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National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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No. NEPRA/R/ADG(TRF)/TRF-497/PEDO(JHP)-2019/40347-40349

November 11, 2021

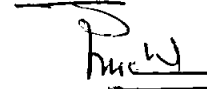
Subject: Decision of the Authority in the matter of Motion for Leave for Review filed by Pakhtunkhwa Energy Development Organization (PEDO) for 10.2 MW Jabori Hydropower Project (Case No. NEPRA/TRF-497/PEDO(JHP)-2019)

Dear Sir,

Please find enclosed herewith the subject Decision of the Authority along with Annex-I & II (13 Pages) in Case No. NEPRA/TRF-497/PEDO(JHP)-2019.

2. The Decision is being intimated to the Federal Government for the purpose of notification in the official gazette pursuant to Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.
3. The Order along with Reference Tariff Table (Annex-I) and Debt Servicing Schedule (Local) (Annex-II) of the Authority's Decision are to be notified in the official Gazette.

Enclosure: As above


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(Syed Safer Hussain)

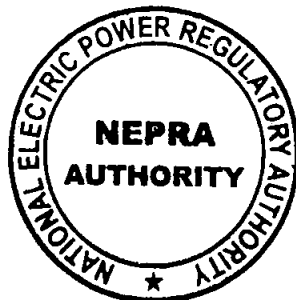
Secretary
Ministry of Energy (Power Division)
'A' Block, Pak Secretariat
Islamabad

CC:

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

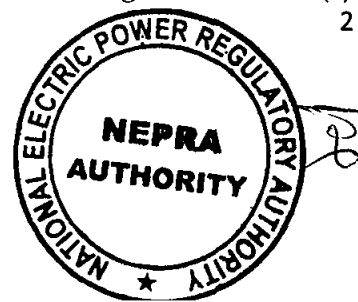
DECISION OF THE AUTHORITY IN THE MATTER OF MOTION FOR LEAVE FOR REVIEW FILED BY PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION (PEDO) FOR 10.2 MW JABORI HYDROPOWER PROJECT

1. Pakhtunkhwa Energy Development Organization (hereinafter referred to as the "Petitioner" or PEDO), vide its letter dated March 05, 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 December 30, 2020, in the matter of determination of tariff for 10.2 MW Jabori hydropower Project (hereinafter referred to as "impugned determination").
2. The Review Motion was considered and admitted on March 29, 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 May 25, 2021, at 11:30 AM 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. Calculation of Annual Energy
 - ii. Management Consultancy Cost
 - iii. Project Management Unit (PMU) Cost
4. Apart from the above-mentioned grounds of the MLR, PEDO vide a separate letter dated May 18 & 26, 2021, and June 09, 2021, requested the Authority for reconsideration of the following:
 - iv. Terms and conditions of the Debt
 - v. Return on Equity
5. The submissions of the Petitioner are as follows:
 - i. **Calculation of Annual Energy:** The Authority has considered an annual plant factor of 79.57% by considering only 0.5% auxiliary consumption versus 2% requested but has not considered any outage allowance citing the reason that the tariff is being approved on Take & Pay basis. In this regard, it may be noted that under Take & Pay basis EPA tariff regime, the revenue which the project earns is only from the sale of energy and hence there is zero revenue during the annual, scheduled, and forced outages or Major Overhauls and the revenue generated by the Project has to be calculated after subtracting the annual time for which the Project remains unavailable. Therefore, the period envisaged for this is 36.5 days per annum and the energy quantum for the tariff calculations should be calculated according to the following parameters:



Plant Capacity	10.2 MW
Auxiliary Consumption	0.5%
Net Capacity	10.149 MW
Plant Factor	79.57%
Days Availability	328.5
Saleable Energy	63.611 GWh

- ii. **Management Consultancy (MC) Cost:** The MC cost covers the cost of updated feasibility, bid level design, tender document, bid evaluation, contract negotiation as well as complete construction management and services during the Defect Liability Period (DLP). PEDO has signed an MC contract with a joint venture of AGES consultant Peshawar, Pakistan (Lead Firm), Infra-D consultant Islamabad and 1-hydro consult engineering, (Nepal) for a contract price of Rs. 98.23 million inclusive of Rs. 10 million on account of provisional sum and Rs. 2.6 million as cost of direct (Non-salary) cost of the field office for a completion period of 40 months. Therefore the disallowed cost with regards to the provisional sum and direct cost of the field may be allowed. Further, under the PPA/EPA an Independent Engineer (IE) has to be appointed for which an amount of Rs 14.4 million has also been included.
- iii. **Project Management Unit (PMU) Cost:** PMU cost covers the Project establishment for the preconstruction as well as employer's cost during construction and accordingly an amount of USD 0.90 million was claimed under this head and the same was duly approved under PC-I. However, the Authority in its determination has approved an amount of USD 0.22 million based on the assessment of the previous projects. The claimed cost in the original tariff petition is not an estimate without any basis as it is also approved in the PC-1 therefore, the same amount should be allowed.
- iv. **Terms and conditions of the Debt:** The cost of debt should be based on KIBOR + 2.5% spread instead of KIBOR + 0% spread as allowed in the impugned determination. This request is also consistent with the Authority's Tariff Benchmarks 2018.
- v. **Return on Equity:** The success of the further investment relied heavily upon the returns offered on the investment. NEPRA allowed RoE of upto 20% in the upfront tariff (2016) based on which this Project was developed. The RoE of 10% allowed by NEPRA against the requested 16% would dent the efforts of PEDO to harness the indigenous resources in the Province. Therefore, the Authority is requested to allow a RoE of 16%.
6. Submissions of the stakeholders and response of the Petitioner are as follows:
- i. **Calculation of Annual Energy:** CPPA-G vide letter dated June 01, 2021, submitted that the concept of allowance for scheduled outage/forced outage came in those tariffs where the tariff is calculated on the availability of the Complex because the tariff cannot be calculated on 100% availability. Even in the Power Purchase Agreement (PPA), where a two-part tariff is allowed by the Authority, the concept of low hydrology is there. While referring to section 6.3 (h) of the



PPA of 84 MW Laraib and section 6.3 (f) of the PPA of 81 MW Malakand-III hydropower CPPA-G recommended that plants have to be maintained in such a manner that during the high flow period maximum output shall be ensured to achieve benchmark energy and this benchmark has been calculated in the feasibility study of individual projects from where data of the plants have been taken by the Authority. During the low period, the necessary maintenance can be performed on the Units of the Complex. CPPA-G stated that although, the Authority has considered the same method of calculation of benchmark energy in the tariff determination of M/s Riali-II Hydropower (Pvt.) Limited and M/s Kathai-II Hydropower (Pvt.) Limited and CPPA-G agreed with the stance of the Authority on the calculation of saleable energy.

In response to the CPPA-G letter, PEDO vide letter dated July 01, 2021, cited the paragraph of PPA of Laraib Energy Limited wherein it has been stated that *"Laraib is based on two-part payments and hence receives payments even during allowed outage hours. In addition, as per the paragraph quoted by CPPA-G Laraib enjoys leverage of possibility of conducting scheduled outages during low flow seasons and that period not being counted toward outage allowance."* As per PEDO, in the case of Jabori Project, it receives payment only for the energy sold and thus there is no period for scheduled and or forced outage in the EPA. Therefore, benchmark energy must be calculated only for the period during which the Project generates electricity.

- ii. **Terms & Conditions of Debt:** CPPA-G submitted that the Authority allowed cost of debt at 6 months KIBOR (that is 7.3%) without any spread which shall be adjusted biannually with any variation in KIBOR. Since the Project is financed by the Hydel Development Fund and not from any financial institution, it is, therefore, requested that the spread claimed by the PEDO seems to be irrational which only covers the banking costs between lending and borrowing. In light of the above, CPPA-G endorsed the Authority's decision in this regard.

In response to the above CPPA-G's comments, PEDO stated that as per the NEPRA's Tariff Benchmark decision dated 2018, it is clearly stated that for projects securing financing through Non—banking resources, spread shall be allowed as per Authority decision (but not zero). Hence, PEDO requested NEPRA for a spread of 2.5% over KIBOR.

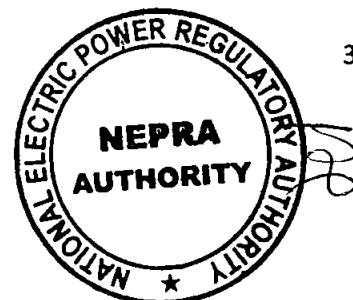
- iii. **Return on Equity:** CPPA-G stated that NEPRA allowed a return of 10% for the Project in line with WAPDA Hydro projects with no USD indexation. Furthermore, the Neelum Jhelum hydropower project also claimed Return on Equity of 10% in its tariff submission before NEPRA. Thus CPPA-G endorsed the Authority's decision in this regard.

In response to CPPA-G comments, PEDO submitted that Neelum Jhelum's equity has been raised through the imposition of NJ-surcharge in consumer's bill as a burden on consumers. According to PEDO, NJ does not qualify for any ROE as the funds have not been raised by WAPDA. In the case of Jabori HPP, entire funding including equity has been raised from PEDO's own resources and thus it requested to allow a return of 16% p.a.

7. Arguments heard and record perused.

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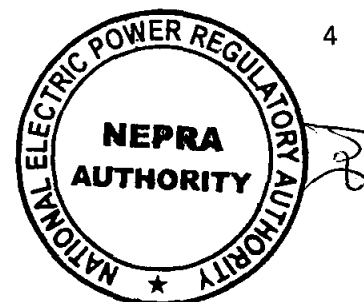
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8. As per regulation 3(2) of the National Electric Power Regulatory Authority (Review Procedure) Regulations, 2009, “any party who is aggrieved from any order of the Authority and who, from the discovery of new and important matter of evidence or on 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”.
9. 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:-
- i. Management Consultancy Cost (MC)
 - ii. Project Management Unit Cost (PMU)
 - iii. Return on Equity
 - iv. Terms and Conditions of Debt
- i. **Management Consultancy Cost:** The Authority while assessing the MC cost during the proceedings of the impugned determination, disallowed within the overall MC cost, the entire direct cost pertaining to field office as it was noted to be covered in the EPC contract. On careful review of the documents submitted, it was observed that the duplication of field office direct cost vis-à-vis the EPC cost was only limited to an amount of Rs 0.24 million and not the entire amount which as per the amended MC contract now stands at Rs 1.96 million. After such deduction, the additional amount under MC head works out to be Rs 1.72 million (Rs 1.96- 0.24 million) and the overall approved MC cost now stands at Rs 87.99 million from previously allowed amount of Rs 86.27 million. The amount of Rs 87.99 million is allowed as a maximum cap subject to adjustment as per actual in PKR only. In case of the cost being less than the approved ceiling the same shall be adjusted at COD
- ii. **Project Management Unit (PMU) 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 5.4 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 i.e., Rs 144 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 the 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

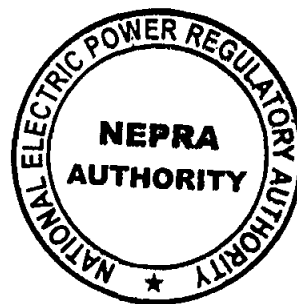
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Development Fund (HDF). Similarly, in the instant Review Motion, nothing has been placed before the Authority as a record that would otherwise refute that understanding regarding the sources of funds for the Project. Therefore, the Authority maintains 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 making an investment 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.
10. **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 Jabori Hydropower Project of Pakhtunkhwa Energy Development Organization (the Petitioner) for delivery of electricity to Power Purchaser:
- i) Levellized tariff works out to be Rs. 5.7092/kWh (US Cents 3.5683/kWh)
- ii) EPC cost of US\$ 17.80 million has been approved.
- iii) Non-EPC cost of Rs. 121.7 million which includes Management Consultancy Cost of Rs. 86.5 million and Project Management Unit Cost of Rs. 35.2 million has been approved.
- iv) Land and Resettlement of Rs. 61.4 Million (US\$ 0.384 Million) has been assumed for calculation.
- v) Debt to Equity ratio of 80:20 has been approved.



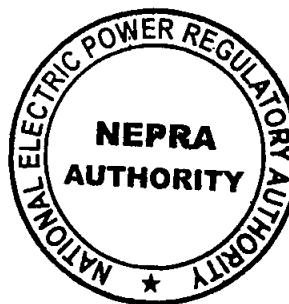
- vi) Debt repayment period of 30 years has been taken into account for 100% local loan.
- vii) The KIBOR rate of 7.30% as of September 20, 2020, has been taken into account while calculating the cost of debt.
- viii) Annual ROE & ROEDC at 13% has been approved.
- ix) The reference tariff has been calculated on the basis of net annual benchmark energy generation of 70.745 GWh for an installed capacity of 10.2 MW. An auxiliary consumption has been restricted to 0.5%.
- x) The above charges will be limited to the extent of net annual energy generation of 70.745 GWh. Net annual generation supplied during a year to the Power Purchaser in excess of benchmark energy of 70.745 GWh will be charged at 10% of the prevalent approved tariff.
- xi) O&M cost of US\$ 408,000 per annum has been approved.
- xii) Insurance during the operation has been calculated as 0.75% of the EPC cost.
- xiii) The reference US\$/PKR rate has been taken as 160.
- xiv) The construction period of 30 months has been approved and the same is used for the workings of ROEDC and IDC.
- xv) IDC and ROEDC have been worked out using the following drawdown schedule:

Period (Months)	Draw Down (%)
06	20
12	15
18	20
24	20
30	25

- xvi) 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.
- xvii) The above tariff is applicable for a period of thirty years commencing from the commercial operations date (COD).
- xviii) The tariff is based on Take & Pay, with must-run provision, accordingly a single part tariff has been allowed to the Project.
- xix) The component-wise tariff is indicated as Annex-I.
- xx) Debt Servicing Schedule is attached as Annex-II.

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I. One Time Adjustments

The following onetime adjustments shall be applicable to the reference tariff:

- a. The EPC cost shall be verified and adjusted at actual considering the approved amount as the maximum limit. Applicable foreign portion of the EPC cost will be adjusted at COD on account of variation in PKR/USD parity during the construction period, on the production of authentic documentary evidence by the Petitioner to the satisfaction of the Authority. The adjustment in applicable portion of the approved EPC cost shall be made only for the currency fluctuation against the reference parity values. The local portion of the EPC contract will not be subject to exchange rate variation and the allowed PKR amount shall be actualized. The lower of actual or approved shall be taken into account at COD.
- b. The local portion of Civil Works Cost only will be adjusted on account of variation in the price of construction material (Cement, Steel, Labour and Fuel) during the Project construction period as per the following mechanism/formula:

$$P_n = 0.51 + 0.10 * (C_n/C_o) + 0.09 * (S_n/S_o) + 0.15 * (F_n/F_o) + 0.15(L_n/L_o)$$

Where;

P_n is the adjustment factor to be applied for civil works;

C_n is the index value for the relevant month for Cement as given in the Monthly Bulletin of Statistics published by the Pakistan Bureau of Statistics;

S_n is the index value for the relevant month for Steel Bar & Sheets as given in the Monthly Bulletin of Statistics published by the Pakistan Bureau of Statistics;

F_n is the index value for the relevant month for Diesel Oil as given in the Monthly Bulletin of Statistics published by the Pakistan Bureau of Statistics;

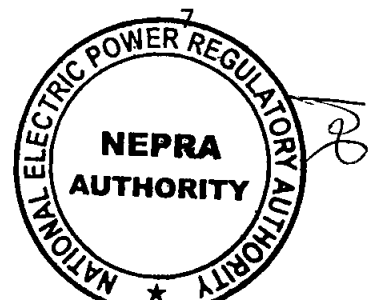
L_n is the index value for the relevant month for Mason (Raj) as per the Wage Rates published in the Monthly Bulletin of Statistics published by the Pakistan Bureau of Statistics;

C_o , S_o , F_o and L_o are the reference values of the price indices for Cement, Steel Bar & Sheets, Diesel Oil, and Mason (Raj) respectively as available on June 2014 which is one month prior to the EPC bid submission deadline.

- c. 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.
- d. Land and Resettlement costs will be allowed as per actual, as against Rs. 61.4 Million (US\$ 0.384 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.

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- e. 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:

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

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

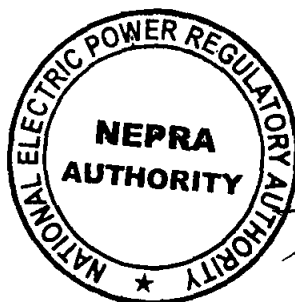
$$V O\&M_{(LREV)} = V O\&M_{(LREF)} * CPI_{(REV)} / CPI_{(REF)}$$

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
$CPI_{(REV)}$	= The revised Consumer Price Index (General) as notified by the Pakistan Bureau of Statistics
$CPI_{(REF)}$	= 138.32 Consumer Price Index (N-CPI) of September 2020 notified by the Pakistan Bureau of Statistics
$US\ CPI_{(REV)}$	= The revised US CPI (all urban consumers)
$US\ CPI_{(REF)}$	= 260.280 US CPI (all urban consumers) for the month of September 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 actually incurred prudent costs, 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 service component will remain unchanged throughout the term except for the adjustment due to variation in 6 months KIBOR, according to the following formula:

$$\Delta I = P_{(REV)} * (KIBOR_{(REV)} - 7.30\%) / 2$$

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 < 7.30%. 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 date of the relevant calculation.

III. Terms and Conditions of Tariff:

Design & Manufacturing Standards:

Hydropower generation system 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 Jabori HPP to the buyer(s) other than the national grid/CPPA-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.

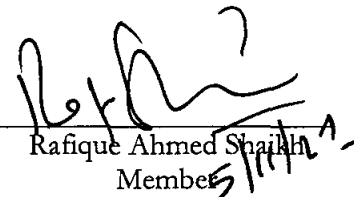
- iv. In case the company earns annual profit in excess of the approved return on equity (including ROEDC), then that extra amount shall be shared between the power producer and consumers through a clawback mechanism to be decided by the Authority at the time of COD tariff adjustment.
- v. Pre COD sale 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.

11. 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.

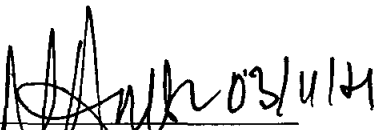
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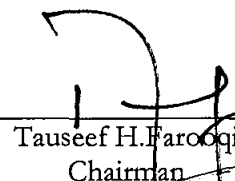
Rehmatullah Baloch
Member



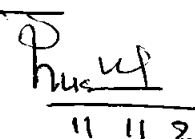
Rafique Ahmed Shaikh
Member



Engr. Maqsood Anwar Khan
Member



Tauseef H. Farooqi
Chairman


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**JABORI HYDROPOWER PROJECT
REFERENCE TARIFF TABLE**

Annex-I

Year	Variable O&M	Fixed O&M		Insurance	ROEDC	ROE	Debt Servicing		Total
	Local	Foreign	Local				Principal	Interest	
	PKR/kWh								PKR/kWh
1	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.3649	2.7148	5.7092
2	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.3921	2.6877	5.7092
3	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.4212	2.6586	5.7092
4	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.4525	2.6272	5.7092
5	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.4861	2.5936	5.7092
6	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.5223	2.5575	5.7092
7	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.5611	2.5186	5.7092
8	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.6028	2.4769	5.7092
9	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.6476	2.4321	5.7092
10	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.6958	2.3840	5.7092
11	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.7475	2.3323	5.7092
12	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.8030	2.2767	5.7092
13	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.8627	2.2170	5.7092
14	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.9269	2.1529	5.7092
15	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.9958	2.0840	5.7092
16	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	1.0698	2.0100	5.7092
17	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	1.1493	1.9305	5.7092
18	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	1.2347	1.8450	5.7092
19	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	1.3265	1.7533	5.7092
20	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	1.4251	1.6547	5.7092
21	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	1.5310	1.5487	5.7092
22	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	1.6448	1.4349	5.7092
23	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	1.7671	1.3127	5.7092
24	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	1.8985	1.1813	5.7092
25	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	2.0396	1.0402	5.7092
26	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	2.1912	0.8886	5.7092
27	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	2.3541	0.7257	5.7092
28	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	2.5290	0.5507	5.7092
29	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	2.7170	0.3627	5.7092
30	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	2.9190	0.1608	5.7092
Levelized Tariff	0.1384	0.4706	0.3137	0.3019	0.2600	1.1449	0.7655	2.3143	5.7092



**JABORI HYDROPOWER PROJECT
DEBT SERVICING SCHEDULE (LOCAL)**

Period	Opening Balance Rs.	Mark-UP Rs.	Principal Repayment Rs.	Debt Service Million Rs.	Annual Principal Repayment- Rs./kWh	Annual Interest Rs./kWh	Annual Debt Servicing Rs./kWh
	2,637,314,344	96,261,973.55	12,677,278	108,939,251			
	2,624,637,066	95,799,252.91	13,139,998	108,939,251	0.3649	2.7148	3.0798
1	2,637,314,344	192,061,226	25,817,276	217,878,502	0.3649	2.7148	3.0798
	2,611,497,068	95,319,642.98	13,619,608	108,939,251			
	2,597,877,460	94,822,527.28	14,116,724	108,939,251	0.3921	2.6877	3.0798
2	2,611,497,068	190,142,170	27,736,332	217,878,502	0.3921	2.6877	3.0798
	2,583,760,736	94,307,266.86	14,631,984	108,939,251			
	2,569,128,752	93,773,199.44	15,166,052	108,939,251	0.4212	2.6586	3.0798
3	2,583,760,736	188,080,466	29,798,036	217,878,502	0.4212	2.6586	3.0798
	2,553,962,700	93,219,638.55	15,719,613	108,939,251			
	2,538,243,087	92,645,872.69	16,293,378	108,939,251	0.4525	2.6272	3.0798
4	2,553,962,700	185,865,511	32,012,991	217,878,502	0.4525	2.6272	3.0798
	2,521,949,709	92,051,164.38	16,888,087	108,939,251			
	2,505,061,622	91,434,749.21	17,504,502	108,939,251	0.4861	2.5936	3.0798
5	2,521,949,709	183,485,914	34,392,589	217,878,502	0.4861	2.5936	3.0798
	2,487,557,120	90,795,834.89	18,143,416	108,939,251			
	2,469,413,704	90,133,600.20	18,805,651	108,939,251	0.5223	2.5575	3.0798
6	2,487,557,120	180,929,435	36,949,067	217,878,502	0.5223	2.5575	3.0798
	2,450,608,053	89,447,193.94	19,492,057	108,939,251			
	2,431,115,996	88,735,733.85	20,203,517	108,939,251	0.5611	2.5186	3.0798
7	2,450,608,053	178,182,928	39,698,574	217,878,502	0.5611	2.5186	3.0798
	2,410,912,479	87,998,305.47	20,940,946	108,939,251			
	2,389,971,533	87,233,960.96	21,705,290	108,939,251	0.6028	2.4769	3.0798
8	2,410,912,479	175,232,266	42,646,236	217,878,502	0.6028	2.4769	3.0798
	2,368,266,243	86,441,717.86	22,497,533	108,939,251			
	2,345,768,710	85,620,557.90	23,318,693	108,939,251	0.6476	2.4321	3.0798
9	2,368,266,243	172,062,276	45,816,226	217,878,502	0.6476	2.4321	3.0798
	2,322,450,016	84,769,425.60	24,169,826	108,939,251			
	2,298,280,191	83,887,226.97	25,052,024	108,939,251	0.6958	2.3840	3.0798
10	2,322,450,016	168,656,653	49,221,850	217,878,502	0.6958	2.3840	3.0798
	2,273,228,167	82,972,828.08	25,966,423	108,939,251			
	2,247,261,744	82,025,053.64	26,914,197	108,939,251	0.7475	2.3323	3.0798
11	2,273,228,167	164,997,882	52,880,621	217,878,502	0.7475	2.3323	3.0798
	2,220,347,546	81,042,685.43	27,896,366	108,939,251			
	2,192,450,980	80,024,460.79	28,914,790	108,939,251	0.8030	2.2767	3.0798
12	2,220,347,546	161,067,146	56,811,356	217,878,502	0.8030	2.2767	3.0798
	2,163,536,190	78,969,070.94	29,970,180	108,939,251			
	2,133,566,010	77,875,159.36	31,064,092	108,939,251	0.8627	2.2170	3.0798
13	2,163,536,190	156,844,230	61,034,272	217,878,502	0.8627	2.2170	3.0798
	2,102,501,918	76,741,320.01	32,197,931	108,939,251			
	2,070,303,987	75,566,095.53	33,373,156	108,939,251	0.9269	2.1529	3.0798
14	2,102,501,918	152,307,416	65,571,087	217,878,502	0.9269	2.1529	3.0798
	2,036,930,831	74,347,975.35	34,591,276	108,939,251			
	2,002,339,556	73,085,393.78	35,853,857	108,939,251	0.9958	2.0840	3.0798
15	2,036,930,831	147,433,369	70,445,133	217,878,502	0.9958	2.0840	3.0798
	1,966,485,698	71,776,727.99	37,162,523	108,939,251			
	1,929,323,175	70,420,295.89	38,518,955	108,939,251	1.0698	2.0100	3.0798
16	1,966,485,698	142,197,024	75,681,478	217,878,502	1.0698	2.0100	3.0798
	1,890,804,220	69,014,354.03	39,924,897	108,939,251			
	1,850,879,323	67,557,095.28	41,382,156	108,939,251	1.1493	1.9305	3.0798
17	1,890,804,220	136,571,449	81,307,053	217,878,502	1.1493	1.9305	3.0798
	1,809,497,167	66,046,646.60	42,892,605	108,939,251			
	1,766,604,562	64,481,066.53	44,458,185	108,939,251	1.2347	1.8450	3.0798
18	1,809,497,167	130,527,713	87,350,789	217,878,502	1.2347	1.8450	3.0798
	1,722,146,378	62,858,342.79	46,080,908	108,939,251			
	1,676,065,470	61,176,389.64	47,762,861	108,939,251	1.3265	1.7533	3.0798
19	1,722,146,378	124,034,732	93,843,770	217,878,502	1.3265	1.7533	3.0798
	1,628,302,608	59,433,045.19	49,506,206	108,939,251			
	1,578,796,402	57,626,068.68	51,313,182	108,939,251	1.4251	1.6547	3.0798
20	1,628,302,608	117,059,114	100,819,388	217,878,502	1.4251	1.6547	3.0798
	1,527,483,220	55,753,137.52	53,186,114	108,939,251			
	1,474,297,106	53,811,844.37	55,127,407	108,939,251	1.5310	1.5487	3.0798
21	1,527,483,220	109,564,982	108,313,520	217,878,502	1.5310	1.5487	3.0798
	1,419,169,699	51,799,694.02	57,139,557	108,939,251			
	1,362,030,142	49,714,100.19	59,225,151	108,939,251	1.6448	1.4349	3.0798
22	1,419,169,699	101,513,794	116,364,708	217,878,502	1.6448	1.4349	3.0798
	1,302,804,991	47,552,382.18	61,386,869	108,939,251			
	1,241,418,122	45,311,761.47	63,627,490	108,939,251	1.7671	1.3127	3.0798
23	1,302,804,991	92,864,144	125,014,359	217,878,502	1.7671	1.3127	3.0798
	1,177,790,633	42,989,358.09	65,949,893	108,939,251			
	1,111,840,740	40,582,187.00	68,357,064	108,939,251	1.8985	1.1813	3.0798
24	1,177,790,633	83,571,545	134,306,957	217,878,502	1.8985	1.1813	3.0798
	1,043,483,676	38,087,154.16	70,852,097	108,939,251			
	972,631,579	35,501,052.62	73,438,199	108,939,251	2.0396	1.0402	3.0798
25	1,043,483,676	73,588,207	144,290,295	217,878,502	2.0396	1.0402	3.0798
	899,193,380	32,820,558.37	76,118,693	108,939,251			
	823,074,687	30,042,226.09	78,897,025	108,939,251	2.1912	0.8886	3.0798
26	899,193,380	62,862,784	155,015,718	217,878,502	2.1912	0.8886	3.0798
	744,177,662	27,162,484.67	81,776,766	108,939,251			
	662,400,896	24,177,632.70	84,761,618	108,939,251	2.3541	0.7257	3.0798
27	744,177,662	51,340,117	166,538,385	217,878,502	2.3541	0.7257	3.0798
	577,639,277	21,083,833.62	87,855,418	108,939,251			
	489,783,860	17,877,110.88	91,062,140	108,939,251	2.5290	0.5507	3.0798
28	577,639,277	38,960,945	178,917,558	217,878,502	2.5290	0.5507	3.0798
	398,721,720	14,553,342.77	94,385,908	108,939,251			
	304,335,811	11,108,257.11	97,830,994	108,939,251	2.7170	0.3627	3.0798
29	398,721,720	25,661,600	192,216,902	217,878,502	2.7170	0.3627	3.0798
	206,504,817	7,537,425.83	101,401,825	108,939,251			
	105,102,992	3,836,259.21	105,102,992	108,939,251	2.9190	0.1608	3.0798
30	206,504,817	11,373,685	206,504,817	217,878,502	2.9190	0.1608	3.0798

