USD as allowed in the Tariff Determination. Following are the reasons of the difference in the claimed and the allowed land cost:

- Deduction of tax of Rs. 2.03 million which is adjustable/refundable, as qualified by the Auditor.
- Actualization of NOC charges through deduction of extra charges of Rs. 1.81 million, as qualified by the Auditor.
- The cost of Rs. 1.15 million was claimed in respect of legal consultant fee with respect to land, which is made part of PDC and not being considered under the head of Land cost.
- Reduction of around Rs. 0.5 million, being non-verifiable cost, on account of official site demarcation.
- Deduction of land cost of Rs. 0.26 million as the land area exceeded beyond the allowed limit of 250 acres area.

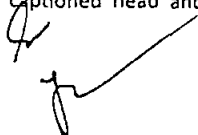
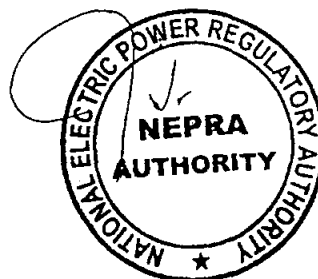


**Adjustment of Financing Fee & Charges:**

21. The cost of financing fee and charges amounting USD 0.75 million was allowed to the Petitioner in the Tariff Determination while providing that the same shall be converted in PKR using the exchange rate of Rs. 105/USD to compute the maximum amount to be allowed at the time of COD. Accordingly, the maximum amount to be allowed under this head works out to be around Rs. 79.12 million. The Petitioner in its Adjustment Application has claimed financing fee and charges of Rs. 109.32 million; details are given hereunder:

Financing Fee & Charges	PKR Million
Commitment Fee	11.15
Arrangement Fee	78.91
Agency Fee	2.50
Trustee Fee	1.00
Monitoring Fee	2.12
EPA L/C Commission	1.77
Lender's out-of-pocket expenses	9.34
Audit Expenses	1.40
Stamp Papers	0.79
Credit Rating Fee	0.35
<b>Total</b>	<b>109.33</b>

22. GSL submitted that it has availed both foreign and local financing for the successful implementation of the Project in the ratio of 60.3% and 39.7% respectively and the aforesaid claimed fee & charges pertains to both financings.
23. According to Audit report, the Petitioner had incurred costs on account of financing fee & charges which have exceeded from the limit defined in the Tariff Determination and provided that Rs. 109.32 million have actually been incurred by the Petitioner on account of this head.
24. The Petitioner has submitted the copies of financing agreements, invoices, payment instruments, relevant bank statements, applicable exchange rates etc. in relation to the claim/adjustment of financing fee and charges.
25. It is noted that the Petitioner had claimed fee & charges related to foreign financing amounting Rs. 73.83 million, however, the amount to the tune of Rs. 73.53 million has been worked out. The reasons of difference of Rs. 297,491 are that (i) the Petitioner had claimed the Commitment Fee till last disbursement, i.e. December 09, 2019 whereas the assessed amount has been restricted till November 23, 2019 (Rs. 207,733) (ii) the difference of Rs. 89,758 is due to exchange rates, i.e. the Petitioner had used higher values of parity compared to the rates on the payment dates, as available on NBP website.
26. For local financing, the Petitioner had claimed fee & charges amounting Rs. 35.50 million, however, the amount to the tune of Rs. 33.69 million has been worked out. The reason of the difference in the claimed and assessed amounts of Rs. 1.80 million are (i) EPA L/C Commission Fee of Rs. 1.77 million is not part of the captioned head and considered under PDC, (ii) the Petitioner had claimed the Commitment Fee

(additional Rs. 38,467) till the date of last disbursement, i.e. December 04, 2019 which has been restricted till November 23, 2019.

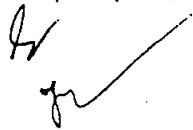
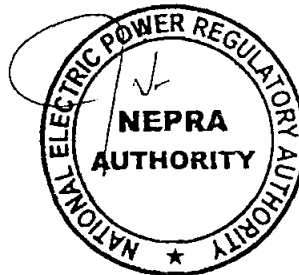
27. It is pertinent to mention here that taxes of Rs. 14.62 million imposed on the financing services have been taken into account and claimed by GSL under the head of Duties and Taxes. These taxes have been considered as part of the captioned cost, due to the reason that the said taxes are not directly imposed on the Petitioner.
28. In view of the above details, the total amount considered under this head works out to be around Rs. 121.84 million. As these fees/charges to the maximum limit of Rs. 79.12 million (USD 0.75 million) had been allowed in the Tariff Determination, therefore, the Authority has decided to approve the said cost to the maximum allowed limit.

**Adjustment of Duties and Taxes:**

29. The Tariff Determination of GSL provides that the 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 Petitioner has claimed total Duties and Taxes of Rs. 70.56 million; breakup thereof is provided as under;

Description	PKR Million
Cess-Module	29.48
Cess-Inverter	7.51
Cess-Tracker	12.28
Cess-EBOP	2.59
Mars Security-Sale Tax	1.28
Ziehm International GmbH-WHT on Income	0.80
Alvus ESG Consulting DMCC-WHT Tax on Income	0.28
Avant-Garde Engineers & Consultants FZC-WHT on Income	2.81
INDECS Consulting Limited-WHT on Income	0.55
Mott MacDonald Limited-WHT Tax on Income	1.13
FMO Entrepreneurial Development Bank-WHT on Income	11.60
Sogreah Gulf-WHT on Income	0.25
<b>Total</b>	<b>70.56</b>

30. With reference to taxes and duties, the Auditor has qualified that sales tax amounting Rs. 0.65 million has been claimed by GSL under EPC cost which is adjustable/refundable from the Government. Further, the Auditor stated that withholding tax amounting Rs. 17.42 million has been paid under the foreign consultancy services agreements and same has been claimed under duties and taxes. The Auditor stated that it understands that pursuant to NEPRA Tariff Determination, duties and/or taxes relating to the construction period will be allowed at actual upon production of verifiable documentary evidence to the satisfaction of the Authority. The Auditor also qualified that it has verified the documentary evidence that the amounts have been paid by the Company under foreign consultancy services agreements.

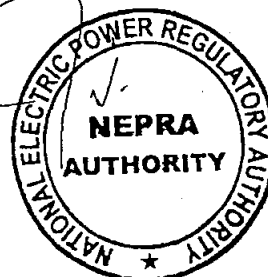




31. The Cess amount (paid in pursuance of the Sindh Development and Maintenance of Infrastructure Cess Act, 2017) in respect of import of modules, inverters, trackers and Electrical Balance of Plant ("EBOP") has been claimed as Rs. 51.87 million, however, the same is being allowed to the limit of Rs. 51.62 million. The reason of the difference of Rs. 0.25 million is due to not allowing the claim of the Petitioner with respect to de-blocking charges. The Authority noted de-blocking charges, primarily incurred due to late filing of goods declaration, which have not been allowed by the Authority in any of the previous tariff cases, therefore, the same have not been considered in the subject case also.
32. The sales tax on Mars Security (paid in pursuance of Notification No. SRB-3-4/8/2013 of Sindh Sales Tax on Services) of Rs. 1.28 million has also been verified from the documents as submitted by the Petitioner. As per the said notification, the sales tax of 10% paid by the Company on security services is not adjustable, hence, this claim of the Petitioner has been taken into account.
33. The Withholding Tax ("WHT") on income paid by the company amounting Rs. 2.81 million with respect to Avant Grande Engineers, not directly imposed on GSL, has been considered under the EPC cost. Further, the remaining taxes of Rs. 14.62 million imposed on the financing services have been taken into account under the head of financing fee and charges as these are not directly imposed on Ghara and therefore not considered under the captioned head. With respect to the qualification of the Auditor about the inclusion of adjustable taxes of Rs. 0.65 million under the EPC cost, it is informed that the said taxes have not been allowed to the Petitioner.
34. In view of the above discussions, the total amount being allowed in respect of Duties and Taxes works out to be around Rs. 52.90 million. The amount in PKR has been converted in USD 0.34 million, using the exchange rates, as available on NBPs website, on the dates of respective payments of these duties/taxes.

**Adjustment of Interest during construction:**

35. In the Tariff Determination, GSL was allowed the Interest during Construction ("IDC") of USD 0.676 million. The said amount of IDC was computed based on 100% foreign financing using London Inter-Bank Offer Rate ("LIBOR") of 1.69428% while allowing the margin thereon of 4.25%.
36. It was stated in the Tariff Determination that the allowed IDC shall be re-computed at COD, for the allowed construction period, starting from the date of FC, on the basis of actual drawdowns (within the overall debt allowed by the Authority at COD) by applying 3 month LIBOR, applicable at the day of respective drawdowns. It was also stated in the Tariff Determination that in case the Company shall secure full or certain portion of debt under any concessionary financing, including one introduced by SBP, the tariff of the Company shall be adjusted at COD on the terms of the said financing.
37. According to the Petitioner, the Project was financed through a debt to equity ratio of 75:25. GSL informed that the debt has been secured from both local and foreign sources in the ratio of 39.70% and 60.30% respectively.
38. Ghara submitted that it raised foreign debt of USD 22.50 million through FMO at LIBOR + 4.25%. GSL informed that the foreign loan of USD 18.50 million (~ 82.22% of USD 22.50 million) had been disbursed till November 23, 2019. According to the Petitioner, it has claimed IDC of USD 499,902, based on actual





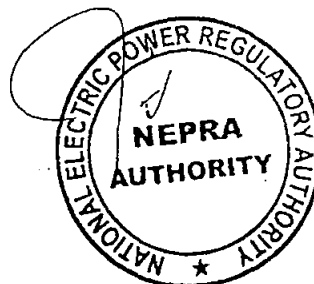
drawdowns for a period of 10 months till November 23, 2019, and did not claim IDC till the actual COD i.e., December 23, 2019, on the assumptions that the additional amount was outside the scope of NEPRA approved construction period of 10 months.

39. GSL submitted that the local debt of Rs. 2,128 million was secured from both Bank Alfalah Limited (48.31%) and Bank of Punjab (52.69%) under the SBP revised financing scheme for renewable energy dated June 20, 2016. The local loan of Rs. 2,070.56 million (97.30% of 2,180.00 million) had been disbursed till November 23, 2019 and the Petitioner submitted that IDC on actual loan disbursed till November 23, 2019 has been claimed. According to the Petitioner, based on the SBP Scheme, 2016, the Petitioner negotiated a fixed rate of 5%, however, subsequent to the revision of the SBP Scheme on July 26, 2019, the fixed rate increased to 6% because the SBP enhanced its refinance rate from 2% to 3% in the revised SBP Scheme. GSL informed that out of Rs. 2,128 million (total local loan amount), Rs. 206.41 million has been financed at 5% whereas the remaining portion has been financed at fixed rate of 6%. Ghara also informed that the IDC amount on the local loan has been paid and claimed on the disbursed amounts at KIBOR + 1.5%, till the time those portions are refinanced by the SBP, after which the applicable rate of refinance is applied on those amounts.
40. The breakup of the claimed IDC as provided by the Petitioner is reproduced hereunder:

Bank	IDC (PKR Million)
Bank of Punjab	48.03
Bank Alfalah Limited	39.12
FMO	76.38
<b>Total</b>	<b>163.52</b>

41. The Petitioner has submitted the copies of financing agreements, commercial invoices, payment instruments, relevant bank statements, details of drawdowns, applicable exchange rates etc. in relation to the claim of IDC amount.
42. The Authority has checked all the above documents as submitted by the Petitioner. The drawdowns and the workings of claimed IDC have also been checked. Based on these documents/workings, the amount of verified/assessed IDC on foreign and local loans comes out to be around Rs. 75.87 million and Rs. 86.56 million respectively. The reason of difference is that the Petitioner had calculated IDC till November 24, 2019 instead of November 23, 2019.
43. The Authority has decided not to allow the Petitioner certain costs under EPC, Non-EPC, land and other items due to reasons explained above. Based on the above discussed allowed costs, the IDC works out as follows:

Debt Financing	IDC (PKR Million)
Local debt	76.14
Foreign debt	63.74
<b>Total</b>	<b>139.88</b>





44. The above figures of IDC have been computed while proportionating the verified/assessed IDC on the disbursed portion of the assessed loans. That is, the percentage of actual loans withdrawn till November 23, 2019 is applied on the assessed loans and on that amount, the verified amounts of IDC have been proportionated.
45. Recapitulating all the above, the summary of the project cost as allowed in the Tariff Determination, claimed by GSL in the Tariff Adjustment Application and being approved in this Decision is given below:

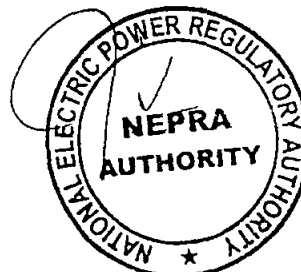
Project Cost Heads	Claimed		Approved	
	USD Million	PKR Million	USD Million	PKR Million
EPC	37.49	5,710.09	37.38	5,690.17
Duties & Taxes	0.67	70.56	0.34	52.89
PDC	1.76	185.02	1.50	157.50
Land	1.20	126.29	1.15	120.53
Financing Charges	1.04	109.32	0.75	79.12
IDC	1.56	163.52	0.90	139.88
Total	43.72	6,364.80	42.02	6,240.09

**Adjustment of Degradation**

46. The Authority allowed the degradation of USD 1.36 million 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. On the basis of the EPC cost being allowed in this Decision, the revised amount of degradation works out to be around USD 1.35 million. As no variations had been allowed on the degradation part in the Tariff Determination, hence, the corresponding PKR amount at Rs. 105/USD works out to be around Rs. 142.13 million.

**Adjustment of Debt Servicing:**

47. In the Tariff Determination, the loan amount of USD 32.23 million had been allowed to the Petitioner. The debt servicing of 13 years had been computed using the LIBOR of 1.69428% while allowing 4.25% margin thereon.
48. While accounting for the degradation amount, the total project cost being allowed to Ghara works out to be around Rs. 6,382.22 million (USD 43.37 million). Accordingly, the amount of loans (75%) comes out as around Rs. 4,786.67 million (USD 32.53 million). The amount of foreign loan (60.30%) comes out as Rs. 2,886.36 million (USD 19.62 million) and the amount of local loan (39.70%) comes out as Rs. 1,900.31 million (USD 12.91 million)
49. The debt servicing of approved foreign loan in this Decision has been computed using 3-month LIBOR rate of September 30, 2019, i.e. 2.08513% and margin of 4.25%. The debt servicing period of thirteen (13) years has been used, as agreed by the Petitioner with its lenders.
50. The debt servicing of approved local loan in this Decision has been computed using fixed rate of 5.9418%. As discussed above, the Petitioner secured loan of around Rs. 206.41 million out of Rs. 2,128 million, i.e.





9.70% at fixed rate of 5% and the remaining loan at fixed cost of 6%. Using the weightage of loans, the average cost come out as 5.903%. It was stated in the Tariff Determination that savings in the financing cost/spread shall be shared between power producer and purchaser in the ratio of 40:60. Accordingly, the cost being allowed for the service of local loan comes out as 5.9418%. The debt servicing period of 11 years has been used, as agreed by the Petitioner with its lenders.

**Adjustment of Equity Amount & Return on Equity ("ROE"):**

51. In the Tariff Determination, the equity amount of USD 10.74 million was allowed to the Petitioner. As discussed above, the total project cost (inclusive of degradation) being allowed to Ghara works out to be around Rs. 6,382.22 million (USD 43.37 million). Accordingly, the amount of equity (25%) comes out as around Rs. 1,595.56 million (USD 10.84 million). The amount and corresponding tariff of ROE have been computed in this Decision considering monthly cash flows so that effective yearly return comes out as 15%.

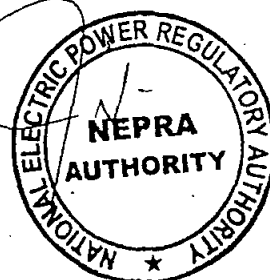
**Adjustment of Return on Equity during Construction ("ROEDC"):**

52. In the Tariff Determination, the amount of USD 0.63 million (corresponding component of Rs. 0.1050/kWh) was allowed to the Petitioner in respect of ROEDC. The said amount was computed using return rate of 15% for the construction period of 10 months based on notional drawdowns. It was stated in the Tariff Determination that 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.
53. The total equity injections amounting Rs. 1,747.92 million have been verified from the documents as submitted by the Petitioner. Based on these injections, the total ROEDC works out to be around Rs. 190.09 million. On the basis of approved equity amount (without degradation) of Rs. 1,560.02 million, the ROEDC of 10 months construction period, at approved rate of 15%, comes out as Rs 169.66 million (USD 1.15 million). The allowed amount has been computed while proportionating the assessed ROEDC (Rs. 190.09 million) on the equity amount being approved in this Decision (exclusive of degradation).

54. **ORDER**

Pursuant to Section 7 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with Rule 6 of the NEPRA Licensing (Generation) Rules, 2000, Ghara Solar Limited (Petitioner) is allowed to charge the following specified/approved tariff for delivery of electricity to K-Electric:

Tariff Components	Year 1-11	Year 12-13	Year 14-25
	Rs./kWh		
O&M-Local	0.4688	0.4688	0.4688
O&M-Foreign	0.6358	0.6358	0.6358
Insurance during Operation	0.3010	0.3010	0.3010
Return on Equity	2.4554	2.4554	2.4554
Return on Equity during Construction	0.2693	0.2693	0.2693
Debt Servicing	6.0170	3.5853	-
Total	10.1473	7.7156	4.1303





- Levelized tariff works out to be US Cents 5.5367/kWh.
- The aforementioned tariff is applicable for twenty five (25) years from COD.
- Debt to Equity ratio of 75:25 has been used.
- The ratio of local and foreign loans of 60.30 : 39.70 has been used.
- Repayment Period of 13 years for Foreign Debt has been used.
- Foreign Debt Servicing has been worked out using three months LIBOR (2.08513%) + Spread (4.25%).
- Repayment Period of 11 years for Local Debt has been used.
- Local Debt Servicing has been worked out using fixed rate of 5.9418%.
- Return on Equity during construction and operation of 15% has been allowed.
- Insurance during Operation has been calculated as 0.50% of the allowed EPC Cost.
- Reference Exchange Rates of Rs. 156.70/USD has been used.
- Detailed component wise tariff is attached as Annex-I of this order.
- Foreign Debt Servicing Schedule is attached as Annex-II of this order.
- Local Debt Servicing Schedule is attached as Annex-III of this order.

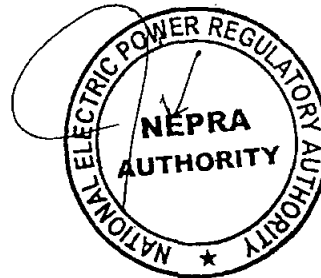
**A. Indexations**

The tariff being approved in this Decision shall be applicable for the electricity supplied by Ghara to K-Electric Ltd. from December 23, 2019 till December 31, 2019. Subsequently, the adjustments in the tariff components shall be made as per the mechanism explained below:

**i) Operation and Maintenance Costs**

O&M components of tariff shall be adjusted on account of change in local Inflation (N-CPI), foreign inflation (US CPI) and exchange rate on quarterly basis on 1<sup>st</sup> July, 1<sup>st</sup> October, 1<sup>st</sup> January and 1<sup>st</sup> April based on the latest available information with respect to N-CPI notified by the Pakistan Bureau of Statistics (PBS), US CPI issued by US Bureau of Labor Statistics and revised TT & OD selling rate of US Dollar, notified by the National Bank of Pakistan, as per the following mechanism:

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
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)
US CPI (REF)	=	The reference US CPI of 256.56 for the month of August, 2019
N-CPI (REV)	=	The revised N-CPI (General)
N-CPI (REF)	=	The reference N-CPI (General) of 125.90 for the month of August 2019
ER (REV)	=	The revised TT & OD selling rate of US dollar of the last day of the preceding quarter
ER (REF)	=	The reference TT & OD selling rate of Rs.156.70/USD

ii) Insurance during Operation

The actual insurance cost for the minimum cover required under contractual obligations with the Power Purchaser, not exceeding 0.5% of the 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:

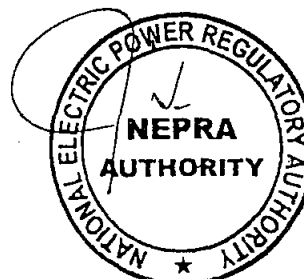
AIC	=	$\text{Ins (Ref)} / \text{P (Ref)} * \text{P (Act)}$
Where;		
AIC	=	Adjusted insurance component of tariff
Ins (Ref)	=	Reference insurance component of tariff
P (Ref)	=	Reference premium @ 0.5% of EPC Cost at Rs. 29.29 million
P (Act)	=	Actual premium OR 0.5% of the EPC Cost converted into Pak Rupees on exchange rate prevailing at the time of insurance premium payment of the insurance coverage period, whichever is lower

iii) Return on Equity

The ROE & ROEDC components of the tariff will be adjusted on quarterly basis on account of change in USD/PKR parity. The variation relating to these components shall be worked out according to the following formula;

ROE(Rev)	=	$\text{ROE(Ref)} * \text{ER(Rev)} / \text{ER(Ref)}$
ROEDC(Rev)	=	$\text{ROEDC(Ref)} * \text{ER(Rev)} / \text{ER(Ref)}$
Where;		
ROE(Rev)	=	Revised ROE Component of Tariff
ROE(Ref)	=	Reference ROE Component of Tariff
ROEDC(Rev)	=	Revised ROEDC Component of Tariff

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ROEDC(Ref)	=	Reference ROEDC Component of Tariff
ER(Rev)	=	The revised TT & OD selling rate of US dollar of the last day of the preceding quarter, as notified by the National Bank of Pakistan
ER(Ref)	=	The reference TT & OD selling rate of Rs.156.70/USD

iv) **Indexations applicable to debt**

Foreign debt and its interest 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 of Rs.156.70/USD.

v) **Variations in LIBOR**

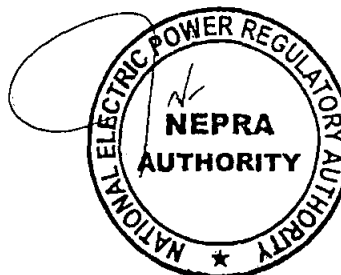
The interest part of the foreign loan shall be adjusted quarterly as a result of variation in LIBOR according to the following formula;

$\Delta I$	=	$P(REV) * (LIBOR(REV) - 2.08513\%) / 4$
Where;		
$\Delta I$	=	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 < 2.08513%. The interest payment obligation will be enhanced or reduced to the extent of $\Delta I$ for each quarter under adjustment.
P (REV)	=	The outstanding principal (as indicated in the attached debt service schedule to this order), at the relevant quarterly calculations date. Quarter 1 shall commence on the commercial operations date (i.e. the first figure will be used for the purposes of calculation of interest for the first quarter after commercial operations date).
LIBOR (REV)	=	Revised 3 month LIBOR as at the last day of the preceding quarter

B. **Terms and Conditions**

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

- This tariff approved in this Decisions will be limited to the extent of net annual energy generation supplied to the power purchaser up to 22.21% net annual plant capacity factor. Net annual energy generation supplied to the power purchaser in a year, in excess of 22.21% net annual plant capacity factor will be charged at the following tariffs:





Decision of the Authority in the matter of Tariff Adjustment at  
Commercial Operations Date of Ghara Solar Limited

<u>Net annual plant capacity factor</u>	<u>% of the prevalent tariff to GSL</u>
Above 22.21% to 23.21%	0%
Above 23.21% to 24.21%	80%
Above 24.21% to 25.21%	90%
Above 25.21%	100%

- The risk of solar resource shall be borne by the power producer.
- 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.
- Allowed limit of degradation has been made part of the approved project cost. No extra financial compensation shall be provided in the EPA.
- Any reductions in the financing cost (both foreign and local) during the operations period shall be shared between the power purchaser and producer in the ratio of 60:40.

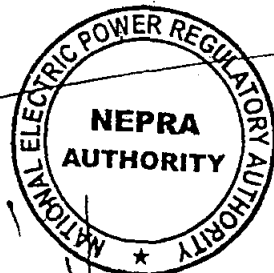
55. The Order part along with three (03) Annexures (revised tariff table and debt servicing schedules) is recommended for notification by the Federal Government in the official gazette in accordance with Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

**AUTHORITY**

(Rehmatullah Baloch)  
Member

(Rafique Ahmed Shaikh)  
Member

Tauseef H. Farooqi  
Chairman



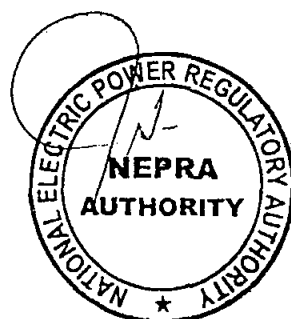
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## GHARO SOLAR LIMITED

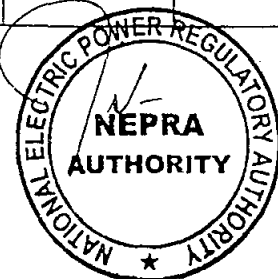
## Tariff Table

Year	O&M Local	O&M Foreign	Insurance	Return on Equity	ROEDC	Loan Repayment	Interest Charges	Tariff
	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh	Rs. / kWh
1	0.4688	0.6358	0.3010	2.4554	0.2693	2.9213	3.0957	10.1473
2	0.4688	0.6358	0.3010	2.4554	0.2693	3.1054	2.9116	10.1473
3	0.4688	0.6358	0.3010	2.4554	0.2693	3.3012	2.7156	10.1473
4	0.4688	0.6358	0.3010	2.4554	0.2693	3.5093	2.5077	10.1473
5	0.4688	0.6358	0.3010	2.4554	0.2693	3.7306	2.2864	10.1473
6	0.4688	0.6358	0.3010	2.4554	0.2693	3.9659	2.0512	10.1473
7	0.4688	0.6358	0.3010	2.4554	0.2693	4.2159	1.8011	10.1473
8	0.4688	0.6358	0.3010	2.4554	0.2693	4.4818	1.5352	10.1473
9	0.4688	0.6358	0.3010	2.4554	0.2693	4.7645	1.2525	10.1473
10	0.4688	0.6358	0.3010	2.4554	0.2693	5.0650	0.9520	10.1473
11	0.4688	0.6358	0.3010	2.4554	0.2693	5.3845	0.6326	10.1473
12	0.4688	0.6358	0.3010	2.4554	0.2693	3.2377	0.3476	7.7157
13	0.4688	0.6358	0.3010	2.4554	0.2693	3.4477	0.1376	7.7157
14	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
15	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
16	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
17	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
18	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
19	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
20	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
21	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
22	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
23	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
24	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
25	0.4688	0.6358	0.3010	2.4554	0.2693	-	-	4.1303
Levelized Tariff	0.4688	0.6358	0.3010	2.4554	0.2693	2.9525	1.5933	8.6761



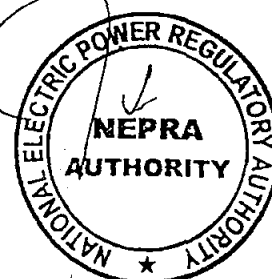
**GHARO SOLAR LIMITED**  
**Debt Servicing Schedule (Foreign Loan)**

Relevant Quarters	Base amount (USD)	Principal Repayment (USD)	Interest (USD)	Balance Principal (USD)	Total Debt Service (Million USD)	Annual Principal Repayment Rs./kWh	Annual Interest Rs./kWh
1	19,615,130	245,785	310,661	19,369,345	556,446	1.6217	1.9637
2	19,369,345	249,678	306,768	19,119,668	556,446		
3	19,119,668	253,632	302,814	18,866,036	556,446		
4	18,866,036	257,649	298,797	18,608,387	556,446		
5	18,608,387	261,730	294,716	18,346,657	556,446	1.7269	1.8584
6	18,346,657	265,875	290,571	18,080,783	556,446		
7	18,080,783	270,086	286,360	17,810,697	556,446		
8	17,810,697	274,363	282,083	17,536,334	556,446		
9	17,536,334	278,709	277,737	17,257,625	556,446	1.8389	1.7464
10	17,257,625	283,123	273,323	16,974,503	556,446		
11	16,974,503	287,607	268,839	16,686,896	556,446		
12	16,686,896	292,162	264,284	16,394,734	556,446		
13	16,394,734	296,789	259,657	16,097,945	556,446	1.9582	1.6271
14	16,097,945	301,489	254,956	15,796,456	556,446		
15	15,796,456	306,264	250,182	15,490,191	556,446		
16	15,490,191	311,115	245,331	15,179,077	556,446		
17	15,179,077	316,042	240,404	14,863,034	556,446	2.0852	1.5001
18	14,863,034	321,048	235,396	14,541,986	556,446		
19	14,541,986	326,132	230,313	14,215,854	556,446		
20	14,215,854	331,298	225,148	13,884,556	556,446		
21	13,884,556	336,545	219,901	13,548,012	556,446	2.2205	1.3648
22	13,548,012	341,875	214,571	13,206,137	556,446		
23	13,206,137	347,289	209,156	12,858,847	556,446		
24	12,858,847	352,790	203,656	12,506,058	556,446		
25	12,506,058	358,377	198,069	12,147,680	556,446	2.3646	1.2208
26	12,147,680	364,053	192,393	11,783,627	556,446		
27	11,783,627	369,819	186,627	11,413,808	556,446		
28	11,413,808	375,676	180,770	11,038,132	556,446		
29	11,038,132	381,626	174,820	10,656,507	556,446	2.5180	1.0674
30	10,656,507	387,670	168,776	10,268,837	556,446		
31	10,268,837	393,810	162,636	9,875,027	556,446		
32	9,875,027	400,047	156,399	9,474,980	556,446		
33	9,474,980	406,383	150,063	9,068,597	556,446	2.6813	0.9040
34	9,068,597	412,819	143,627	8,655,778	556,446		
35	8,655,778	419,357	137,089	8,236,421	556,446		
36	8,236,421	425,999	130,447	7,810,422	556,446		
37	7,810,422	432,746	123,700	7,377,676	556,446	2.8552	0.7301
38	7,377,676	439,600	116,846	6,938,076	556,446		
39	6,938,076	446,562	109,884	6,491,514	556,446		
40	6,491,514	453,634	102,811	6,037,880	556,446		
41	6,037,880	460,819	95,627	5,577,061	556,446	3.0405	0.5449
42	5,577,061	468,117	88,329	5,108,944	556,446		
43	5,108,944	475,531	80,915	4,633,412	556,446		
44	4,633,412	483,063	73,383	4,150,350	556,446		
45	4,150,350	490,713	65,733	3,659,636	556,446	3.2377	0.3476
46	3,659,636	498,485	57,961	3,161,151	556,446		
47	3,161,151	506,380	50,066	2,654,771	556,446		
48	2,654,771	514,400	42,046	2,140,371	556,446		
49	2,140,371	522,547	33,899	1,617,824	556,446	3.4477	0.1376
50	1,617,824	530,823	25,623	1,087,001	556,446		
51	1,087,001	539,230	17,216	547,770	556,446		
52	547,770	547,770	8,675	-	556,446		



**GHARO SOLAR LIMITED**  
Debt Servicing Schedule (Local Loan)

Relevant Quarters	Base amount (Rs.)	Principal Repayment (Rs.)	Interest (Rs.)	Balance Principal (Rs.)	Total Debt Service (Rs.)	Annual Principal Repayment Rs./kWh	Annual Interest Rs./kWh
1	1,900,367,474	30,910,312	28,228,117	1,869,397,162	55,138,429	1.2996	1.1321
2	1,869,397,162	31,369,469	27,768,960	1,838,027,693	59,138,429		
3	1,838,027,693	31,835,447	27,302,982	1,806,192,246	59,138,429		
4	1,806,192,246	32,308,347	26,830,083	1,773,883,899	59,138,429		
5	1,773,883,899	32,788,271	26,350,158	1,741,095,628	59,138,429	1.3785	1.0531
6	1,741,095,628	33,275,324	25,863,105	1,707,820,304	59,138,429		
7	1,707,820,304	33,769,613	25,368,817	1,674,050,692	59,138,429		
8	1,674,050,692	34,271,243	24,867,186	1,639,779,448	59,138,429		
9	1,639,779,448	34,780,325	24,358,104	1,604,999,123	59,138,429	1.4623	0.9694
10	1,604,999,123	35,296,970	23,841,459	1,569,702,153	59,138,429		
11	1,569,702,153	35,821,289	23,317,141	1,533,880,865	59,138,429		
12	1,533,880,865	36,353,396	22,785,033	1,497,527,469	59,138,429		
13	1,497,527,469	36,893,407	22,245,022	1,460,634,061	59,138,429	1.5511	0.8805
14	1,460,634,061	37,441,441	21,696,989	1,423,192,621	59,138,429		
15	1,423,192,621	37,997,614	21,140,815	1,385,195,006	59,138,429		
16	1,385,195,006	38,562,050	20,576,379	1,346,632,956	59,138,429		
17	1,346,632,956	39,134,870	20,003,559	1,307,498,086	59,138,429	1.6454	0.7863
18	1,307,498,086	39,716,199	19,422,230	1,267,781,887	59,138,429		
19	1,267,781,887	40,306,163	18,832,266	1,227,475,724	59,138,429		
20	1,227,475,724	40,904,891	18,233,538	1,186,570,833	59,138,429		
21	1,186,570,833	41,512,513	17,625,916	1,145,058,320	59,138,429	1.7453	0.6863
22	1,145,058,320	42,129,160	17,009,269	1,102,929,160	59,138,429		
23	1,102,929,160	42,754,968	16,383,461	1,060,174,192	59,138,429		
24	1,060,174,192	43,390,072	15,748,358	1,016,784,120	59,138,429		
25	1,016,784,120	44,034,610	15,103,820	972,749,511	59,138,429	1.8514	0.5803
26	972,749,511	44,688,722	14,449,708	928,060,789	59,138,429		
27	928,060,789	45,352,550	13,785,879	882,708,239	59,138,429		
28	882,708,239	46,026,240	13,112,190	836,681,999	59,138,429		
29	836,681,999	46,709,936	12,428,493	789,972,063	59,138,429	1.9639	0.4678
30	789,972,063	47,403,789	11,734,640	742,568,274	59,138,429		
31	742,568,274	48,107,949	11,030,480	694,460,325	59,138,429		
32	694,460,325	48,822,568	10,315,861	645,637,756	59,138,429		
33	645,637,756	49,547,803	9,590,626	596,089,953	59,138,429	2.0832	0.3485
34	596,089,953	50,283,811	8,854,618	545,806,142	59,138,429		
35	545,806,142	51,030,752	8,107,677	494,775,390	59,138,429		
36	494,775,390	51,788,788	7,349,641	442,986,602	59,138,429		
37	442,986,602	52,558,085	6,580,344	390,428,517	59,138,429	2.2097	0.2219
38	390,428,517	53,338,809	5,799,620	337,089,709	59,138,429		
39	337,089,709	54,131,130	5,007,299	282,958,578	59,138,429		
40	282,958,578	54,935,221	4,203,208	228,023,357	59,138,429		
41	228,023,357	55,751,256	3,387,173	172,272,101	59,138,429	2.3440	0.0877
42	172,272,101	56,579,413	2,559,016	115,692,688	59,138,429		
43	115,692,688	57,419,872	1,718,557	58,272,816	59,138,429		
44	58,272,816	58,272,816	865,614	(0)	59,138,429		





REGISTRAR

**National Electric Power Regulatory Authority**  
Islamic Republic of Pakistan

NEPRA Tower, G-5/1, Attaturk Avenue, Islamabad  
Phone: 9206500, Fax: 2600026  
Website: [www.nepra.org.pk](http://www.nepra.org.pk), Email: [info@nepra.org.pk](mailto:info@nepra.org.pk)


No. NEPRA/TRF-534/8/91

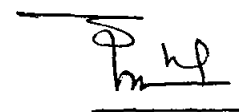
May 27, 2022

The Manager  
Printing Corporation of Pakistan Press (PCPP)  
Khayaban-e-Suharwardi,  
Islamabad.

Subject: **NOTIFICATION REGARDING THE DECISION OF THE AUTHORITY  
NATIONAL ELECTRIC POWER REGULATORY AUTHORITY IN THE  
MATTER OF TARIFF ADJUSTMENT AT COMMERCIAL  
OPERATIONS DATE OF GHARO SOLAR LTD. (GSL)**

In pursuance of Sub-Section 7 of Section 31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997); enclosed please find herewith '*Decision of the Authority National Electric Power Regulatory Authority in the matter of Tariff Adjustment at Commercial Operations Date of Gharo Solar Ltd. (GSL)*' for immediate publication in the official Gazette of Pakistan. Please also furnish thirty five (35) copies of the Notification to this Office after its publication.

 Encl: Notification (19 Pages) & CD

  
270522  
(Syed Safeer Hussain)