



National Electric Power Regulatory Authority Islamic Republic of Pakistan

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No. NEPRA/R/ADG(Trf)/TRF-531/Lawi-2020/41722-41724
November 29, 2021

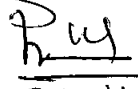
Subject: Decision of the Authority in the matter of Motion for Leave for Review filed by Pakhtunkhwa Energy Development Organization (PEDO) for 69 MW Lawi Hydropower Project (Case No. NEPRA/TRF-531/Lawi-2020)

Dear Sir,

Please find enclosed herewith the subject Decision of the Authority along with Annex-I & II (14 Pages) in Case No. NEPRA/TRF-531/Lawi-2020.

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.
3. The Order along with Reference Tariff Table (Annex-I) and Debt Servicing Schedule (Annex-II) of the Authority's Decision are to be notified in the official Gazette.

Enclosure: As above


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(Syed Safeer Hussain)

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

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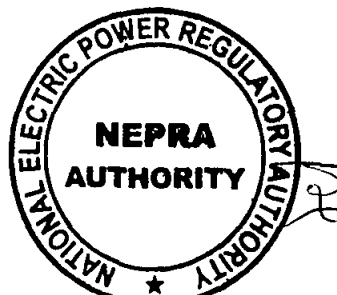
1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.

DECISION OF THE AUTHORITY IN THE MATTER OF MOTION FOR LEAVE FOR REVIEW FILED BY PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION (PEDO) FOR 69 MW LAWI HYDROPOWER PROJECT

1. Pakhtunkhwa Energy Development Organization (hereinafter referred to as the "Petitioner" or PEDO), vide its letter dated March 26, 2021, filed a motion for leave for review (hereinafter referred to as "Review Motion"), seeking review of the determination of National Electric Power Regulatory Authority (hereinafter referred to as "the Authority") dated March 15, 2021, in the matter of determination of tariff for 69 MW Lawi hydropower Project (hereinafter referred to as "impugned determination").
2. The Review Motion was considered and admitted on April 13, 2021, for further proceedings. It was also decided to provide an opportunity of hearing to the parties to the proceedings; accordingly, the hearing in this regard was held on June 08, 2021, through online application zoom for which letters of invitation were sent for seeking of comments. The hearing was attended by the Petitioner, CPPA-G, and other stakeholders.
3. **Grounds of Review Motion:** The Petitioner requested for the review of the following parameters in the Review Motion;
 - i. Average annual energy generation
 - ii. EPC Cost:
 - iii. Construction period
 - iv. Transmission line cost
 - v. Cost of loan arrangement/financing fee/ commitment fee
 - vi. Cost of Debt
 - vii. Return on equity (ROE)
 - viii. Project Development Cost (PDC)
 - ix. Insurance Cost
 - x. Auxiliary consumption
 - xi. O&M Cost
 - xii. Cost of Management Consultants
4. The submissions of the Petitioner are as follows:
 - i. **Average annual energy generation:** The annual energy generations of 302.80 GWh and 337.89 GWh have been taken in the revised PC-I for Economic and Financial analysis, based on which the 4-hour peaking option was adopted as it will yield more annual energy as compared to the 2 hours peaking hours. Further, the energy of 302.80 GWh has been approved in the generation license and was also considered by IRSA for issuance of its NOC. Therefore, the same may be considered.
 - ii. **EPC Cost:** The Authority has approved the EPC cost of USD 110.95 million and custom duties of USD 2.62 million for the Project against the claim of USD 115.24 million. The disallowed provisional sum is as per the EPC contract, therefore, the Authority is requested to review its decision and allow the same.



- iii. **Construction period:** The Authority in the impugned determination has ignored the invitation of Bids and signed EPC contract for the construction period of 60 months and has not mentioned any same size of project for comparison of the construction period. The basis for this construction period is (i) the initial 12 months of the construction area for the Geotechnical Investigations and Detailed Design of the Project. (ii) the balance of 48 months period is for the huge quantum of construction work. (iii) the location of the project in terrain area wherein the access to the project in winter is challenging (iv) the construction period of 60 months is fully justified and allowed as per the (Benchmark for Determination) Guidelines 2018 of NEPRA.
- iv. **Transmission line cost:** The Authority in the impugned determination has ignored the fact that in the revised PC-I, the Executive Committee of National Economic Council (ECNEC) has approved the cost of USD 2.4 million for the transmission line, therefore the same should be reconsidered.
- v. **Cost of loan arrangement/financing fee/ commitment fee:** Financing fee was claimed according to NEPRA (Benchmark for Tariff Determination) Guidelines, 2018. Therefore, the Authority is requested to review the decision and allow a financing fee of 2%.
- vi. **Cost of Debt:** Hydel Development Fund (HDF) has charged the cost of debt (interest during construction) @ 10.09% against letter no. 1-12(KPFM)FD/2019-20/Hydel/Vol: XII dated February 10th, 2020. Further as per the (Benchmark for Determination) Guidelines 2018 of NEPRA, "in case of any energy projects other than those specified in sub-clause (2), (3), (4), (5) and (6) above, a spread not exceeding 2.25% over KIBOR shall be approved with savings in the spread to be shared between the power producer and power purchaser in the ratio of 50:50." The Authority has approved the cost of debt at 6-month KIBOR of 7.35% which shall be adjusted biannually. As per the NEPRA aforementioned Benchmarks, 2.25% will be added in the KIBOR and the cost of the debt for EPC tariff will be adjusted at $7.35\% + 2.25\% = 9.60\%$ biannually. The Authority is requested to review its decision based on the two options: (i) 10.09% and (i) 9.60%.
- vii. **Return on equity (ROE):** The Authority has reduced the allowed ROE to 10% without any justifiable argument and ignored the facts for compensation of loss due to this reduction. As per the decision of the CCoE and Ministry of Energy, the financial deficit shall be arranged through PSDP funding and Finance Division due to reduction in return on equity for public sector projects funded by the federal Govt. like the WAPDA hydroelectric, GENCOs, and Nuclear Power Plant, etc. Further, the CCoE decision was only applicable on the public sector projects funded by Federal Government specifically WAPDA Hydroelectric, GENCOs, and Nuclear Power Plant. Wherein the financial deficit if any, will be arranged by the Federal Government either through PSDP (Diamer Basha, Mohmand, and Dasu) or funded by Finance Division to support loss-making GENCOs, while in our case there is no such compensation,



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therefore the Authority may compensate the loss as per the CCoE decision or allow return @ 17%.

- viii. **Project Development Cost (PDC):** The cost of USD 0.22 million as allowed for Jabori HPP has also been allowed for 69 MW Lawi HPP and this is not justifiable as both projects are not comparable. The claimed cost of USD 1.44 million was also approved by ECNEC for Lawi HPP as PDC and therefore, the same is justified and be approved.
- ix. **Insurance Cost:** The Authority has reduced the allowed insurance during operation from 1% to 0.75% without any justification and requested to allow insurance cost @ 1% of EPC cost in accordance with NEPRA (Benchmarks for Tariff Determination) wherein for Hydel projects over 50 MW, 1% of the EPC is allowed.
- x. **Auxiliary Consumption:** The application of the EPC stage is based on gross energy of 303 GWh less auxiliary consumption of 1% with net energy of 299.97 GWh. The auxiliary consumption of 1% was also approved for the Daral Khawar HPP. Therefore the Authority is requested to review its decision and allow 1% auxiliary consumption.
- xi. **O&M Cost:** It is a natural phenomenon that for more capacity, turbines need higher O&M cost and the Authority has approved O&M cost of 1.8% of assessed Capex in case of Daral Khwar Hydropower Project, therefore the same parameter may also be considered for Lawi.
- xii. **Management Consultants (MC):** The claimed cost of Rs. 490.41 million or USD 2.94 million (1 USD = 166.587 PKR) was reviewed in the CDWP forum which was also later approved by the ECNEC in July 27, 2015. The obligations of the MC are to review the feasibility study, prepare bidding documents, review the design submitted by the contractor, and construction supervision of Project works which will require a sufficient number of technical experts. Therefore, the Authority is requested to review its decision and allow USD of 2.94 million.

5. Submissions of the stakeholders and response of the Petitioner are as follows:

- i. **Average annual energy generation:** CPPA-G vide letter dated June 01, 2021, commented that it agrees with the energy numbers as taken by the Authority in the impugned determination.

In response to CPPA-G comments, the PEDO vide letter dated July 28, 2021, submitted that the Authority has agreed with the stance of the Petitioner during the review hearing held on June 8, 2021, that the average annual energy of the project is 303 GWh at a plant factor of 51% with four hours peaking on following grounds:

- Annual energy generations of 302.8 GWh and 337.89 GWh have been taken in the revised PC-I.
- The IRSA authority has issued NOC in favor of project director, Lawi HPP with an annual generation of 303 GWh.
- As per the feasibility study report, power, and energy estimation, the installed capacity of the plant is 69 MW while the total annual energy at plant factor of 51% is 302.80 GWh.



- ii. **Construction period:** CPPA-G commented that the project is already in the construction phase, 48 months is a sufficient period and endorses the Authority's decision regarding 48 months.

In response to CPPA-G, the Petitioner reiterated the same stance as mentioned in aforementioned paragraph 4(iii) of this decision.

- iii. **Transmission line cost:** CPPA-G submitted that the firm interconnection arrangement has not been approved, by neither NTDC nor PESCO and the capacity of the existing transmission line is insufficient to carry the power from the project due to the fact, that 40.8 MW Koto has been given the evacuation through existing transmission line as mentioned in the minutes of the meeting dated November 25, 2019. Further, the Grid Interconnection Study (GIS) will determine at which voltage level the Lawi HPP connects with the Grid and the length of the interconnecting transmission line. CPPA-G stated that in the absence of a firm interconnection arrangement, how the sponsor has calculated the cost of the transmission line.

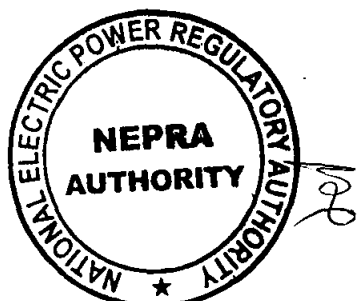
In response to the CPPA-G, the PEDO stated that as per the PESCO letter No.CE(Dev)/7023-26 dated 11/12/2019 Koto HPP will be connected temporarily with Wari-Timergara 132kV transmission line and for permanent arrangement, Koto will be connected with 132kV Khar Bajawar line, which may be completed before the commissioning of the Lawi plant and further this Project is also included in the list of committed projects in the IGCEP 2021-30. The draft GIS 132kV double circuit transmission line has been submitted to PESCO dated 28-06-2021.

- iv. **Cost of loan arrangement/financing fee/ commitment fee:** CPPA-G vide submitted that the sponsor is financing the project from its own sources and charging the financing fee/loan arrangement/commitment fee, and no actual financing is taken from any financial institution and this cost is an opportunity cost, so the same may not be allowed.

In response to CPPA-G, the Petitioner reiterated the same stance as mentioned in aforementioned paragraph 4(v) of this decision.

- v. **Cost of Debt:** CPPA-G commented that since the project is being financed by PEDO from its own resources (Hydel Development Fund), not from any financial institution. It is therefore requested the spread claimed by the company seems to be irrational because the spread only covers the banking services costs i.e., a delta between lending and borrowing. CPPA-G has endorsed the Authority's decision.

In response to CPPA-G's comments, the PEDO stated that Hydel Development Fund (HDF) has charged the cost of Debt (IDC) @ 10.09%. Moreover, the Petitioner added that as per notification SRO 763(I)/2018 dated 19th June 2018, Section 4 subsection 7 of NEPRA "in case of energy projects other than those specified in sub-section (2), (3), (4), (5) and (6) above, a spread not exceeding 2.25% over KIBOR shall be approved, with saving in the spread to be shared between the power producer and power purchaser in the ratio 50:50". The Petitioner requested the Authority to review its decision on these two options 1) 10.9% and 2) 9.60%.



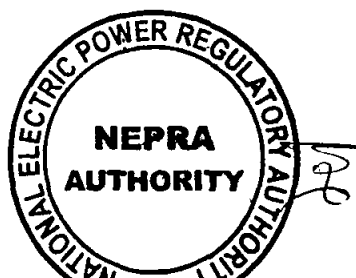
- vi. **Return on equity (ROE):** CPPA-G commented that NEPRA vide determination allowed a return of 10% in line with WAPDA Hydro projects with no USD Indexation. Furthermore, Neelum Jhelum Hydropower project also claimed a Return on Equity of 10%. Thus CPPA-G endorsed the Authority's decision.

In response to CPPA-G, the Petitioner reiterated the same stance as mentioned in aforementioned paragraph 4(vii) of this decision.

- vii. **Auxiliary Consumption:** CPPA-G in its comments stated that 1% is more than sufficient for a hydel project having a capacity less than 100 MW, as evident in the case of 81 MW Malakand-III HPP whereby auxiliary consumption is considered in Generation License as 0.508 MW i.e., 0.63 %. Therefore, auxiliary consumption must be considered less than 1%. Therefore, no compensation be allowed to the Petitioner.

In response to CPPA-G, the Petitioner reiterated the same stance as mentioned in aforementioned paragraph 4(x) of this decision.

6. Arguments heard and record perused.
7. As per regulation 3(2) of the National Electric Power Regulatory Authority (Review Procedure) Regulations, 2009, "any party who is aggrieved from any order of the Authority and who, from the discovery of new and important matter of evidence or on account of some mistake or error apparent on the face of the record or from any other sufficient reasons, may file a motion seeking review of such order".
8. In the instance case, it is observed that the majority of the submissions made in the Review Motion were already deliberated upon in the impugned determination. The Authority is of the view that only the following grounds merit consideration and certain clarifications:-
- Average annual energy generation
 - Project Development Cost (PDC)
 - Term and Conditions of Debt
 - Return on equity (ROE)
- i. **Average annual energy generation:** The Authority considered the submissions of the PEDO and stakeholders and is of the opinion that since only 30% of the construction has been completed and the weir side construction is under process, therefore, assessing the water storage capacity, which could be used for peaking purpose may not be possible at this time, however, the plant will be revisited at COD stage for checking the plant water storage capacity. The annual energy of 311.2957 GWh (net) as mentioned in the level-I Design has been assumed at this stage for tariff calculation till final verification at the COD/completion stage of the Project. Further, it was also decided that no payment shall be made to the Project on the energy falling between 311.2957 GWh and 336.192 GWh. However, net annual generation supplied during a year to the Power Purchaser in excess of 336.192 GWh (net) will be charged at 10% of the prevalent approved tariff.



- ii. **Project Development Cost:** The Authority while assessing this cost relied upon the benchmarked costs approved for other comparable hydropower projects being set up under the Asian Development Bank's Renewable Energy Development Sector Investment Program (herein referred to as REDSIP) like Marala 7.64 MW, and Chianwali 5.38 MW, etc. and even the same was approved for PEDO's Daral Khawar 36.6 MW hydropower project. This indicates that the benchmark cost is reasonable, however keeping in view that since the Project is still under the construction stage and PMU is still functionary, the Authority may review the prudently incurred cost (not exceeding the amount requested i.e. Rs. 230.4 million) at the time of COD tariff adjustment upon the submission of the authentic documentary evidence to the satisfaction of the Authority. In view thereof, the Authority has decided to maintain its earlier decision in this regard.
- iii. **Terms and Conditions of Debt:** The cost of financing was allowed to the Petitioner keeping in view the submission made to the Authority during the proceeding of the impugned determination where it has been stated that the funds secured were from Hydel Development Fund (HDF). Similarly, in the instant Review Motion, nothing has been placed before the Authority as a record that would otherwise refute that understanding regarding the sources of funds for the Project. Therefore, the Authority maintains its earlier decision in the matter. However, if PEDO establishes that sources of financing for the Project are other than HDF, the Authority may review the matter at the time of COD tariff adjustment upon the submission of authentic documentary evidence to the satisfaction of the Authority.
- iv. **Return on Equity:** The Authority carefully reviewed the submission of the Petitioner and commentator in this regard and is of the opinion that investments in hydropower projects carries risk and accordingly a reasonable return should be allowed. The Authority also noted that recently local currency long-term bonds are offering interest which is slightly higher than the RoE of 10% allowed to the Project. It was observed that the Government of Khyber Pakhtunkhwa should have incentives to invest in developing local hydro resources than investing in long-term bonds whose returns have recently increased. Given the above, the Authority has decided to enhance the return from 10% to 13% for the Project without any USD indexation.
- v. **Pre-COD sale:** The Authority also noted that going forward, clarity should be given with regards to the Pre-COD sale. It was noted that in the impugned determination, Pre-CoD was subject to the terms and conditions of EPA but the applicable tariff component included O&M (fixed & variable) and insurance. To bring further clarity and consistency with the standard PPA which is also prevalent in other hydro tariff determinations, the Authority has decided to allow Pre-CoD sale to the extent of component of variable O&M only, as payment of Water Use Charge is not relevant in the instant case.
9. **Order:** In pursuance of section 7(3)(a) of the Regulation of Generation, Transmission, and Distribution of Electric Power Act, 1997 read with NEPRA (Tariff Standards & Procedure) Rules, 1998, the Authority hereby determines and approves the following generation tariff along with the terms and conditions for Lawi Hydropower Project of Pakhtunkhwa Energy Development Organization (the Petitioner) for delivery of electricity to Power Purchaser:



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- i) Levelized tariff works out to be PKR. 7.9490 per kWh (US Cents 4.9681 per kWh)
- ii) EPC cost of USD 110.95 million has been approved.
- iii) Custom duties of USD 2.62 million (PKR. 419.94 million) have been approved.
- iv) Non-EPC cost of PKR. 279.6 million includes the Management Consultancy cost of PKR. 244.40 million, Project Development Cost of PKR. 35.2 million has been approved.
- v) Land and resettlement of PKR. 296 Million has been assumed for calculation.
- vi) Debt to equity ratio of 80:20 has been approved.
- vii) Debt repayment period of 30 years has been taken into account assuming a 100% local loan.
- viii) The KIBOR rate of 7.35% has been taken into account while calculating the cost of debt.
- ix) Annual ROE & ROEDC at 13% has been approved.
- x) The reference tariff has been calculated on the basis of net annual benchmark energy generation of 311.2957 GWh for an installed capacity of 69 MW. An auxiliary consumption has been restricted to 0.5%.
- xi) No payment shall be claimed for the energy supplied beyond 311.2957 GWh up to 336.192 GWh. Net annual generation supplied during a year to the Power Purchaser in excess of benchmark energy of 336.192 GWh will be charged at 10% of the prevalent approved tariff.
- xii) O&M cost of USD 1.172 million per annum has been approved.
- xiii) Insurance during the operation has been calculated as 0.75% of the EPC cost.
- xiv) The reference USD/PKR rate has been taken as 160.
- xv) Construction period of 48 months has been approved and the same is used for the workings of ROEDC and IDC.
- xvi) IDC and ROEDC have been worked out using the following drawdown schedule:

Period (Biannual)	Drawdown percentages (%) For Tariff Calculations
1	5%
2	10%
3	20%
4	15%



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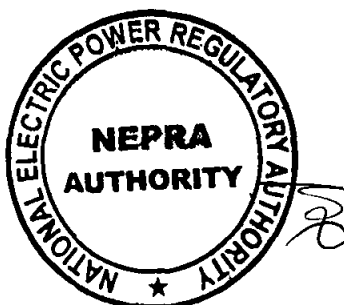
5	15%
6	15%
7	10%
8	10%

- xvii) In the above tariff no adjustment for carbon emission reduction receipts has been accounted for. However, upon actual realization of carbon emission reduction receipts, the same shall be distributed between the Power Purchaser and the Petitioner in accordance with the approved mechanism given in the applicable government policy.
- xviii) The above tariff is applicable for a period of thirty years commencing from the commercial operations date (COD).
- xix) The tariff is based on Take & Pay, with must-run provision, accordingly a single part tariff has been allowed to the Project.
- xx) The component-wise tariff is indicated as Annex-I.
- xxi) Debt Servicing Schedule is attached as Annex-II.

I. One Time Adjustments

The following one-time adjustments shall be applicable to the reference tariff:

- Out of the total approved EPC cost of USD 110.95 million, an amount of USD 43.38 million shall be adjusted at COD on account of variation in PKR/USD parity during the construction period, on the production of authentic documentary evidence by the Petitioner to the satisfaction of the Authority. The remaining cost amounted to PKR. 10,810.47 million shall remain the same and no variation in the cost of civil works shall be allowed.
- Any liquidated damages, penalties, etc. (by whatever name called), actually recoverable by the Petitioner from the EPC contractor(s), pertaining to the construction period allowed by the Authority, will be adjusted in the project cost at COD.
- Custom duties of USD 2.62 million (PKR. 419.94 million) shall be subject to adjustment as per actual at COD. The lower of actual or approved shall be taken into consideration
- Land and resettlement costs will be allowed as per actual, at the time of COD upto a maximum of PKR. 296.00 million allowed now, upon production of verifiable documentary evidence. The initial schedule of rates and variations in them shall be certified by the Provincial government and approved by NEPRA.
- If no insurance cost has been incurred during the operation phase of the power plant or the same is the part of the O&M cost, the assumed calculated tariff component shall be excluded from the tariff components at the COD stage.



- f. Interest During Construction (IDC) will be adjusted at COD on the basis of actual debt composition, debt drawdown of loan (not exceeding the amount allowed by the Authority), and applicable interest rate during the actual project construction period (not exceeding the construction period allowed by the Authority).
- g. The return on equity (including return on equity during construction) 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 allowed by the Authority.
- h. The reference tariff table shall be revised at COD while taking into account the above adjustments. The Petitioner shall submit its request to the Authority within 90 days of COD for necessary adjustments in tariff at the time of COD.

II. Indexations:

The following indexation shall be applicable to the reference tariff:

i) Indexation applicable to O&M

The local part of O&M cost will be adjusted on account of local inflation and the O&M foreign component will be adjusted on account of variation in dollar/rupee exchange rate and US CPI. Quarterly adjustments for inflation and exchange rate variation will be made on 1st July, 1st October, 1st January, and 1st April respectively on the basis of the latest available information with respect to CPI - General (notified by the Pakistan Bureau of Statistics), US CPI (notified by US Bureau of Labor Statistics) and revised TT & OD selling rate of US Dollar as notified by the National Bank of Pakistan. The mode of indexations will be as follows:

$$F O\&M_{(LREV)} = F O\&M_{(LREF)} * CPI_{(REV)} / CPI_{(REF)}$$

$$F O\&M_{(FREX)} = F O\&M_{(FREX)} * US CPI_{(REV)} / US CPI_{(REF)} * ER_{(REV)} / ER_{(REF)}$$

$$V O\&M_{(LREV)} = V O\&M_{(LREF)} * CPI_{(REV)} / CPI_{(REF)}$$

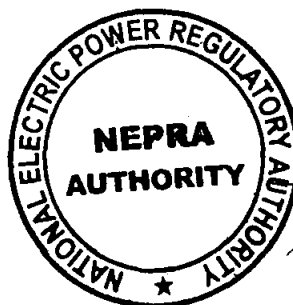
$$V O\&M_{(FREX)} = V O\&M_{(FREX)} * US CPI_{(REV)} / US CPI_{(REF)} * ER_{(REV)} / ER_{(REF)}$$

Where;

$F O\&M_{(LREV)}$ = The revised applicable fixed O&M local component of tariff

$F O\&M_{(FREX)}$ = The revised applicable fixed O&M foreign component of tariff

$V O\&M_{(LREV)}$ = The revised applicable variable O&M local component of tariff

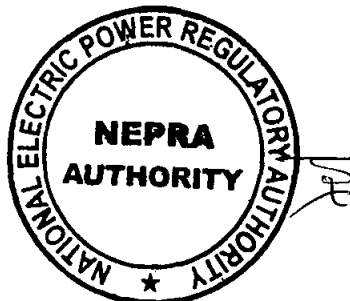


$FO\&M_{(LREF)}$	= The reference fixed O&M local component of tariff for the relevant period
$FO\&M_{(FREF)}$	= The reference fixed O&M foreign component of tariff for the relevant period
$VO\&M_{(LREF)}$	= The reference variable O&M local component of tariff for the relevant period
$V O\&M_{(FREV)}$	= The revised applicable variable O&M foreign component of tariff
$V O\&M_{(FREF)}$	= The reference applicable variable O&M foreign component of tariff
$CPI_{(REV)}$	= The revised Consumer Price Index (General) as notified by the Pakistan Bureau of Statistics
$CPI_{(REF)}$	= 140.86 Consumer Price Index (N-CPI) of December 2020 notified by the Pakistan Bureau of Statistics
$US\ CPI_{(REV)}$	= The revised US CPI (all urban consumers)
$US\ CPI_{(REF)}$	= 260.474 US CPI (all urban consumers) for the month of December 2020 as notified by the US Bureau of Labor Statistics
$ER_{(REV)}$	= The revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan
$ER_{(REF)}$	= The reference TT & OD selling rate of US dollar as notified by the National Bank of Pakistan - Current reference 160.

ii) Adjustment of the insurance component

The insurance component of the reference tariff will be adjusted as per prudently cost incurred, subject to the maximum ceiling of 1% of the approved EPC cost, on annual basis upon production of authentic documentary evidence by the Petitioner.

iii) Adjustment for KIBOR variation



The interest part of the debt servicing component will remain unchanged throughout the term except for the adjustment due to variation in 6 months KIBOR, according to the following formula:

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 7.35\%) / 2$$

Where:

ΔI = the variation in interest charges applicable corresponding to variation in 6 months KIBOR. ΔI can be positive or negative depending upon whether 6 months KIBOR_(Rev) per annum > or < 7.35%. The interest payment obligation will be enhanced or reduced to the extent of ΔI for each half-year under adjustment.

$P_{(REV)}$ = is the outstanding principal (as indicated in the attached debt service schedule to this order at **Annex-II**) on a bi-annual basis at the relevant calculations date.

III. Terms and Conditions of Tariff:

Design & Manufacturing Standards:

Hydropower generation systems shall be designed, manufactured, and tested in accordance with the latest IEC standards or other equivalent standards. All plants and equipment shall be new.

Emissions Trading/ Carbon Credits:

The Petitioner shall process and obtain emissions/carbon credits expeditiously and credit the proceeds to the Power Purchaser as per the applicable government policy and the terms and conditions agreed between the Petitioner and the Power Purchaser.

Power Curve of the Hydel Power Complex:

The power curve of the Hydel Power plant shall be verified by the Power Purchaser, as part of the Commissioning tests according to the latest IEC standards and shall be used to measure the performance of the hydel generating units.

Others:


- i. The Authority has allowed/approved only those cost(s), terms term(s), condition(s), provision(s), etc. which have been specifically approved in this tariff determination. Any cost(s), term(s), condition(s), provision(s), etc. contained in the tariff petition or any other document which are not specifically allowed/approved in this tariff determination, should not be implied to be approved, if not adjudicated upon in this tariff determination.
- ii. The above tariff and terms and conditions shall be incorporated as the specified tariff approved by the Authority pursuant to Rule 6 of the National Electric Power Regulatory



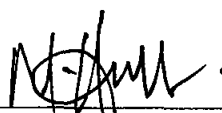
Authority Licensing (Generation) Rules, 2000 in the power purchase agreement between the Petitioner and the Power Purchaser. General assumptions, which are not covered in this determination, may be dealt with as per the standard terms of the EPA.


- iii. In case the PEDO wants to exit and sell the energy from Lawi HPP to the buyer(s) other than the national grid/CPGA-G/DISCOs then the terms of such arrangement shall be mutually agreed between parties to the EPA and, reflected in the draft EPA and submitted before the approval of the Authority.
 - iv. In case the company earns annual profit in excess of the approved return on equity (including ROEDC), then that extra amount shall be shared between the power producer and consumers through a clawback mechanism to be decided by the Authority.
 - v. Pre COD sale of electricity is allowed to the project company, subject to the terms and conditions of EPA, at the applicable tariff only including variable O&M component. However, pre COD sales will not alter the required commercial operations date stipulated by the EPA in any manner.
 - vi. 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 dividends shall not be a pass-through item.
 - vii. Hydrological Risk shall be borne by the Power Producer.
10. The order along with the reference tariff table attached as Annex-I and debt servicing schedule attached as Annex-II thereto are 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.

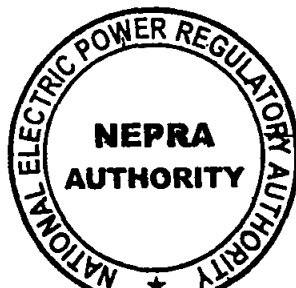
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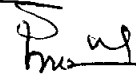

22/11/21
Rehmatullah Baloch
Member


22/11/21
Rafique Ahmed Shaikh
Member


22/11/21
Engr. Maqsood Anwar Khan
Member


Tauseef H. Farooqi
Chairman

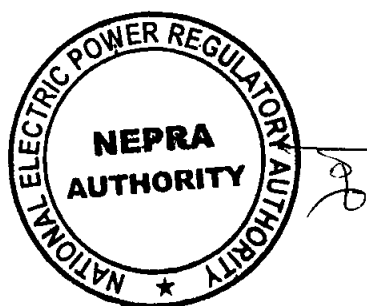



22/11/21

**LAWI HYDROPOWER PROJECT
REFERENCE TARIFF TABLE**

Annex-I

Year	Variable O&M		Fixed O&M		Insurance	ROEDC	ROE	Debt Servicing		Total PKR/kWh	Total Ucents/kWh
	Foreign	Local	Foreign	Local				Principal	Interest		
	(PKR/kWh)										
1	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	0.5366	4.0576	7.9490	4.9681
2	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	0.5768	4.0174	7.9490	4.9681
3	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	0.6200	3.9742	7.9490	4.9681
4	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	0.6664	3.9278	7.9490	4.9681
5	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	0.7163	3.8779	7.9490	4.9681
6	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	0.7699	3.8243	7.9490	4.9681
7	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	0.8275	3.7667	7.9490	4.9681
8	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	0.8894	3.7048	7.9490	4.9681
9	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	0.9560	3.6382	7.9490	4.9681
10	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.0276	3.5666	7.9490	4.9681
11	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.1045	3.4897	7.9490	4.9681
12	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.1871	3.4071	7.9490	4.9681
13	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.2760	3.3182	7.9490	4.9681
14	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.3715	3.2227	7.9490	4.9681
15	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.4742	3.1200	7.9490	4.9681
16	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.5845	3.0097	7.9490	4.9681
17	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.7031	2.8911	7.9490	4.9681
18	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.8306	2.7636	7.9490	4.9681
19	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.9676	2.6266	7.9490	4.9681
20	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	2.1149	2.4793	7.9490	4.9681
21	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	2.2732	2.3210	7.9490	4.9681
22	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	2.4433	2.1509	7.9490	4.9681
23	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	2.6262	1.9680	7.9490	4.9681
24	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	2.8228	1.7714	7.9490	4.9681
25	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	3.0341	1.5601	7.9490	4.9681
26	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	3.2612	1.3330	7.9490	4.9681
27	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	3.5053	1.0889	7.9490	4.9681
28	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	3.7677	0.8265	7.9490	4.9681
29	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	4.0497	0.5445	7.9490	4.9681
30	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	4.3528	0.2414	7.9490	4.9681
Levelized Tariff	0.0723	0.0482	0.2891	0.1927	0.4277	0.6255	1.6994	1.1325	3.4617	7.9490	4.9681



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**LAWI HYDROPOWER PROJECT
DEBT SERVICING SCHEDULE**

Annex-II

Period	Opening Balance	Mark-UP PKR in million	Principle Repayment PKR in million	Debt Service Million PKR	Closing Balance PKR in million	Annual Principal Repayment-Rs./kWh	Annual Interest Rs./kWh	Annual Debt Servicing Rs./kWh
			PKR in million					
	17,226	633	82	715	17,144			
	17,144	630	85	715	17,059			
1	17,226	1,263	167	1,430	17,059	0.5366	4.0576	4.5942
	17,059	627	88	715	16,971			
	16,971	624	91	715	16,879			
2	17,059	1,251	180	1,430	16,879	0.5768	4.0174	4.5942
	16,879	620	95	715	16,785			
	16,785	617	98	715	16,686			
3	16,879	1,237	193	1,430	16,686	0.5200	3.9742	4.5942
	16,686	613	102	715	16,585			
	16,585	609	106	715	16,479			
4	16,686	1,223	207	1,430	16,479	0.6664	3.9278	4.5942
	16,479	606	109	715	16,370			
	16,370	602	113	715	16,256			
5	16,479	1,207	223	1,430	16,256	0.7163	3.8779	4.5942
	16,256	597	118	715	16,138			
	16,138	593	122	715	16,016			
6	16,256	1,190	240	1,430	16,016	0.7699	3.8243	4.5942
	16,016	589	126	715	15,890			
	15,890	584	131	715	15,759			
7	16,016	1,173	258	1,430	15,759	0.8275	3.7667	4.5942
	15,759	579	136	715	15,623			
	15,623	574	141	715	15,482			
8	15,759	1,153	277	1,430	15,482	0.8894	3.7048	4.5942
	15,482	569	146	715	15,336			
	15,336	564	151	715	15,184			
9	15,482	1,133	298	1,430	15,184	0.9560	3.6382	4.5942
	15,184	558	157	715	15,027			
	15,027	552	163	715	14,864			
10	15,184	1,110	320	1,430	14,864	1.0276	3.5666	4.5942
	14,864	546	169	715	14,696			
	14,696	540	175	715	14,521			
11	14,864	1,086	344	1,430	14,521	1.1045	3.4897	4.5942
	14,521	534	181	715	14,339			
	14,339	527	188	715	14,151			
12	14,521	1,061	370	1,430	14,151	1.1871	3.4071	4.5942
	14,151	520	195	715	13,956			
	13,956	513	202	715	13,754			
13	14,151	1,033	397	1,430	13,754	1.2760	3.3182	4.5942
	13,754	505	210	715	13,544			
	13,544	498	217	715	13,327			
14	13,754	1,003	427	1,430	13,327	1.3715	3.2227	4.5942
	13,327	490	225	715	13,102			
	13,102	481	234	715	12,868			
15	13,327	971	459	1,430	12,868	1.4742	3.1200	4.5942
	12,868	473	242	715	12,626			
	12,626	464	251	715	12,375			
16	12,868	937	493	1,430	12,375	1.5845	3.0097	4.5942
	12,375	455	260	715	12,114			
	12,114	445	270	715	11,845			
17	12,375	900	530	1,430	11,845	1.7031	2.8911	4.5942
	11,845	435	280	715	11,565			
	11,565	425	290	715	11,275			
18	11,845	860	570	1,430	11,275	1.8306	2.7636	4.5942
	11,275	414	301	715	10,974			
	10,974	403	312	715	10,662			
19	11,275	818	613	1,430	10,662	1.9676	2.6266	4.5942
	10,662	392	323	715	10,339			
	10,339	380	335	715	10,004			
20	10,662	772	658	1,430	10,004	2.1149	2.4793	4.5942
	10,004	368	347	715	9,656			
	9,656	355	360	715	9,296			
21	10,004	723	708	1,430	9,296	2.2732	2.3210	4.5942
	9,296	342	373	715	8,923			
	8,923	328	387	715	8,536			
22	9,296	670	761	1,430	8,536	2.4433	2.1509	4.5942
	8,536	314	401	715	8,134			
	8,134	299	416	715	7,718			
23	8,536	613	818	1,430	7,718	2.6262	1.9680	4.5942
	7,718	284	431	715	7,287			
	7,287	268	447	715	6,839			
24	7,718	551	879	1,430	6,839	2.8228	1.7714	4.5942
	6,839	251	464	715	6,376			
	6,376	234	481	715	5,895			
25	6,839	486	945	1,430	5,895	3.0341	1.5601	4.5942
	5,895	217	498	715	5,396			
	5,396	198	517	715	4,880			
26	5,895	415	1,015	1,430	4,880	3.2612	1.3330	4.5942
	4,880	179	536	715	4,344			
	4,344	160	555	715	3,789			
27	4,880	339	1,091	1,430	3,789	3.5053	1.0889	4.5942
	3,789	139	576	715	3,213			
	3,213	118	597	715	2,616			
28	3,789	257	1,173	1,430	2,616	3.7677	0.8265	4.5942
	2,616	96	619	715	1,997			
	1,997	73	642	715	1,355			
29	2,616	170	1,261	1,430	1,355	4.0497	0.5445	4.5942
	1,355	50	665	715	690			
	690	25	690	715	(0)			
30	1,355	75	1,355	1,430	(0)	4.3528	0.2414	4.5942

