



Registrar

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

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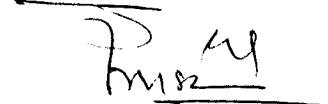
No. NEPRA/IPT-06/RHPCL-2018/18241-18243  
November 20, 2018

**Subject: Determination of the Authority in the matter of Proposal for Approval of EPC Stage Tariff of Riali-II Hydropower Project filed by Central Power Purchasing Agency Guarantee Limited (CPPA-G) [Case No. NEPRA/IPT-06/RHPCL-2018]**

Please find enclosed herewith the subject Determination of the Authority along with Annex-I & II (15 Pages) in Case No. NEPRA/IPT-06/RHPCL-2018.

2. The Determination 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.

Encl: As above

  
20 11 18

( Syed Safer Hussain )

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

CC:

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

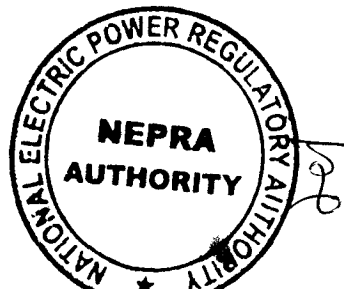
**DETERMINATION OF THE AUTHORITY IN THE MATTER OF PROPOSAL FOR APPROVAL OF EPC STAGE TARIFF OF RIALI-II HYDROPOWER PROJECT FILED BY CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED**

- 1 On the 22<sup>nd</sup> of March 2018, the Central Power Purchasing Agency (Guarantee) Limited (herein referred to as “CPPA”), filed an application to import power from Riali-II Hydro Power Company (Pvt.) Limited (herein referred to as “RHPCL” or the “Project Sponsors”) in respect of 7.08 MW Riali-II Hydro power project (herein referred to as the “Project”) situated in AJ&K for determination of rates as proposed by the seller. The CPPA submitted the said Tariff Proposal to NEPRA under Regulation 3(1) of NEPRA (Import of Electric Power) Regulations, 2017 (IEPR-2017).
- 2 Riali-II Hydropower Project is a high head, run-off-river scheme, which will use the perennial flow of Ghoriwala Katha, a right bank tributary of Neelum River with its confluence with Neelum River about 17 kms upstream of Muzaffarabad near Ghoriz Bazar. The project is proposed in the lower reach of Ghoriwala Katha with intake near village Bagh and Powerhouse near village Ghoriz 400 meters upstream of the confluence of Ghoriwala Katha with Neelum River.
- 3 The Tariff Proposal was based on the following technical parameters:

Installed Capacity (Gross) (MW)	7.08
Auxiliary Consumption	1%
Net Capacity (MW)	7.01
Plant Factor	61%
Annual Generation (Gross) (GWh)	38.12
Auxiliary Consumption (1%) (GWh)	0.38
Annual Generation (Net) (GWh)	37.74

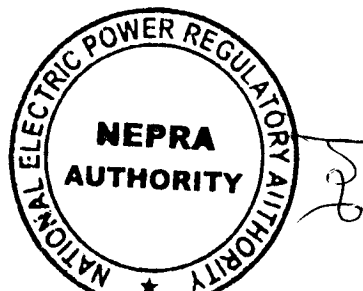
- 4 Following is a summary of the financial aspects of the tariff proposal:

EPC Cost	US\$ 17.0557 million
Non-EPC Cost	US\$ 1.5576 million
Development Cost	US\$ 1,277,600
Financing Fees & Charges	US \$280,000
Project Cost without IDC	US\$ 18.6133 million
Interest During Construction (IDC)	US \$ 1.3926 million
Total Project Cost	US \$ 20.0059 million
Debt: Equity Ratio	75:25
Total Debt	US \$ 15.0044 million
Total Equity	US \$ 5.0014 million
Construction Period (Max.)	3 Years from Financial Close
Debt Payback Period	9 years from COD
Tariff Control Period	30 Years from COD
EPC Stage Levelized Tariff	8.6758 Rs./kWh 8.5099 USc/kWh
Reference Exchange Rate	1US\$ = PKR 101.95
O&M Per Annum	US\$ 341,114
Insurance During Operation Per Annum	US\$ 179,085



5 **PROCEEDINGS:**

- 5.1 The Authority admitted the subject Proposal on March 27, 2018. Subsequently, the Authority decided to hold hearing on the matter. Accordingly, advertisement was published for general public in daily newspapers, whereas written notices were also dispatched to key stakeholders. No intervention request was filed by any party in response to the Authority's notice of admission and hearing. The CPPA submitted its comments on the matter vide letter no. Tech/DGMT-II/MT-IV/Riali-II/19653-54 dated July 02, 2018.
- 5.2 Hearing in the matter was held on June 06, 2018, and was attended by the Project Sponsors, however, the CPPA did not appear at the hearing. The CPPA were given the opportunity to appear before the Authority on the next day, i.e. June 07, 2018, however, again the CPPA was unable to appear before the Authority. During the hearing the Project Sponsors proposed that certain benchmarks of the upfront tariff can be fine-tuned based on prevailing market norms in order to reduce the tariff of the project. The Authority advised the Project Sponsors to submit the relevant details in this regard. The Project Sponsors vide letter no. RHPKO/NEPRA/Riali-IIHPP/TRF/18/056 dated June 22, 2018 submitted additional information to substantiate their claim. The additional information/ revised tariff proposal was uploaded on NEPRA website for comments of stakeholders, whereas the CPPA was also requested for input on the revised proposal.
- 5.3 The CPPA vide letter no. No. Tech/DGMT-II/MT-IV/Riali II/ 19653-54 dated July 02, 2018 provided written comments on the tariff proposal. Subsequently, additional comments were submitted by the CPPA vide letter No. Tech/DGMT-II/MT-IV/Riali-II/20163-64 dated July 12, 2018.
- 5.4 The CPPA stated that the Project Sponsors have submitted their consent for bearing the Hydrological Risk. The CPPA fully endorses the submission of Project Sponsors on this account that the Hydrological Risk needs to be borne by the Project Sponsors.
- 5.5 Further, CPPA suggested that the applicable regulatory framework obligates NTDCL/DISCO for assuming/settling the liabilities pertaining to the connection part of the agreement, which inter-alia includes, construction, adequacy, operations and maintenance of Interconnection facilitates for evacuation of power from the generation facility. CPPA suggested that the same may be taken up with the concerned DISCO/NTDCL.
- 5.6 Moreover, the CPPA suggested that the overall impact on the pool price with the said procurement may be ascertained in the due process of assessing the tariff application.
- 5.7 CPPA-G endorsed the Project Sponsors's consent for bearing the Hydrological Risk. Further, CPPA suggested that mechanism should be designed for sharing the bonus energy between the Purchaser and the Seller, as is the case for other renewable power projects.
- 5.8 CPPA opined that assumed ROE of 20 % is on the higher end compared to the returns extended to the other power projects with similar risk. CPPA further suggested that withholding tax on dividend may not be allowed as pass-through, as it has already been adopted for other power projects.



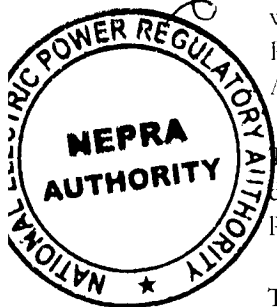
- 5.9 CPPA mentioned that pursuant to NEPRA (Benchmark for Tariff Determination) Guidelines, 2018 dated 19-06-2018 ("NEPRA Guidelines"), which inter-alia extend provision of securing debt financing by the renewable power projects under the Revised SBP Financing Scheme, at a flat rate of 6% with debt repayment periods not exceeding 12 years. In view of the aforementioned NEPRA Guidelines, the company requested flat rate of 5.5% which is lower than the Authority decided benchmark of 6%, thus having a favorable impact on the Tariff as well as in the interest of general public. CPPA suggested that the same may be considered by the Authority for approval.
- 5.10 Further, CPPA pointed out that the Company claimed that, they assumed financing fees and legal charges at 2% on allowed debt portion. The Company has included legal charges in this head and has not claimed legal charges separately. In National Electric Power Regulatory Authority (Benchmark for Tariff Determination) Guidelines, 2018 dated 19-06-2018 it is mentioned that hydropower projects with capacities up to 50 MW the Financing Fee up to 2.5% will be allowed. CPPA suggested that the Company claim may be verified at One-Time adjustment.
- 5.11 CPPA also pointed out that, the Company claims to have assumed insurance to be 1.05% of the entire EPC cost. Pursuant to NEPRA guidelines, the insurance cost may be adjusted to 1% of the EPC Cost, within the Benchmark Limits.
- 5.12 CPPA suggested that the fixed portion of the EPC Cost (60% of EPC Cost) not subjected to adjustment on account of Cement, Steel, Fuel and Labor may be enhanced from 51 % to 60 % or above.
- 5.13 CPPA also suggested that the equity injection ratio should be the same as assumed for debt injection, and Pre-COD sale of energy may only be limited to Water Use Charges and Variable O&M only.
- 6 Having considered the respective submissions of the parties and after careful perusal of the record; issue wise findings of the Authority are as under:

**I. Whether the financing, construction, and maintenance of the interconnection facility can be performed by the project company?**

The Project Sponsors informed that the power from the Project will be supplied to the national grid through the Peshawar Electric Supply Company (PESCO) which is the relevant DISCO operating in that region. However, due to financial and technical constraints of PESCO, the sponsors are willing to take initiative of financing, constructing and maintaining the interconnection line from the Project to Muzaffarabad (Old) Grid Station after receiving the necessary approval(s) from the Authority.

The Project Sponsors informed during the hearing that evacuation on 17km long 33kV line has been deemed to be the most feasible option for power evacuation, and the same has been approved by PESCO. It was noted that the said approval was not submitted by the Project Sponsors.

The Project Sponsors proposed that the Company will submit cost details & nominal tariff to NEPRA for approval pertaining to financing & construction of Purchaser's Interconnection facilities at the time of COD of the Project. In case of PESCO/Power Purchaser refusal to carryout O&M services for Purchaser's Interconnection facilities, then the Sponsors at the time of Project COD or earlier will request the Authority for the issuance of tariff or Special Purpose Transmission License (if required) in order to carry out the aforesaid O&M services. Further, net delivered energy shall be



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adjusted for line losses subject to figure as allowed under the NEPRA (Interconnection for Renewable Generation Facilities) Regulations, 2015 (amended on June 07, 2018).

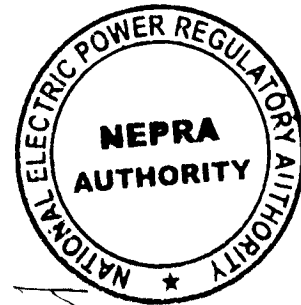
The Authority agrees with the interconnection arrangement proposed by the Project Sponsors.

## II. Whether the EPC cost is justified?

The Project Sponsors submitted that the project construction is based on a "fixed-price, time-certain" arrangement through a turnkey Engineering, Procurement and Construction (EPC) contract. In this regard, the Company initiated the standard process for competitive bidding and selection of EPC Contractor in line with the best international practice. According to the Project Sponsors a Letter of Award was issued to the lowest evaluated and most advantageous bid, and the EPC Contracts were duly signed with the nominated bidder.

During the hearing, the Project Sponsors were asked whether the NEPRA (Selection of EPC Contractors by IPPs) Guidelines, 2017 were followed in this regard. The Project Sponsors explained that the bidding of the project had already been concluded by the time the said guidelines were issued by NEPRA, however, a reasonably detailed and transparent bidding process was conducted for selection of the EPC contractor. The Project Sponsors provided the following timelines with regard to the EPC selection process:

Sr. No	Activities	Dates
1	Invitation for EPC Bids	19-05-16
2	Original Bid submission date	21-06-16
3	Extended Bid submission date	27-09-16
4	Bid Opening Date Technical Offer (Tender Part-1)	27-09-16
5	Evaluation of EPC Bids-Technical Offer (Tender Part-1)	04-10-16
6	Bid Opening of Financial Offer (Tender Part-2)	04-10-16
7	EPC Bids Evaluation Report	06-10-16
8	Issuance of Letter of Acceptance	08-11-16
9	Signing of EPC Contract	24-01-17
10	Notice to Proceed	24-01-17



A notice for inviting EPC Bids was published in the newspaper on 19-05-2016. The last date of submission of tender bids was 21-06-2016. However, due to various requests from prospective local and international EPC bidders, the Sponsors extended the bidding date till 27-09-2016.

According to the Project Sponsors, based on the technical as well as commercial score of the bidders, the following rankings have been made:

Bidder	Discounted Bid Price	Overall Ranking
Xinjiang Beixin Road & Bridge Group Co., Ltd. ("BEIXIN")	USD 17,062,305	1
Sh. Abdul Razzaq & Co. (Pvt) Ltd. ("SARCO")	USD 18,031,134	3
Habib Rafiq (Pvt.) Ltd. ("HRL")	USD 18,316,980	2

The Project Sponsors submitted that based on the above ranking the EPC contract has been awarded to M/s Xinjiang Beixin Road & Bridge Group Company Limited (Beixin) which is a state-owned entity of China, listed in Shenzhen Stock Exchange, with M/s Zhejiang Jinlun Electromechanic Co., Ltd (Jinlun) nominated by Beixin as the equipment & machinery (E & M) sub-contractor. The Project Sponsors submitted that the Bid Evaluation Committee has carefully reviewed and carried out necessary due-diligence regarding the EPC contractor and E&M Supplier and found them to be highly reputable and experienced hydropower construction and manufacturing.

The EPC cost quoted by the winning bidder is US\$ 2.410 million per MW. The benchmark EPC cost for high head hydro power projects as per the NEPRA Upfront Tariff was US\$ 2.409 Million. The Project Sponsors have submitted that since the instant Proposal is based on the EPC Price determined in Upfront Tariff; therefore, EPC Price of US\$17,055,720/- is being claimed (based on the benchmark of US\$ 2.409 Million/MW instead of US\$ 2.410 Million/MW). All costs exceeding NEPRA's upfront tariff benchmarks for EPC/ Non-EPC costs are to be borne by the Project Sponsors.

The Authority noted that the upfront tariff benchmark of US\$ 2.409 Million/MW was based on 40% foreign and 60% local cost. The price assumed by the Project Sponsors is 100% based on foreign cost. This combined with the fact that an older USD/PKR exchange rate of 101.95 has been assumed by the Project Sponsors, drastically understates the tariff of the project. Based on regional and international benchmarks, a maximum EPC cost ceiling of US\$ 14.868 Million (US\$ 2.10 Million/MW) has been determined for the Project, after assuming 60% local currency component of EPC cost (US\$ 1.260 Million/MW) fixed in rupees (subject to adjustment as detailed below), and the remaining 40% as foreign currency component of EPC cost fixed in US\$.

### III. Whether Adjustments pertaining to EPC cost are justified?

The Project Sponsors requested for the following adjustments in the EPC Price at Commercial Operations:

- a) Changes in prices of cement, steel, labor and fuel;
- b) Any withholding tax, in excess of seven percent (7%), on onshore works under the Construction Contract, in Pakistan or AJ&K, shall be allowed and adjusted in the Project Cost and Reference Tariff.

The Authority considers that the Project Sponsors' request for above adjustments is in line with NEPRA 3-stage mechanism for hydropower projects and the upfront tariff for small hydropower projects. In view thereof the same are being allowed subject to terms of the EPC contract to be scrutinized at the time of COD. These adjustments will be made over a period of 36 months (maximum), and shall not be applicable on dollar based portion of the EPC price, which in the instant case will be 40% of the EPC as assumed under the upfront tariff. Any terms falling outside the NEPRA 3-stage mechanism for hydropower projects and the adjustment mechanism determined in the NEPRA upfront tariff shall not apply at COD.

With regard to the request for adjustment of EPC price due to withholding taxes on onshore works in excess of seven percent (7%), the Authority considers that such adjustment is not justified as the need for such adjustment depends on the way an EPC contract is structured. Therefore, adjustment of withholding taxes on onshore works in excess of seven percent (7%) is not accepted.

#### IV. Whether the Non-EPC cost is justified?

The Project Sponsors submitted that all Non-EPC costs exceeding NEPRA's upfront tariff benchmarks are to be borne by the Sponsors. Non-EPC cost of US\$ 1.5576 Million was claimed by the sponsors, including Development Cost of US\$ 1.2776 Million and Financing Fees & Charges of US\$ 0.280 Million. The sponsors submitted that in line with the recent determinations of the Authority, financing fee & charges have been assumed at 2.0% on the allowed debt portion, which works out to approx. USD 0.280 million.

The development cost based on the upfront tariff benchmarks in this case is US\$ 1.04 Million, and the same is hereby allowed. The financing fees and charges amounting to US\$ 0.245 Million are hereby allowed on the basis of recently approved NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018.

#### V. Whether other assumptions of the tariff are justified?

Other assumptions of the tariff are as under:

- Debt Equity ratio 75 : 25
- Return on Equity 20%
- Interest rate of 5.5% (2% based rate with a spread of 3.5% for local financing under State Bank of Pakistan financing scheme for renewable energy)
- O&M component of Rs. 0.9215 /kWh
- Insurance during Operation at 1.05% of EPC cost
- Construction period of 36 months
- Exchange rate of 101.95
- Duties and Taxes not assumed

The NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018 already allow that for hydel Projects, Debt: Equity shall be approved in the range of 80: 20 to 75: 25. The debt equity structure as proposed by the Project Sponsors being in line with the guidelines is accepted.

In order to assess reasonable benchmark IRR, the Authority initiated a market study. The Authority also considered the returns offered by various hydropower sponsors in the competitive bidding carried out by Punjab Power Development Board (PPDB) and Pakhtunkhwa Energy Development Organization (PEDO). Based thereon the Authority considers that in the instant case an IRR of 14.5% can be considered a reasonable assessment. In view thereof the same is being allowed.

The NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018 stipulate that in case of renewable energy projects eligible for securing debt financing under the Revised SBP Financing Scheme for Renewable Energy, a flat rate shall be approved. The Project Sponsors have offered that in case the spread negotiated is less than the said limits, the savings in the premium over SBP Base Rate shall be shared by the power purchaser and the power producer in the ratio of 60 : 40 respectively. The power producer will submit relevant authentic documentary evidence to the Authority, for the aforesaid adjustment within 15 days of commercial operations date of the Project. The Authority while agreeing to the aforementioned proposal decided to assess the debt servicing component on the assumption of 100% SBP financing (with assumed interest rate of 5.5%) as it reduces the levelized tariff of the project. Any other proposed debt terms will be considered only after the Project Sponsors have made all efforts to avail and exhaust the SBP refinancing scheme for



renewable energy projects. The NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018 shall be followed in case actual debt servicing is KIBOR/LIBOR based.

The Authority observed that the O&M cost claimed by the Project Sponsors is on the higher side, and decided to rationalize the same. In this regard, international benchmarks and actual O&M cost of recent WAPDA projects was considered for making fair assessment. Based thereon, total O&M cost of Rs. 0.9900/kWh has been assessed for the Project, split into foreign (Rs 0.2722 per kWh) and local (Rs. 0.7178 per kWh) O&M components.

The NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018 stipulate that the insurance costs shall be approved as a percentage of EPC Costs at the rate of 1.00% for hydel projects up to 50MW. Therefore, the Authority has decided to rationalize insurance during operation from 1.05% (as claimed by the Project Sponsors) to 1.00% of the allowed EPC cost.

The Project Sponsors did not submit equity injections and debt drawdown patterns. Therefore, equity and debt drawdown pattern of the upfront tariff has been used for the purpose of calculation. Accordingly an IDC amounting to US\$ 1.185 million has been assessed. ROEDC and IDC will be adjusted at COD based on debt and equity drawdowns over a maximum construction period of 36 months.

The Authority observed that the exchange rate assumed by the Project Sponsors is not representative of the prevailing exchange rate, resulting in a visibly understated tariff, therefore all calculations have been based on the USD/PKR exchange rate of 121.

Further, the Authority observed that the exclusion of duties and taxes artificially understates the tariff of the project. Therefore, to estimate the true cost of electricity at the time of COD, duties and taxes amounting to US\$ 0.413 Million @ 6.05% of the offshore assumed EPC cost have been included in the tariff.

For all adjustments, where applicable, the NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018 shall be followed.

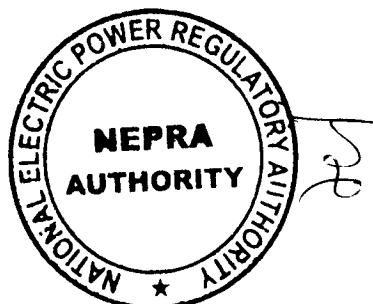
#### **VI. Whether hydrological risk will be borne by the power purchaser?**

The Project Sponsors submitted that the hydrological risk will be borne by the Power Producer, and requested the Authority to allow all power generated by the Complex/Power Producer to sell & procure by the Power Purchaser at the prevailing tariff of the Project.

In this regard CPPA commented that the Project Sponsors should bear the hydrological risk. In addition, a mechanism should be designed for sharing the bonus energy between the Purchaser and the Seller, as is the case for other renewable power projects.

The Authority observed that since the project will bear the full hydrological risk, the full upside as well as full downside for changes in hydrology shall be passed on to the Project Sponsors and not the power purchaser. Therefore, all energy shall be sold at the same prevailing rate without sharing.

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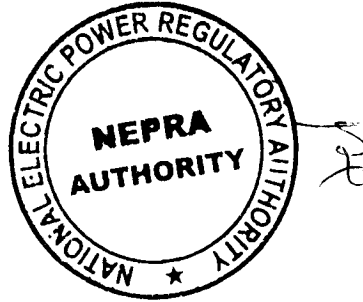


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**VII. Whether withholding tax should be allowed as pass through item?**

The Project Sponsors requested to allow withholding tax on dividends as pass-through. The Authority considering that withholding tax being the responsibility of shareholders decided to stop passing on the withholding tax on dividends to the end consumer. In this regard, the recently approved NEPRA (Benchmarks for Tariff Determination) Guidelines, 2018 clearly stipulate that withholding tax on dividends shall not be allowed as a pass-through item in any technology. Therefore, the request of the Project Sponsors in this regard being inconsistent with the guidelines is not accepted.



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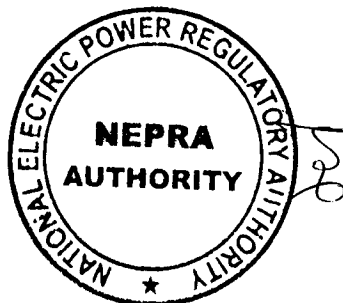
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7 **ORDER:**

The Authority, in exercise of its powers under Regulation 4(3) of the NEPRA (Import of Electric Power) Regulations, 2017, has decided to approve the following rates and terms and conditions for import of power by Central Power Purchasing Agency (CPPA) from Riali-II Hydro Power Company (Pvt.) Limited.

Tariff Components	Year 1-10	Year 11-30	Indexation
<b>Variable Charge (Rs/kWh)</b>			
O&M - Local	0.7178	0.7178	Pakistan CPI
O&M - Foreign	0.2722	0.2722	PKR/US\$, US CPI
Water Use Charge	0.4250	0.4250	
Insurance	0.4767	0.4767	PKR/US\$(If applicable)
Debt Service (Local)	5.5789	0	
Return on Equity (ROE)	2.0635	2.2109	PKR/US\$
ROE During Construction	0.5382	0.5382	PKR/US\$

- i. The reference tariff has been calculated on the basis of net contracted capacity of 7.080 MW and net annual energy production of 37.740 GWh.
- ii. In the above tariff, no adjustment for Carbon Emission Reduction receipts (CERs) has been accounted for. However, upon actual realization of CERs, the same shall be distributed between the Power Purchaser and RHPCL in accordance with the applicable GOP Policy as amended from time of time.
- iii. The above tariff is applicable for a period of thirty (30) years on BOOT basis commencing from Commercial Operation Date (COD).
- iv. Debt service will be paid in the first 10 years of commercial operation of plant after COD.
- v. In case, the loan spreads are agreed at lower than the allowed spread, the benefit of such reduction in rate will be adjusted in proportion of 40% to the Project Company and 60% to the power purchaser through necessary adjustment in tariff.
- vi. Redemption of equity has been allowed after 10 years of commercial operation of the plant.
- vii. The construction period is 36 months.
- viii. The reference PKR/Dollar rate has been assumed at 1 USD = 121 PKR.
- ix. The component wise tariff is indicated at Annex-I.
- x. Debt Servicing Schedule is attached as Annex-II.

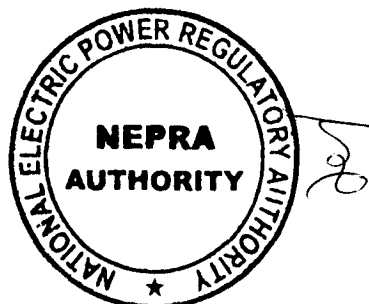


**I. One-Time Adjustments**

- a. The Principal repayment and the cost of debt will be adjusted at COD as per the borrowing composition.
- b. 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).
- c. The specific items of project cost to be paid in foreign currency will be adjusted at COD on account of actual variation in exchange rate over the reference PKR/US\$ exchange rate of Rs. 121 on production of verifiable documentary evidence to the satisfaction of the Authority.
- d. Duties and/or taxes, not being of refundable nature, imposed on the Company up to the commencement of its commercial operations for the import of its plant, machinery and equipment will be adjusted on actual basis at COD, as against reference allowed amount of US\$ 0.413 Million, upon production of verifiable documentary evidence to the satisfaction of the Authority.
- e. Civil Works Cost will be adjusted on account of variation in the price of construction material (Cement, Steel, Labour and Fuel) during the project construction period based on the price adjustment mechanism decided by the Authority.
- f. Financial charges will be adjusted at COD on the basis of actual subject to the maximum of 2% of the total debt allowed (excluding the impact of interest during construction and financial charges) on production of authentic documentary evidence.
- g. Return on Equity (ROE) and Return on Equity During Construction (ROEDC) will be calculated at COD on the basis of actual equity injections and PKR/US\$ exchange rate variation (within the overall equity allowed by the Authority at COD) over the construction period of 36 months allowed by the Authority.
- h. The Company shall submit the relevant water use agreement as part of the onetime adjustment at COD and the tariff shall be adjusted to incorporate water use charge accordingly.
- i. The reference tariff table shall be revised at COD while taking in to account the above adjustments. RHPCL shall submit its request to the Authority within 90 days of COD for necessary adjustments in tariff.

**II. Pass-Through Items**

No provision for income tax has been accounted for in the tariff. If the power producer is obligated to pay any such tax, the exact amount paid by the power producer (the Company) shall be reimbursed by the Power Purchaser to the Company on production of original receipts. This payment should be considered as pass-through payment spread over a twelve (12) months period in addition to fixed charges in the Reference Tariff.



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### III. Hydrological Risk

Hydrological Risk shall be borne by the Power Producer.

### IV. Indexation

The following indexations during operational period shall be applicable to the reference tariff:

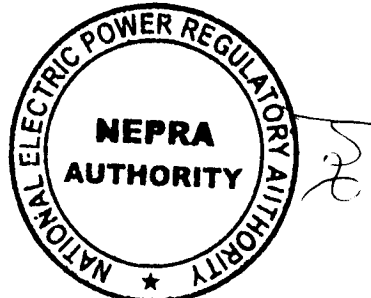
#### i) O&M

The local part of O&M will be adjusted on account of Inflation (CPI General), whereas the foreign part of O&M will be adjusted on account of Rupee/Dollar exchange rate variation and US CPI. Quarterly adjustment for local inflation, foreign inflation and exchange rate variation will be made on 1st July, 1st October, 1st January & 1st April respectively on the basis of the latest available information with respect to CPI General (or alternative index as determined by the Authority), US CPI (notified by US bureau of labor statistics) and revised TT & OD Selling rate of US Dollar (notified by the National Bank of Pakistan). The mode of indexation will be as under:

$$\begin{aligned} O\&M_{(L,REV)} &= O\&M_{(L,REF)} * CPI_{(REV)} / CPI_{(REF)} \\ O\&M_{(F,REV)} &= O\&M_{(F,REF)} * USCPI_{(REV)} / USCPI_{(REF)} * ER_{(REV)} / ER_{(REF)} \end{aligned}$$

Where:

- $O\&M_{(L,REV)}$  = The revised applicable O&M local component of tariff indexed with Pakistan CPI (General).
- $O\&M_{(F,REV)}$  = The revised applicable O&M foreign component of tariff indexed with US CPI and exchange rate variation.
- $O\&M_{(L,REF)}$  = The reference O&M local component of tariff for the relevant period.
- $O\&M_{(F,REF)}$  = The reference O&M foreign component of tariff for the relevant period.
- $CPI_{(REV)}$  = The Revised Pakistan CPI (General) as notified by the Pakistan Bureau of Statistics for the relevant month.
- $CPI_{(REF)}$  = The Reference Pakistan CPI (General) of June 2018 as notified by the Pakistan Bureau of Statistics.
- $US\ CPI_{(REV)}$  = The Revised US Consumer Price Index (All Urban Consumers) notified by the Bureau of Labor Statistics.
- $US\ CPI_{(REF)}$  = Reference US CPI (All Urban Consumers) notified by the Bureau of Labor Statistics for the month of June 2018.
- $ER_{(REV)}$  = The revised TT and OD selling rate of US dollar as notified by the National Bank of Pakistan.
- $ER_{(REF)}$  = The reference TT and OD selling rate of US dollar of 121



ii) Water Use Charges

Water Use Charge will be paid on units delivered basis and revised/ indexed as per government policy.

iii) Insurance

Insurance cost component of tariff, in case insurance is denominated in foreign currency, will be adjusted on account of PKR/US\$ exchange rate variation at COD and thereafter on an annual basis at actual subject to the maximum of 1% of the EPC cost on production of authentic documentary evidence by RHPCL, according to the following formula:

$$\text{Ins}_{(REV)} = \text{Ins}_{(REF)} * \text{ER}_{(REV)}/\text{ER}_{(REF)}$$

Where;

$\text{Ins}_{(REV)}$  = Revised Insurance cost component of tariff adjusted with the exchange rate variation (PKR/US\$)

$\text{Ins}_{(REF)}$  = Reference insurance cost component of tariff for the relevant period.

$\text{ER}_{(REV)}$  = The revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan.

$\text{ER}_{(REF)}$  = The reference TT & OD selling rate of US dollar as notified by the National Bank of Pakistan.

v) Return on Equity

Return on equity (ROE) as well as Return on Equity during Construction (ROEDC) component of tariff shall be adjusted for variation in PKR/US\$ exchange rate according to the following formula:

$$\text{ROE}_{(REV)} = \text{ROE}_{(REF)} * \text{ER}_{(REV)}/\text{ER}_{(REF)}$$

$$\text{ROEDC}_{(REV)} = \text{ROEDC}_{(REF)} * \text{ER}_{(REV)}/\text{ER}_{(REF)}$$

Where;

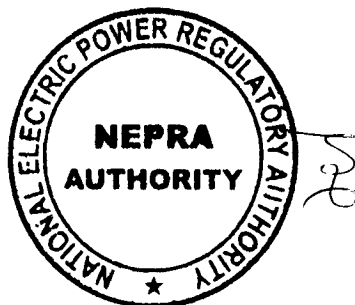
$\text{ROE}_{(REV)}$  = Revised Return on Equity component of tariff expressed in Rs/kW/M adjusted with exchange rate variation.

$\text{ROEDC}_{(REV)}$  = Revised Return on Equity during Construction component of tariff in Rs/kW/M adjusted with exchange rate variation.

$\text{ROE}_{(REF)}$  = Reference Return on Equity component of tariff expressed in Rs/kW/M for the relevant period.

$\text{ROEDC}_{(REF)}$  = Reference Return on Equity during Construction component of tariff expressed in Rs/kW/M for the relevant period.

*(Handwritten mark)*



*(Handwritten mark)*

ER<sub>(REV)</sub> = Revised TT and OD selling rate of US dollar as notified by the National Bank of Pakistan.  
ER<sub>(REF)</sub> = Reference TT and OD selling rate of US dollar.

Note: -

Adjustment on account of inflation, foreign exchange rate variation and LIBOR/KIBOR variation will be approved by the Authority within fifteen working days after receipt of RHPCL's request for adjustment in tariff in accordance with the requisite indexation mechanism stipulated hereinabove.

**V. Other Terms and Conditions of Tariff**

Design & Manufacturing Standards:

Hydel Power Generation system shall be designed, manufactured and tested in accordance with the latest IEC standards or other equivalent standards. All plant and equipment shall be new and of standard quality.

Power Curve of the Hydel Power Complex:

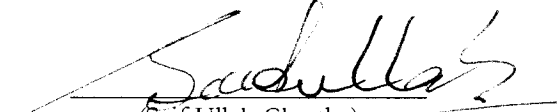
The power curve of the Hydel Power plant shall be verified by the Power Purchaser, as part of the Commissioning tests according to the latest IEC standards and shall be used to measure the performance of the hydel generating units.


Emissions Trading/Carbon Credits:

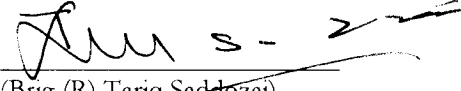
RHPCL shall process and obtain emissions/carbon credits expeditiously and credit the proceeds to the Power Purchaser as per the policy issued by the Federal Government.

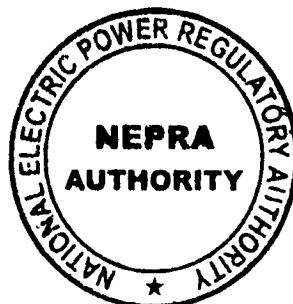
- 8 The above approved rates and terms and conditions are being intimated to the Federal Government for notification. After the notification, the CPPA shall execute the PPA as per the approved/notified rates and terms and conditions in the official Gazette as per Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with regulation 4(4) of the NEPRA (Import of Electric Power) Regulations, 2017.

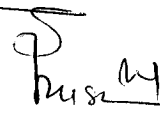
AUTHORITY

  
(Saif Ullah Chattha)  
Member  
16-11-2018

  
3/16/11/2018  
(Rehmatullah Baloch)  
Member

  
(Brig (R) Tariq Sadozai)  
Chairman

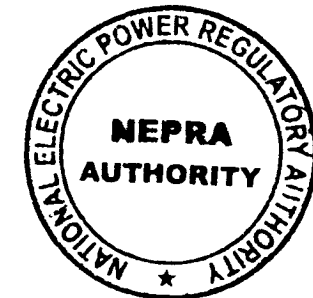


  
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Annex-I

Riali-II HPP  
REFERENCE TARIFF

Year	Energy Purchase Price							
	O&M Local	O&M Foreign	Water Use Charge	Insurance	Return on Equity (ROE)	ROE During Construction	Debt Service	Total Tariff
	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kWh
1	0.7178	0.2722	0.4250	0.4767	2.0635	0.5382	5.5789	10.0724
2	0.7178	0.2722	0.4250	0.4767	2.0635	0.5382	5.5789	10.0724
3	0.7178	0.2722	0.4250	0.4767	2.0635	0.5382	5.5789	10.0724
4	0.7178	0.2722	0.4250	0.4767	2.0635	0.5382	5.5789	10.0724
5	0.7178	0.2722	0.4250	0.4767	2.0635	0.5382	5.5789	10.0724
6	0.7178	0.2722	0.4250	0.4767	2.0635	0.5382	5.5789	10.0724
7	0.7178	0.2722	0.4250	0.4767	2.0635	0.5382	5.5789	10.0724
8	0.7178	0.2722	0.4250	0.4767	2.0635	0.5382	5.5789	10.0724
9	0.7178	0.2722	0.4250	0.4767	2.0635	0.5382	5.5789	10.0724
10	0.7178	0.2722	0.4250	0.4767	2.0635	0.5382	5.5789	10.0724
11	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
12	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
13	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
14	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
15	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
16	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
17	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
18	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
19	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
20	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
21	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
22	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
23	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
24	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
25	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
26	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
27	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
28	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
29	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
30	0.7178	0.2722	0.4250	0.4767	2.2109	0.5382	-	4.6408
<b>Levelized Tariff</b>	<b>0.7178</b>	<b>0.2722</b>	<b>0.4250</b>	<b>0.4767</b>	<b>2.1148</b>	<b>0.5382</b>	<b>3.6364</b>	<b>8.1811</b>



## Riali-II HPP

## Debt Servicing Schedule for the Purpose of Indexation of Debt Component Only

eriod	Local Debt					Annual Principal Repayment Rs./kWh	Annual Interest Rs./kWh	Annual Debt Servicing Rs./kWh
	Principal Million Rs.	Repayment Million Rs.	Mark-Up Million Rs.	Balance Million Rs.	Debt Service Million Rs.			
	1,611.21	30.48	22.15	1,580.73	52.6372			
	1,580.73	30.90	21.74	1,549.83	52.6372			
	1,549.83	31.33	21.31	1,518.50	52.6372			
	1,518.50	31.76	20.88	1,486.74	52.6372			
1	1,611.21	124.47	86.08	1,486.74	210.5488	3.2981	2.2808	5.5789
	1,486.74	32.19	20.44	1,454.55	52.6372			
	1,454.55	32.64	20.00	1,421.91	52.6372			
	1,421.91	33.09	19.55	1,388.83	52.6372			
	1,388.83	33.54	19.10	1,355.28	52.6372			
2	1,486.74	131.46	79.09	1,355.28	210.5488	3.4833	2.0957	5.5789
	1,355.28	34.00	18.64	1,321.28	52.6372			
	1,321.28	34.47	18.17	1,286.81	52.6372			
	1,286.81	34.94	17.69	1,251.87	52.6372			
	1,251.87	35.42	17.21	1,216.45	52.6372			
3	1,355.28	138.84	71.71	1,216.45	210.5488	3.6788	1.9001	5.5789
	1,216.45	35.91	16.73	1,180.53	52.6372			
	1,180.53	36.40	16.23	1,144.13	52.6372			
	1,144.13	36.91	15.73	1,107.22	52.6372			
	1,107.22	37.41	15.22	1,069.81	52.6372			
4	1,216.45	146.63	63.91	1,069.81	210.5488	3.8854	1.6936	5.5789
	1,069.81	37.93	14.71	1,031.88	52.6372			
	1,031.88	38.45	14.19	993.43	52.6372			
	993.43	38.98	13.66	954.46	52.6372			
	954.46	39.51	13.12	914.94	52.6372			
5	1,069.81	154.87	55.68	914.94	210.5488	4.1035	1.4754	5.5789
	914.94	40.06	12.58	874.89	52.6372			
	874.89	40.61	12.03	834.28	52.6372			
	834.28	41.17	11.47	793.11	52.6372			
	793.11	41.73	10.91	751.38	52.6372			
6	914.94	163.56	46.99	751.38	210.5488	4.3339	1.2450	5.5789
	751.38	42.31	10.33	709.08	52.6372			
	709.08	42.89	9.75	666.19	52.6372			
	666.19	43.48	9.16	622.71	52.6372			
	622.71	44.07	8.56	578.64	52.6372			
7	751.38	172.75	37.80	578.64	210.5488	4.5773	1.0017	5.5789
	578.64	44.68	7.96	533.96	52.6372			
	533.96	45.30	7.34	488.66	52.6372			
	488.66	45.92	6.72	442.74	52.6372			
	442.74	46.55	6.09	396.19	52.6372			
8	578.64	182.44	28.10	396.19	210.5488	4.8342	0.7447	5.5789
	396.19	47.19	5.45	349.00	52.6372			
	349.00	47.84	4.80	301.16	52.6372			
	301.16	48.50	4.14	252.67	52.6372			
	252.67	49.16	3.47	203.51	52.6372			
9	396.19	192.69	17.86	203.51	210.5488	5.1057	0.4733	5.5789
	203.51	49.84	2.80	153.67	52.6372			
	153.67	50.52	2.11	103.14	52.6372			
	103.14	51.22	1.42	51.92	52.6372			
	51.92	51.92	0.71	0.00	52.6372			
10	203.51	203.51	7.04	0.00	210.5488	5.3923	0.1866	5.5789

