Registrar

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Islamic Republic of Pakistan

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No. NEPRA/R/ADG(Trf)/TRF-523/KHP-2020/13441-13443
March 10, 2021

Subject: **Decision of the Authority in the matter of Tariff Petition filed by Pakhtunkhwa Energy Development Organization (PEDO) for Tariff Determination of 40.8 MW Koto Hydropower Project** [Case # NEPRA/TRF-523/KHP-2020]

Dear Sir,

Please find enclosed herewith the subject decision of the Authority along with Annex-I & II (26 Pages) in case No. NEPRA/TRF-523/KHP-2020.

2. The subject Decision of the Authority 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

10 03 21

(Syed Safeer 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 TARIFF PETITION FILED BY PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION (PEDO) FOR TARIFF DETERMINATION OF 40.8 MW KOTO HYDROPOWER PROJECT

1. Pakhtunkhwa Energy Development Organization (hereinafter referred to as the "Company" or PEDO or the Petitioner), envisages to set up 40.8 MW is run of river located on Panjkora River at District Lower Dir of Khyber Pakhtunkhwa Province

2. PEDO filed a Tariff Petition for determination of generation tariff for the Project pursuant to the National Electric Power Regulatory Authority (Tariff Standards and Procedures) Rules, 1998.

Submissions of the Petitioner:

3. The salient features of the petition are as follows:

Project Size	40.8 MW
Project Site	Panjkora River at District Lower Dir of Khyber Pakhtunkhwa Province
Construction Period	48 Months
Plant Factor	57.30%
Saleable Energy	180 GWh
Capital Structure	70% Debt and 30% Equity
Proposed Levelized Tariff (1-30 Years)	Rs. 15.2851/kWh (US cents 9.8614/kWh)
Total Project Cost	US$ 157.552 million
Rs/US$	155

4. The proposed project costs are summarized below:

Project Cost	**US$ Million**
EPC Cost	123.28
Custom Duties	3.06
Contingency	6.67
Police Security	1.39
Land Cost	3.41
Project Management Unit Cost	0.61
Management Consultants Cost	1.71
Project Cost before IDC	**140.13**
Interest during Construction (IDC)	17.42
Total Project Cost	**157.55**

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5. According to the PEDO the proposed project cost and reference tariff is based on the following assumptions. A change in any of these assumptions. A change in any of these assumptions will necessitate a corresponding adjustment in the reference tariff:

a. The exchange rates are assumed to be 155 for Rs./USD. Exchange rates variations as per standard EPA shall be accommodated
b. 100% of Debt has been assumed to.be financed through a Sponsor loan provided by PEDO
c. O&M has been considered as 1.0% of the Capital cost.
d. A constant ROE of 16% per annum is assumed over 30-years.
e. Custom Duties on the import of plant and equipment (7% of 70% of the foreign cost) have been assumed for reference purposes.
f. No sales tax is assumed, General Sales Tax, and all other taxes and any new taxes shall be treated as pass-through items.
g. The construction period for the purpose of Reference Tariff calculations has been assumed as 48 months from the 'Notice to Proceed' to the EPC contractor. In case the completion of the project takes more than 48 months, IDC shall be adjusted based on the actual time taken for the completion of the project if caused by Force Majeure events acknowledged by Power Purchaser/Authority.
h. Withholding Tax on dividend @7.5% as required under the Income Tax Ordinance, 2001 is assumed. Any change in the rate of the withholding tax would be pass-through to the Power Purchaser.
i. No Debt Service Reserve Account (DSRA), Maintenance Reserve Account or Contingency Reserve Account or any other Reserve Account has been considered in the tariff model.
j. During construction period, the timing of debt drawdown may vary from that estimated now; as such, the actual 'Interest during construction' (IDC) will be updated at COD and the Reference Tariff table will be adjusted accordingly. Similarly, the adjustments for variations in the assumed benchmark interest rates etc. shall be applied.
k. No hedging cost has been assumed for exchange rate fluctuations during construction
l. Being a Public sector project, no Water Usage Charges have been considered

Proceedings:

6. The tariff petition was admitted by the Authority on March 24, 2020, and the salient features of the tariff proposal were published in daily newspapers inviting filing of replies, intervention requests, or comments. It was also decided to conduct a hearing on the matter on August 26, 2020, at 10:00 AM

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through an online application. Notices of hearing and the proposed issues to be discussed and deliberated upon during the hearing were also published in the national newspapers on August 08, 2020. In response, no intervention request was filed, however comments were received from the Ministry of Planning Development and Special Initiative (Energy Wing) (MPD&SI), Central Power Purchasing Agency (Guarantee) Limited (CPPA-G), Transparency International Pakistan, and Punjab Power Development Board (PPDB).

Hearing:

7. The hearing in the matter was held on August 26, 2020, at 10:00 AM which was attended by the representatives of Pakhtunkhwa Energy Development Organization (PEDO), Central Power Purchasing Agency Guaranteed Limited (CPPA-G), Punjab Power Development Board (PPDB) and other stakeholders.

Comments of Stakeholders:

8. CPPA-G, MPD&SI, and Transparency International Pakistan (TIP) comment received were also forwarded to the Petitioner for its response. The relevant comments of the stakeholders and the Petitioner's response are incorporated in the instant decision under the relevant issue.

Issues:

9. Based on the contents of the Petition, the following issues were framed for the proceedings:

    i. Whether the project design/feasibility has been approved by the competent Authority/forum?

    ii. Whether the plant capacity and annual generation claimed by the Petitioner are justified? , whether the auxiliary consumption of 2% is justified? and whether the enhanced capacity from 31.7 MW to 40.8 MW has been approved by the Panel of Experts?

    iii. Whether an approved Interconnection Study has been obtained?

    iv. Whether NOCs have been obtained from the environmental protection departments?

    v. Whether the construction period of 48 months claimed by the Petitioner is justified?

    vi. Whether the EPC cost is competitive, comparative, and has been arrived at through a fair and transparent EPC bidding process?

    vii. Whether the police security cost of US$ 1.391 million claimed by the Petitioner is justified?

    viii. Whether the land purchase and infrastructure development cost of US$ 3.406 million claimed by the Petitioner is justified?

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ix. Whether the custom duties of US$ 3.060 million calculated @ 7% of the 70% of the foreign cost for the import of plant and equipment is justified?

x. Whether the Non-EPC cost of US$ 2.32 million pertaining to Project Management Unit cost of 0.611 million US$ and construction management cost of US$ 1.709 million claimed by the Petitioner is justified?

xi. Whether the claimed contingency cost of US$ 6.672 million is justified?

xii. Whether the terms and conditions of debts claimed by the Petitioner are justified?

xiii. Whether the operating costs claimed by the Petitioner are justified?

xiv. Whether withholding tax on dividends should be allowed as a pass-through item?

xv. Whether the Return on Equity (ROE) and Return on Equity during Construction (ROEDC) computed at 16% is justified?

10. Having considered the respective submissions of the parties and after careful perusal of the record; issue wise findings of the Authority are as under:

Issue No. I & II: Whether the project design/feasibility has been approved by the competent Authority/forum? Whether the plant Capacity and annual generation claimed by the Petitioner are justified? , whether the auxiliary consumption of 2% is justified? And whether the enhanced capacity from 31.7 MW to 40.8 MW has been approved by the Panel of Experts?

11. The Petitioner submitted that the design/feasibility has been approved by the competent Authority/forum (PEDO) and plant capacity and annual generation, as well as the auxiliary consumption of 2%, is also justified. With regards to the enhanced capacity from 31.7 MW to 40.8 MW, the Petitioner submitted that it has been approved by the Panel of Experts.

12. CPPA-G vide letter dated August 19, 2020, submitted that the proposed auxiliary consumption of 2% is relatively high as compared to prevailing hydropower projects (Riali-II & Kathai-II). Generally, 1% is more than sufficient for a hydel power plant with less than 50 MW capacity and the same was evident in the case of Daral Khawar (36.6 MW) hydropower project during the actual commissioning test which was even lower than 1%. Therefore, auxiliary consumption must be considered 1%.

13. The Petitioner in response submitted that auxiliary consumption of 2% considered is as per the load list provided by EPC Contractor.

14. The Authority observed that the Petitioner has not submitted approval of POE in respect of its revised feasibility study. However, it stated that the net average energy of 205 GWh has been calculated based on discharges resulting in a plant load factor of 57.3%, whereas, as per the revised feasibility study, the annual average energy of 209.71 GWh has been calculated based on discharges

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resulting in a plant load factor of 58.67%. The Authority also observed that the Petitioner has calculated the tariff on saleable energy i.e. 180 GWh by excluding the outages of 36.5 days (Scheduled, Forced & others) from the annual energy generation.

15. The Authority is of the opinion that the outages period shall not be excluded from the annual energy generation of the plant and this is an unprecedented mechanism for calculation of annual energy. Further, the Authority also observed that 2% auxiliary consumption is also not supported. The Authority has decided to consider the net annual energy of 207.6129 GWh after deduction of 1% Auxiliary consumption for calculation of tariff.

Issue No. III. Whether an approved Interconnection Study has been obtained?

16. The Petitioner submitted that Interconnection Study has been approved by the relevant authority and has also provided the approved letters dated 11-12-2019 and 17-03-2020 of PESCO and NTDC respectively.

17. CPPA-G vide letter dated August 19, 2020, stated that so far PESCO has not issued any consent pursuant to the applicable legal and regulatory framework for the purchase of power and CPPA-G did not have the information regarding which entity will construct the interconnection facility and who will finance the interconnection facility. CPPA-G also stated that the power purchaser has not been identified in the tariff petition.

18. In response, the Petitioner submitted that PESCO has approved and vetted single line diagram and general layout of switchyard and has also given consent to construct 132 kV line for interconnection by PEDO thereby vetting plan and profile of 132 kV TL for interconnection with 132 kV warrai-Timergara (Golen Gol) Transmission line. The Petitioner further stated that, in December 2018, the decision at PPIB has been made wherein it has been stated that CPPA-G shall be the Power Purchaser and the same is the view of the Petitioner for KOTO HPP.

19. The Authority has considered the submission of the Petitioner and CPPA-G and is of the opinion that the NTDC has already approved the GIS/Interconnection and dispersal arrangements and the Authority has also approved the generation license of the project vide decision dated October 16, 2020. The Authority considered that the issue of interconnection stands addressed.

Issue No. IV. Whether NOCs have been obtained from the relevant Irrigation and Environmental Protection departments?

20. The Petitioner submitted that a NOC has been obtained from environmental protection departments. Accordingly, the issue stands addressed.

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Issue No. V. Whether the construction period of 48 months claimed by the Petitioner is justified?

21. The Petitioner submitted that the construction period of 48 months is as per the signed EPC contract.

22. The Authority has observed that the construction period of 48 months has not been approved by POEs. However, the construction period of the project has been approved in the PC-I (revised) of the project. The Authority has compared the construction period of the instant project with other comparable hydropower projects and found that same as reasonable, hence it is approved and all the allied adjustments at COD will be restricted to the approved construction period.

23. The Authority has also observed that the project has not been completed within the stipulated time and no satisfactory response or justification has been submitted by the Petitioner for such delay. The Authority has noted that as per clause 27.1 of the submitted EPC contract regarding the delay in completion, it is stated that if the contractor fails to complete the works within the time for completion, the employer shall be entitled to a reduction in the contract price. Therefore, the Petitioner is directed to provide a detailed report at the time of the COD tariff adjustment request, indicating the reasons for the delay and to provide information about the mitigating decisions that have been made to recover the cost of delays from the EPC contractor if the delay is established as a result of non-performance of the EPC contractor and any reduction will be accounted at the time of COD stage tariff.

Issue No. VI. Whether the EPC cost has been arrived at through a fair and transparent EPC bidding process? Whether the EPC contractor has given the details/Monthly breakdown of civil work cost (adjustable and nonadjustable portion) or excavation in tunneling works?

24. The Petitioner submitted a bid evaluation report and signed EPC contract. As per the submitted bid evaluation report, the EPC contract was awarded through competitive bidding carried in accordance with the PEC rules/regulations. As per the bid evaluation report submitted by the Petitioner, an invitation of bids for the design, procurement, and construction of Koto Hydropower Project was advertised in leading local English/Urdu Newspapers on 19-08-2014, with the bids submission deadline of 18-9-2014. The closing date for the submission of bids was extended by the Employer, from 18-9-2014 to 2-10-2014 on the request of bidders. as per the information provided by the Petitioner, out of nine (9) firms who purchased the bidding document before the bid submission date, the following four (04) bidders submitted their Proposals:

1. **DESCON - KotoJV**
   i. Descon Engineering Ltd, Pakistan - **(Lead)**
   ii. Zheijiang Orient Engineering Co., China

2. **Sichuan, Sarwar &** Co., **Silian and Chongqing Luyang** JV
   i. Sichuan Province Geological Engineering Complex, China. **(Lead)**
   ii. Sarwar& Co. Pvt Ltd., Pakistan.

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iii. Silian Technical Import & Export Co. Ltd., China
iv. Chongqing Luyang Engineering Design Co., China

3. **SHUNTAI·HRL·AFI·JINLUN JV**
   i. ZHEJIANG JinhuaShuntai, Water Conservancy & Electric Power Co.Ltd, China - **(Lead)**
   ii. HabibRafiq (Pvt) Ltd Islamabad Pakistan
   iii. AI-Fajar International. Islamabad-Pakistan
   iv. Zhejiang Jinlun Electro mechanic Co. Ltd., China.

4. **ZDWP-CIENL-NEL JV**
   i. ZDWP-CIENL-NEL JV Zhejiang Design Institute of Water", Conservancy & Hydroelectric Power (ZDWP), China - **(Lead).**
   ii. CCC International Engineering Company Nigeria Ltd., China
   iii. Nishan Engineering Ltd, Pakistan

25. As per the bid evaluation report submitted by the Petitioner, technical bids were opened by the Bid Opening Committee in the Committee Room of PEDO House Peshawar, at 14:00 hrs on 2nd October 2014. The following is the composition of the Bid Opening Committee:

i.	Engr. Ijaz Noor Shinwari	(Project Director Koto HPP)-Convener
ii.	Mr. Muhammad Bashir Khan	(G.M Finance)- Member
iii.	Engr. Wajid Nawaz Khan	Director (P&F) - Member
iv.	Engr. Asif Khan	(Assistant Director Koto HPP)- Member
v.	Engr. Sikandar Khan	Team Leader (KHPP)- Member

26. As per the bid evaluation report submitted by the Petitioner, based on the analysis of Technical Proposals and after receiving clarifications, the following three (3) bidders were post qualified due to the fact that their Technical Proposals were found Responsive to the Bidding Document:

Bidder No.1:	DESCON - Koto JV
Bidder No.2:	Sichuan, Sarwar & Co., Silian, Chongqing Luyang JV
Bidder No.3:	SHUNTAI-HRL-AFI-JINLUN JV

27. As per the Bid Evaluation Report submitted by the Petitioner, bidder No.4 (ZDWP-CIENL-NEL JV) was considered not-qualified, non-responsive based on the analysis of the Technical Proposal and after receiving clarifications from the bidder. Hence, the Bidder was informed through a letter No. 96/PEDO/PD KOTO HPP, dated 30-10-2014 to collect their unopened Price Proposal.

28. As per the report submitted by the Petitioner, the sealed price proposals of 03 responsive bidders were opened on 31st October 2014 at 15 hours in the presence of representatives of bidders at the committee room of PEDO office by the Bid Opening and Evaluation Committee. As per the bid evaluation report submitted by the Petitioner, the following read-out prices were announced.

i.	DESCON-KOTO JV	Rs. 13,611,423,719
ii.	Sichuan, Sarwar & Co., Silian and Chongqing Luyang JV	Rs. 12,599,336,119
iii.	SHUNTAI-HRL-AFI-JINLUN JV	Rs. 12,972,035,484

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29. According to the bid evaluation report submitted by the Petitioner, after carrying the arithmetic check of prices of aforementioned bid and comparison with other bidders, Bidder No.2 i.e. Sichuan, Sarwar & Co., Silian and Chongqing Luyang JV with Price Bid of Rs.12,599,336,119/- is determined as the lowest bidder and accordingly an EPC contract was signed on January 19, 2015.

30. CPPA-G vide letter dated August 19, 2020, submitted, that an exchange rate of 155 PKR/US$ has been used for tariff calculation, while local EPC cost has been converted to USD by using a rate of 102.2 PKR/US$, which is not correct and a uniform rate of 155 PKR/US$ should be used. CPPA-G further stated that in case of Daral Khawar 36.6 MW HPP, the Authority has allowed an EPC price of US$ 69.70 million, whereas, the cost requested by the Petitioner for this project is on the higher side and maybe rationalized.

31. The Authority has noted that a detailed bidding process has been carried out by the Petitioner for the selection of the EPC contractor and as a result, the lowest evaluated bid price of Rs.12, 599,336,119/ of Sichuan, Sarwar & Co, Silian and Chongqing Luyang JV was selected.

32. After analyzing all the information, the Authority is of the view that EPC cost of Rs 12.599 billion or USD 123.281 million as claimed by the Petitioner is on the higher side. The process of selection of contractors followed by the Petitioner may have been transparent; however, the same has not yielded prices that can be considered competitive and comparative thus there is a need to rationalize this cost.

33. The Authority noted that in the instant case, for the conversion of the local portion of the EPC cost of Rs 6.22 billion, an exchange rate of Rs.102.2 has been used. The Authority is of the considered view that an updated exchange rate should be used for the conversion of the local portion of EPC price and accordingly an exchange rate of Rs.160 has been used, thus the resultant local portion of EPC price works out as USD 38.85 million instead of claimed US$ 60.83 million while the total EPC cost works out as US$ 101.31 million.

34. The Authority realized that unlike in other hydro contracts, the instant EPC contract doesn't have variations to be allowed in civil works on account of labour, steel, fuel, and cement so it may appear on the higher side as the EPC contractor may have built-in these variations upfront. However, after going through the earlier approved cost of comparable hydropower projects, when adjusted with an upfront allowance in the civil cost on account of the abovementioned variables, the per MW cost of comparable project works out as US$ 1.814 million/MW. Whereas, the instant project's EPC cost of USD 101.31 million, when converted, works out as US$ 2.48 million/MW which is about 37% higher. Therefore, the Authority has decided to use the benchmark of US$ 1.814 million/MW for this project which results in an EPC cost of US$ 74.02 million, and the same is approved.

35. Furthermore, while relying on the composition of the existing contract, the approved EPC cost of US$ 74.02 million shall be considered 50% local and 50% foreign. The local portion shall not be subject to any USD to PKR indexation, however, the foreign portion shall be subject to adjustment on account of actual variation in US$/Rupee parity for payments made in foreign currency and for

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this purpose the Petitioner shall provide the payment schedule along with the exchange rate prevalent on the date of a particular transaction and other supporting documents to the satisfaction of the Authority at COD. The adjustment mechanism is stated in the order part of this decision.

Issue No. VII. Whether the police security cost of US$ 1.391 million claimed by the Petitioner is justified?

36. The Petitioner claimed an amount of Rs. 215.65 million (US$ 1.391 million) as police security. CPPA-G vide letter dated August 19, 2020, submitted that since the project is developed by the Provincial Government, therefore, security is the responsibility of the Provincial Government and thus may not be part of Project Cost.

37. The Petitioner in response to the comments of CPPA-G submitted that EPC Contract covers only Internal Security. External security i.e. deployment of Police for the security of Chinese staff as per SOP issued by security agencies (both civil & military) in the worst troubled area of District Dir has to be borne by the Employer.

38. The Authority has noted that, after the bidding, a meeting was arranged between Management Consultant, 1st ranked EPC Contractor and PEDO on December 14, 2014, wherein it was agreed during the meeting that "*the EPC Contractor will arrange the internal security within the Project Area by themselves, however, the Security for External activities will be provided by the Client*"

39. The Authority also agrees with the comments of CPPA-G, since the project is developed by the Provincial Government, therefore, security is the responsibility of the Provincial Government and, thus, may not be the part of the project cost. In light of aforesaid, police security cost claimed by the sponsor is not justified as it is also covered under the EPC Contract, therefore, the Authority has decided to disallow this cost.

Issue No. VIII. Whether the land purchase and infrastructure development cost of US$ 3.406 million Claimed by the Petitioner is justified?

40. The Petitioner submitted that land purchase and infrastructure development will cost US$ 3.406 million.

41. CPPA-G vide letter dated August 19, 2020, also objected to the higher claimed land purchase cost of US$ 3.406 million and submitted that it should be rationalized.

42. The Authority observed that Petitioner during the hearing informed that the construction of the project is at an advanced stage, therefore, the cost claimed for land purchase and infrastructure development must have been incurred. Accordingly, the Petitioner was asked to provide the cost details duly supported by bank statements and invoices, however, no documentary evidence has been submitted for verification of the expenditure at this stage; therefore, despite on higher side, the claimed cost has not been ascertained. However, the Authority understands that this cost cannot be

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negated as land and its allied costs are an essential part of a hydropower project, therefore, the Authority has decided to allow it to subject to adjustment at actual on COD based on verifiable documentary evidence. Accordingly the cost of Rs. 528 million equivalent to US$ 3.30 million at an exchange rate of Rs.160 has been assumed. Further at COD, no exchange rate variation will be allowed.

Issue No. IX. Whether the Custom Duties of US$ 3.060 million calculated @ 7% of the 70% of the foreign cost for the import of plant and equipment is justified?

43. The Petitioner submitted that the customs duty considered is a budgetary number that shall be subject to true up at COD subject to provision of documentary evidence. According to the Petitioner, the amount has been worked out assuming 5% customs duty, 1% Sindh Cess, plus GST of 16% on the sum of two on the import of plant and equipment.

44. CPPA-G and Ministry of Planning, Development and Special Initiative (Energy Wing) (MPD&SI) and vide letters dated August 19, 2020, and August 26, 2020, respectively submitted the duties and taxes are the part of EPC price and its separate claim is not justified.

45. The Authority observed that as per clause 48.1 of EPC Contract, the rates and prices quoted by the Contractor in the Schedule of Prices shall be deemed to have included (i) business taxes, income tax, super tax, customs, import duties and other taxes on income, and (ii) fees charged for services provided under the Contract. The same has also been rightly pointed out by CPPA-G and MPD&SI and therefore, the Petitioner's claim and its adjustment for duties and taxes at COD will not be required, and accordingly the same is not allowed.

Issue No. X. Whether the Non-EPC cost of US$ 2.32 million pertaining to the Project Management Unit cost of US$ 0.611 million and Construction Management Cost of US$ 1.709 million claimed by the Petitioner is justified?

46. The Petitioner claimed the following costs regarding the Management Consultancy cost and Project Management Unit costs:

S.No	Cost Head	Amount US$	Amount PKR Million
1.	Management Consultancy Cost	1.709	264.950
2.	Project Management Unit Cost	0.611	94.821
Total		**2.320**	**359.771**

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Management Consultancy Cost:

47. The Petitioner stated that this covers the cost of the updated feasibility study, bid level design, tender document, bid evaluation, contract negotiation as well as complete construction management and services during the defect liability period.

48. CPPA-G vide letter dated August 19, 2020, submitted that the cost of US$ 2.32 million claimed by the Petitioner is on the higher side. The same may be allowed as per the development cost allowed to similar hydropower projects.

49. The Petitioner vide letter dated September 15, 2020, in response to the comments of CPPA-G submitted that Non-EPC cost of Management Consultant (MC) is reasonable and is arrived at through Competitive Bidding under PEC rules while PMU cost is duly approved by the provincial government through PC-1/revised PC-1

50. The Authority noted that the claimed cost of US$ 1.709 million includes US$ 0.090 million or (Rs 13.95 million) for hiring an Independent Engineer (IE) for 06 months prior to COD which is required under the PPA. It was noted that this cost is not a part of the original MC contract price and accordingly, the cost of IE under MC has not been considered. The Authority while being cognizant of the need for an IE decided that this cost should be borne out of the project development cost which in the instant project, comes under the Project Management Unit. After excluding the IE cost, the resultant MC contract price works out to be Rs. 250 million.

51. It was also observed that within the MC contract, an amount of Rs 5 million was included as a provisional sum which has been deducted because as a matter of principle such amount is not included for a project that is at an advanced stage of construction.

52. After going through the amended contract, it was further noted that an amount of Rs. 7.88 million has been claimed that has not been incurred. The Authority further noted that an amount of Rs. 9.37 million included in the MC contract price pertains to cost heads covered under the EPC contract and it seems a duplication of the cost and therefore, the same is also excluded. After deduction of Rs. 13.95 million on account of IE, Rs. 5 million on account of provisional sum, Rs. 7.88 million non-incurred cost on account of key staff salaries and Rs. 9.37 million as a duplication cost being the responsibility of the EPC contractor as per the EPC contract, the resultant MC cost works out to be Rs. 228.25 million and the same is hereby allowed.

Project Management Unit Cost:

53. The Petitioner claimed an amount of US$ 0.611 million (Rs. 94.82 million) and stated that this cost covers the company's cost for the pre-construction and during the construction period.

54. The Authority observed that the Petitioner's claimed costs are mainly estimates and are devoid of any supporting documents, and therefore, previously established benchmarks need to be relied

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upon. The estimated PMU costs claimed by the Petitioner are primarily project development cost which is on the higher side. The Authority has allowed a maximum development cost of US$ 0.22 million to other hydropower projects of PEDO on the basis of cost allowed to provincial government projects in Punjab and KPK executed under the Renewable Energy Development Sector Investment Program (REDSIP) which aims to develop indigenous, non-polluting, and renewable sources of energy to help meet Pakistan's power shortage and diversify the power sources. In view thereof, a development cost of US$ 0.22 million (Rs.35.2 million) is hereby allowed by the Authority for this project with a condition that the individual items may vary but the overall allowed cost should be the maximum cap and will not be subject to any exchange rate variation.

55. Recapitulating the above, the following is the summary of Non-EPC cost.

S.No	Cost Head	Claimed	Allowed
		Rs. Million	Rs. Million
1.	Management Consultancy Cost	264.950	228.25
2.	Project Management Unit Cost	94.821	35.20
Total		**359.771**	**263.45**

Issue No. XI. Whether the claimed contingency cost of US$ 6.672 million is justified?

56. The Petitioner has claimed a contingency cost of US$ 6.672 million to cover unforeseen expenses mainly resulting from delays and as per the Petitioner, it will be adjusted subject to the provision of documentary evidence.

57. CPPA-G in comments stated that most of the costs have already firmed up at EPC stage, therefore, the claim of the project at this stage is not justified.

58. The Petitioner in response stated that a contingency cost is a budgetary number considered to cater not only for delays but also for the increase in EPC Cost because of change in geological conditions etc.

59. The Authority has allowed the cost of contingency claimed by other hydropower projects that are at an initial stage, however, in the instant case, the Project is at the advanced stage of construction, therefore, the risk of uncertainty is minimal, and thus its provision, unjustified. In view thereof, the cost of contingency is disallowed to the Petitioner.

Issue No. XII. Whether the terms and conditions of debts claimed by the Petitioner are justified?

60. The Petitioner in its tariff petition has assumed a debt to equity ratio of 70:30. According to the Petitioner, the debt has been financed by PEDO for which an interest rate of 10% + 2.5% with the loan repayment period of 10 years has been requested.

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61. CPPA-G vide letter August 19, 2020, submitted that after reviewing the debt servicing component as per the debt schedule given in tariff application, the proposed average tariff of Seller is understated and it will increase current prevailing at Rs.14.64 per kWh for the FY 2019-20.

62. CPPA-G also stated that the debt: equity shall be approved in the range of 80: 20 to 75: 25 instead of the assumed debt: equity ratio 70:30 by the PEDO, which is not in-line with the aforementioned Tariff Guidelines issued by the Authority. CPPA-G further stated, that the assumed debt servicing, six (06) month average KIBOR with the spread of 2.5% is on the higher side, and being 100% PEDO finance project, SBP financing scheme available for Renewable Energy at a flat rate of 6% for debts with a repayment period of 12 years may be used.

63. The Petitioner in response to the comments of CPPA-G vide letter dated September 21, 2020, submitted that the proposed tariff has not been understated, however apparently high tariff is because of the high KIBOR rate determined by State Bank and which is beyond the control of PEDO. The Petitioner further stated that the debt-equity ratio of 70:30 is as per the Authority guidelines and the request for KIBOR +2.5 % is also as per the Benchmarks approved by NEPRA.

64. MPD&SI vide letter dated August 26, 2020, stated that the claimed Interest During Construction and project cost is high and any such cost which has not been actually incurred, should be avoided.

65. The Petitioner in response to the comments of MPD&SI submitted that IDC has been calculated as per NEPRA's benchmarks and will be subject to adjustment as per actual at COD tariff adjustment.

66. The Authority while reviewing the documents submitted noted that Hydel Developmental Fund (HDF) has been utilized for this Project. The HDF is established through "The [Khyber Pakhtunkhwa] Hydel Development Fund Ordinance, 2001". The relevant extract of the Provincial ordinance is hereunder:

> ***Establishment of the Fund.***—*(1) As soon as may be after the commencement of this Ordinance, Government shall establish a Fund to be known as the Hydel Development Fund.*
>
> *(2) Subject to the availability of resources, with particular reference to its overall liabilities, Government shall, on yearly basis, contribute to the Fund, such amount as it may determine, out of the total amount received from the Federal Government or an authority of the Federal Government on account of net profits earned by it from the generation of hydroelectricity, for the purposes of this Ordinance, and may, in cases of exigencies, contribute to the Fund from other grants received from the Federal Government or any other agency or from its own budget pertaining to the Annual Development Programme.*
>
> *(3) All profits from hydel projects undertaken from the Fund shall be deposited in the Provincial Consolidated Fund at the close of each financial year:*
>
> *Provided that the Government shall contribute ten percent of such profits to the Hydel Development Fund.*

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(4) The amount contributed to the Fund shall be exclusively utilized for the development of hydel electricity in the Province and shall be operated upon in accordance with the provisions of this Ordinance and the rules made thereunder.

67. The Authority opined that HDF is funded by NHP which the province of KPK receives from time to time from WAPDA Hydroelectric operated power plants established in the province, therefore, allowing the cost of debt in the lines of commercial banking is not justified. The Authority noted that the project is under implementation since 2014, whereas the State Bank of Pakistan (SBP) announced the financing for Renewable Energy in 2016. Further, it was also observed that PEDO with its own funding (coming largely from HDF) is not expected to approach SBP for lending needs nor SBP has the required sources set aside which will cover all existing and future lending needs of PEDO sponsored projects including other private sector RE projects. In view of the above, the application of 6% concessional lending rates of SBP may not be applicable. The issue of the cost of HDF funding needs to be seen from an opportunity cost point of view. It was observed that an unutilized HDF is generally invested in risk-free assets (short to long-term securities). For this purpose, KIBOR is an appropriate benchmark. Therefore, similar to what has been allowed as the cost of debt to other of PEDO's HDF funded project, this Project is also allowed the cost of debt at 6 months KIBOR of 7.30 % without any spread which shall be adjusted biannually with any variation in KIBOR. Further, the Authority also appreciated the Petitioner's suggestions of spreading the loan over the entire 30 years for its other hydropower plants (Jabori 10.2 MW and Karora 11.8 MW, all funded from HDF), and therefore, the loan for this Project has also been spread over 30 years and the same is approved. However, the debt: equity ratio shall be on the basis of the 80:20 capital structure.

68. Further, the Authority has not assumed any compounding of interest on IDC due to the reason that the interest is required to be paid when due and allowed as per actual at the time of COD.

69. The total cost approved and requested for the Koto HPP is tabulated below:

Cost Head	**Claimed Costs USD Million**	**Allowed Cost USD Million**
EPC Contract/Construction	123.28	74.02
Custom Duties	3.06	-
Land Cost	3.41	3.30
Contingency cost	6.67	-
Police Security	1.39	-
Project Management Unit Cost	0.61	0.22
Management Consultant	1.71	1.43
Project Cost with IDC	**140.13**	**78.97**
Interest During Construction (IDC)	17.42	13.03
Total Project Cost	**157.55**	**91.99**

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Issue No. XIII. Whether the operating costs claimed by the Petitioner are justified?

70. The Petitioner in its tariff petition claimed an amount of US$ 1.540 million based on 1% of the project cost per annum for Fixed and Variable O&M with the following component-wise break:

Variable O&M Cost	Rs/kWh	0.172
Fixed O&M Cost	Rs/kWh	1.149
Total	Rs/kWh	1.321

71. CPPA-G in its submitted comments stated that the O&M cost should be worked out on the basis of EPC cost rather than total project cost and no PKR to US$ indexation should be allowed on the O&M component.

72. The Petitioner in response submitted that most of the spares are imported and hence the cost needs to be indexed for the USD Pak Rupee exchange rate

73. MPD&SI stated that an O&M cost was approved at Rs. 142.53 million as given in the PC-1.

74. The Authority observed that the proposed cost for operation & maintenance of the plant is on the higher side than the O&M cost allowed by NEPRA to other comparable hydropower projects and various benchmarks as per the international reports and studies. However, the Authority is of the view that as per PC-I (revised), the O&M cost approved by the ECNEC in 2017 amounts to Rs. 142.53 million is more competitive and reasonable as compared to the international benchmarks. Therefore, the Authority hereby approves the cost of Rs. 142.53 million. Further, the Authority directs to conduct a transparent and competitive bidding process for the selection of O&M contractors in line with NEPRA (Selection of Operation and Maintenance Contractors by Generation Companies) Guidelines, 2021. Accordingly, the allowed O&M cost is the maximum cap subject to actual whichever is lower.

<u>Insurance during Operation:</u>

75. The Petitioner has claimed annual operating insurance @ 1% of EPC cost which is in line with the NEPRA (Benchmarks for Tariff Determination), Guidelines, 2018.

76. The Authority noted that there is a decline in the global insurance cost, the impact of which is also seen in recent hydropower projects where the annual insurance premium paid was as low as 0.46% of the EPC cost. In view thereof, the Authority has decided to allow insurance during operation @ 0.75% of EPC cost subject to adjustment on the basis of actual up to the maximum at 1% of the EPC cost upon provision of verifiable documentary evidence by the Petitioner at the time of COD.

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Issue No. XIV. Whether Withholding Tax on dividend should be allowed as a pass-through item?

77. The Petitioner requested that any withholding tax on dividends will be considered pass-through.

78. CPPA-G vide letter dated August 19, 2020, submitted that Withholding Tax on dividends (WHT) should not be allowed as a pass-through item.

79. The Petitioner in response vide letter dated September 21, 2020, submitted that any variation in applicable rates shall not affect the profitability of the project and therefore, WHT should be allowed as a pass-through item.

80. The Authority's approved tariff guidelines clearly stipulate that the withholding tax on dividends shall not be allowed as a pass-through item in any technology. Therefore, the request of the Petitioner to allow WHT as a pass-through item, being inconsistent with the guidelines is hereby declined.

Issue No. XV. Whether the Return on Equity (ROE) and Return on Equity during Construction (ROEDC) computed at 16% is justified?

81. The Petitioner has computed ROE and ROEDC @ 16% and further argued that it is reasonable as NEPRA has been allowing IRR of up to 17-18% to HPPs.

82. CPPA-G vide letter dated August 19, 2020, stated that Return on Equity as claimed by the Seller may be rationalized in the light of recent MOUs signed by GoP with IPPs and as the 100% equity investment is in local currency therefore the Return on Equity should not be indexed for PKR to USD exchange rate variation. In case the actual Return on Equity exceeds the determined Return on Equity, a claw back mechanism may be added in tariff to rationalize the profits.

83. In response, the Petitioner submitted that ROE and ROEDC has been computed @ 16% and further submitted that the request is reasonable as NEPRA has been allowing IRR of up to 17-18% to HPPs.

84. The Authority noted that the Cabinet Committee on Energy (CCoE) in its meeting held on August 27, 2020 reduced the return of public sector power projects for which revised tariffs have been given. The summary of the CCoE decision is given below:

RLNG 12% return with US indexation
Nuclear 14.5% @148 exchange rate with no further US indexation
WAPDA/GENCO, 10% return with no US indexation

85. The Authority is of the view that the instant project being owned by KPK government should also be treated in the same manner in terms of return and any discrimination in the level of return

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between federal government power plants and provincial government power plants may defeat the spirit of the decisions taken in CCoE for a reduction in overall national power tariffs. In view of the above, the Authority has decided to allow a return of 10% for the Project as recently reduced by CCoE for WAPDA hydroelectric with no USD indexation. A similar level of return was also allowed to recently approved tariffs of PEDO funded projects such as Karora and Jabori HPP.

86. In addition to the above, the Authority has also decided that the return allowed for this Project should be considered as the maximum ceiling and the return beyond the stated limit, if any, should be adjusted for which a claw back mechanism shall be prescribed at the time of COD.

87. The Petitioner has stated that the tariff is based on Take & Pay, with must run provision, accordingly a single part tariff has been allowed to the Project.

Other Comments by Stakeholders:

88. CPPA-G vide letter dated August 19, 2020 stated that there exists some calculation error in the claimed tariff due to underestimation of debt servicing component, and the actual tariff if correctly calculated will be higher. CPPA-G submitted that higher tariff will result in an increase in the basket price will adversely impact the circular debt and will put an extra burden to electricity consumers, therefore, the overall impact on the pool price with the addition of the above-proposed tariff may be ascertained in the due process of assessing tariff application. CPPA-G also objected that the proposed tariff of KOTO is higher as compared to other hydropower projects and the levellized tariff may be rationalized.

89. MPD&SI vide letter dated August 26, 2020, stated that the claimed levelized tariff of Rs15.2852/kWh is more than the present basket price of generation.

90. The Petitioner in response to the comments of CPPA-G and MPD&SI submitted that the proposed tariff has not been understated, however apparently high tariff is because of high KIBOR rate (determined by State Bank and which is beyond the control of PEDO). If the Tariff is calculated at the current KIBOR rate (7%), the tariff would come down to Rs. 14 per kWh approximately which is below the basket price mentioned above. The Petitioner also submitted that one of the reasons which may cause the tariff to appear higher is that the tariff is based on Take & Pay mechanism which will be avoiding any capacity payment during scheduled or forced outage.

91. Transparency International Pakistan vide letter dated August 20, 2020, submitted the proposed Tariff of Rs.15.2851/kWh (US Cents 9.8614/kWh) is 236% higher than the cheapest Tariff of Rs. 7.7863 approved by NEPRA for Access Solar Private Limited's (ASPL) 11.52 MW solar power project in the year 2018. In the current scenario of the Pakistan power sector, this tariff may not be financially and economically feasible for the electric power sector of Pakistan.

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92. The Petitioner vide letter dated August 24, 2020, in response to the comments of TIP, submitted that the apparently high tariff is mostly on account of the high KIBOR rate applied which is beyond the control of the project developer and further that the hydel power plants have a lifespan of minimum 50 years and after tariff control period, the tariff would be comprising of O&M component (or may be a slight portion of debt used for refurbishment and corresponding ROE, if invested for rehabilitation) and thus generate at a nominal tariff of US Cents 3-4/kWh. Regarding the approved tariff of ASPL 11.52 MW, the Petitioner submitted that it must be understood that the tariff of Rs. 7.7863 was approved in January 2018 at an exchange rate of USD 1=Rs. 100. At an exchange rate of USD 1= Rs. 155, the tariff of ASPL will translate into Rs. 12.05 /kWh and with KIBOR (7% +2.5), it will increase by almost 35% and settle at Rs. 16/kWh, which is almost the same as KOTO HPP.

93. The Petitioner further submitted that ASPL solar power project tariff was adjusted for plant factor of 20% (interest rate 6% flat) whereas the actual plant factor in Pakistan varies between 17-18%. Hence this should be considered as an attempt to indulge Power Purchaser into undue payments on account of solar Risk, whereas there is no hydrological risk under EPA for Koto because of Take & Pay mechanism. The Petitioner also stated that it is very prudent to mention here that the lifespan of solar projects is not more than 25 years.

94. The Authority has reviewed the concern of the commentators and acknowledges that the tariff claimed at Rs 15.2851/kWh for a hydro project is indeed on the higher side, however, after assessing the item-wise project cost, including tariff components, the approved tariff of Rs 7.5807 /kWh (US Cents 4.7379/kWh) for the Project has been considerably rationalized and competitive when compared to other RE tariffs.

Order:

95. 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 Koto Hydropower Project of Pakhtunkhwa Energy Development Organization (the Petitioner) for delivery of electricity to Power Purchaser:

i) Levellized tariff works out to be Rs. 7.5807 /kWh (US Cents 4.7379/kWh)

ii) EPC cost of US$ 74.02 million has been approved.

iii) Non-EPC cost of Rs. 263.45 million including Managing Consultancy Cost of Rs. 228.25 million and Project Management Unit Cost of Rs. 35.2 million has been approved.

iv) Land and resettlement of Rs. 528 million (US$ 3.30 million) has been assumed.

v) Debt to equity ratio of 80:20 has been approved.

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vi) Debt repayment period of 30 years has been taken into account for a 100% local loan.

vii) The KIBOR rate of 7.30% has been taken into account while assessing debt servicing.

viii) Annual ROE & ROEDC of 10% has been approved.

ix) The reference tariff has been calculated on the basis of net annual benchmark energy generation of 207.6129 GWh for an installed capacity of 40.8 MW. An auxiliary consumption has been restricted to 1%.

x) The above charges will be limited to the extent of net annual energy generation of 207.6129 GWh. Net annual generation supplied during a year to the Power Purchaser in excess of benchmark energy of 207.6129 will be charged at 10% of the prevalent approved tariff.

xi) O&M cost of Rs. 142.53 million per annum has been approved.

xii) Insurance during the operation has been calculated as 0.75% of the EPC cost.

xiii) The reference Rs./US$ rate has been taken as 160.

xiv) Construction period of 48 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	10
18	10
24	15
30	15
36	10
42	10
48	10

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.

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xix) The component wise tariff is indicated at Annex-I.

xx) Debt Servicing Schedule is attached as Annex-II.

I. One Time Adjustments

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

a. Out of total approved EPC cost of USD 37.01 million, 50% shall be adjusted at COD on account of variation in Rs./USD parity during the construction period, on production of authentic documentary evidence by the Petitioner to the satisfaction of the Authority. The remaining half amounting to Rs. 5,921.60 million shall remain the same and no variation in cost of civil works will be allowed.

b. 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.

c. Land and resettlement costs will be allowed as per actual, as against Rs. 528 million (US$ 3.30 million) allowed now, upon production of verifiable documentary evidence.

d. Non-EPC cost of Rs. 263.45 million including Management Consultancy cost of Rs. 228.25 million and Project Management Unit Cost of Rs. 35 million shall be subject to verification at COD in PKR only. The lower of actual or approved shall be taken into consideration.

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 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 based on the 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

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The local part of O&M cost will be adjusted on account of local inflation and 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:

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

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

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

Where;

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

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$ER_{(REV)}$ = 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 insurance component

The insurance component of the reference tariff will be adjusted as per actual incurred prudent costs, subject to the maximum ceiling of 1% of the approved EPC cost, on an 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 servicing schedule to this order at Annex-II) on a bi-annual basis at the relevant calculations date.

$KIBOR_{(REV)}$ = Revised 06 month KIBOR as at the last day of the proceeding biannual period as notified by National Bank of Pakistan.

III. Terms and Conditions of Tariff:

Design & Manufacturing Standards:

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

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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 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 claw back mechanism to be decided by the Authority.

iv. Pre COD sale of electricity is allowed to the project company, subject to the terms and conditions of EPA, at the applicable tariff excluding debt servicing and return on equity components. However, pre COD sale will not alter the required commercial operations date stipulated by the EPA in any manner.

v. In case the company is obligated to pay any tax on its income from generation of electricity, or any duties and/or taxes, not being of refundable nature, are imposed on the company, the exact amount paid by the company on these accounts shall be reimbursed on production of original receipts. This payment shall be considered as a pass-through payment. However, withholding tax on dividend shall not be a pass through item.

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96. The order along with the reference tariff table and debt servicing schedule as attached 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.

AUTHORITY

9/3/21
Engr. Rafique Ahmed Shaikh
Member

Rehmatullah Baloch
Member

Saif Ullah Chattha
Member 5.3.2021

Tauseef H.Farooqi
Chairman

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Annex-I

KOTO HYDROPOWER PROJECT
REFERENCE TARIFF TABLE

Year	(PKR/kWh)								Total PKR/kWh
	Variable O&M	Fixed O&M		Insurance	ROEDC	ROE	Debt Servicing		
	Local	Foreign	Local				Principal	Interest	
1	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	0.5552	4.1304	7.5807
2	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	0.5965	4.0892	7.5807
3	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	0.6408	4.0448	7.5807
4	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	0.6885	3.9972	7.5807
5	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	0.7396	3.9460	7.5807
6	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	0.7946	3.8910	7.5807
7	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	0.8537	3.8320	7.5807
8	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	0.9171	3.7685	7.5807
9	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	0.9853	3.7003	7.5807
10	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	1.0586	3.6271	7.5807
11	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	1.1372	3.5484	7.5807
12	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	1.2218	3.4639	7.5807
13	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	1.3126	3.3731	7.5807
14	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	1.4102	3.2755	7.5807
15	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	1.5150	3.1707	7.5807
16	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	1.6276	3.0581	7.5807
17	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	1.7486	2.9371	7.5807
18	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	1.8785	2.8071	7.5807
19	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	2.0182	2.6675	7.5807
20	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	2.1682	2.5174	7.5807
21	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	2.3294	2.3563	7.5807
22	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	2.5025	2.1831	7.5807
23	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	2.6885	1.9971	7.5807
24	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	2.8884	1.7973	7.5807
25	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	3.1031	1.5826	7.5807
26	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	3.3337	1.3519	7.5807
27	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	3.5815	1.1041	7.5807
28	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	3.8478	0.8379	7.5807
29	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	4.1338	0.5519	7.5807
30	0.1030	0.3501	0.2334	0.4278	0.4238	1.3568	4.4410	0.2446	7.5807
Levelized Tariff	**0.1030**	**0.3501**	**0.2334**	**0.4278**	**0.4238**	**1.3568**	**1.1646**	**3.5211**	**7.5807**

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Annex-II

KOTO HYDROPOWER PROJECT
DEBT SERVICING SCHEDULE (LOCAL)

Period	Opening Balance PKR in Million	Mark-UP PKR in Million	Principle Repayment PKR in Million	Debt Servicing PKR in Million	Closing Balance PKR in Million	Annual Principal Repayment-Rs./kWh	Annual Interest Rs./kWh	Annual Debt Servicing Rs./kWh
	11,775	430	57	486	11,719			
	11,719	428	59	486	11,660			
1	11,775	858	115	973	11,660	0.5552	4.1304	4.6856
	11,660	426	61	486	11,599			
	11,599	423	63	486	11,536			
2	11,660	849	124	973	11,536	0.5965	4.0892	4.6856
	11,536	421	65	486	11,471			
	11,471	419	68	486	11,403			
3	11,536	840	133	973	11,403	0.6408	4.0448	4.6856
	11,403	416	70	486	11,333			
	11,333	414	73	486	11,260			
4	11,403	830	143	973	11,260	0.6885	3.9972	4.6856
	11,260	411	75	486	11,185			
	11,185	408	78	486	11,107			
5	11,260	819	154	973	11,107	0.7396	3.9460	4.6856
	11,107	405	81	486	11,026			
	11,026	402	84	486	10,942			
6	11,107	808	165	973	10,942	0.7946	3.8910	4.6856
	10,942	399	87	486	10,855			
	10,855	396	90	486	10,764			
7	10,942	796	177	973	10,764	0.8537	3.8320	4.6856
	10,764	393	93	486	10,671			
	10,671	389	97	486	10,574			
8	10,764	782	190	973	10,574	0.9171	3.7685	4.6856
	10,574	386	100	486	10,474			
	10,474	382	104	486	10,369			
9	10,574	768	205	973	10,369	0.9853	3.7003	4.6856
	10,369	378	108	486	10,262			
	10,262	375	112	486	10,150			
10	10,369	753	220	973	10,150	1.0586	3.6271	4.6856
	10,150	370	116	486	10,034			
	10,034	366	120	486	9,914			
11	10,150	737	236	973	9,914	1.1372	3.5484	4.6856
	9,914	362	125	486	9,789			
	9,789	357	129	486	9,660			
12	9,914	719	254	973	9,660	1.2218	3.4639	4.6856
	9,660	353	134	486	9,526			
	9,526	348	139	486	9,387			
13	9,660	700	273	973	9,387	1.3126	3.3731	4.6856
	9,387	343	144	486	9,244			
	9,244	337	149	486	9,095			
14	9,387	680	293	973	9,095	1.4102	3.2755	4.6856
	9,095	332	154	486	8,940			
	8,940	326	160	486	8,780			
15	9,095	658	315	973	8,780	1.5150	3.1707	4.6856
	8,780	320	166	486	8,614			
	8,614	314	172	486	8,442			
16	8,780	635	338	973	8,442	1.6276	3.0581	4.6856
	8,442	308	178	486	8,264			
	8,264	302	185	486	8,079			
17	8,442	610	363	973	8,079	1.7486	2.9371	4.6856
	8,079	295	192	486	7,888			
	7,888	288	199	486	7,689			
18	8,079	583	390	973	7,689	1.8785	2.8071	4.6856
	7,689	281	206	486	7,483			
	7,483	273	213	486	7,270			
19	7,689	554	419	973	7,270	2.0182	2.6675	4.6856
	7,270	265	221	486	7,049			
	7,049	257	229	486	6,820			
20	7,270	523	450	973	6,820	2.1682	2.5174	4.6856
	6,820	249	237	486	6,583			
	6,583	240	246	486	6,336			
21	6,820	489	484	973	6,336	2.3294	2.3563	4.6856
	6,336	231	255	486	6,081			
	6,081	222	264	486	5,817			
22	6,336	453	520	973	5,817	2.5025	2.1831	4.6856
	5,817	212	274	486	5,543			
	5,543	202	284	486	5,259			
23	5,817	415	558	973	5,259	2.6885	1.9971	4.6856
	5,259	192	294	486	4,964			
	4,964	181	305	486	4,659			
24	5,259	373	600	973	4,659	2.8884	1.7973	4.6856
	4,659	170	316	486	4,343			
	4,343	159	328	486	4,015			
25	4,659	329	644	973	4,015	3.1031	1.5826	4.6856
	4,015	147	340	486	3,675			
	3,675	134	352	486	3,323			
26	4,015	281	692	973	3,323	3.3337	1.3519	4.6856
	3,323	121	365	486	2,958			
	2,958	108	378	486	2,579			
27	3,323	229	744	973	2,579	3.5815	1.1041	4.6856
	2,579	94	392	486	2,187			
	2,187	80	407	486	1,780			
28	2,579	174	799	973	1,780	3.8478	0.8379	4.6856
	1,780	65	421	486	1,359			
	1,359	50	437	486	922			
29	1,780	115	858	973	922	4.1338	0.5519	4.6856
	922	34	453	486	469			
	469	17	469	486	0			
30	922	51	922	973	0	4.4410	0.2446	4.6856

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