National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

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No. NEPRA/TRF-416/SRSP-2017/7821-7823
May 21, 2018

Subject: **Determination of the Authority in the matter of Cost Plus Tariff Petition of 2 MW Birmogh Golen Hydro Power Project, District Chitral, Khyber Pakhtunkhwa** [No. NEPRA/TRF-416/SRSP-2017]

Dear Sir,

Please find enclosed herewith the subject Determination of the Authority along with Annex-I (13 pages) in Case No. NEPRA/TRF-416/SRSP-2017.

2. The Determination is being intimated to the Federal Government for the purpose of notification in the official gazette pursuant to Section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997).

3. Order of the Authority's Determination along with Tariff Table (Annex-I) needs to be notified in the official gazette.

Enclosure: As above

21 05 18

(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.

DETERMINATION OF THE AUTHORITY IN THE MATTER OF COST PLUS TARIFF PETITION OF 2MW BIRMOGH GOLEN HYDRO POWER PROJECT, DISTRICT CHITRAL

1 Sarhad Rural Support Programme (SRSP) submitted Tariff Petition for determination of Cost Plus Tariff for its 2MW Birmogh Golen Hydro Power Project (the "Petition") in accordance with NEPRA (Tariff Standards & Procedure) Rules, 1998 (the "Tariff Rules"). The Authority admitted the Petition on December 05, 2017 under Rule 4 of the Tariff Rules.

2 According to the Petitioner, Sarhad Rural Support Programme (SRSP) is registered under Section 42 of the Companies Ordinance, 1984 (XLVII OF 1984) with Company Registration No. P-00337 and is the largest non-government, non-profit organization operational in Khyber Pakhtunkhwa and Federally Administered Tribal Areas (FATA). The Petitioner submitted that in order to comply with the requirements of Section 24 of the NEPRA Act and to have a specific objective of constructing, owning and operating a power generation facility, the Board of Directors of SRSP have amended the Memorandum and Articles of Association of SRSP to include the planning, development and operations and management of hydropower projects as one of SRSP's objectives. The Memorandum and Articles of Association approved by the Securities and Exchange Commission of Pakistan (SECP) were submitted by the Petitioner during the proceedings.

3 According to the Petitioner, the European Union granted SRSP a financial award worth Euros 40,000,000 for the development of sustainable and innovative initiatives in order to eliminate poverty, curb employment and initiate capacity building through mobilization of the locals of the Chitral District. By way of the aforesaid grant, SRSP, *inter alia* intends to provide electric power to the locals of Khyber Pakhtunkhwa Province, in particular District Chitral through a 2 MW Hydropower Project at Birmogh Golen, District Chitral (the "Project") for tapping the hydropower potential in the district and achieve the aforesaid objectives of poverty elimination and community building. The Company will be responsible for the operations and management of the Project, which can either be undertaken itself or by engaging a competent O&M operator.

4 The Petitioner further stated that the construction phase of the project has been completed and the Project is ready to undergo testing and commercial operations.

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5 Salient Feature of the Petition:

5.1 Following are the key features of the Petition:

Project Name	Birmogh Golen Hydro Power Project
Sponsor	Sarhad Rural Support Programme funded by The European Union
Project Location	Village Birmogh, Union council Koh, District Chitral
Concession Period (Years)	30
Construction Period (Years)	26 months
Project Type	Run of River
Project Basis	BOO
Gross Capacity (MW)	2 MW
Auxiliary Consumption (KW)	10 Kw
Net Capacity	1.90 MW
Annual Energy (GWh)	16.47 GWH
Net Rated Head	57 Meter
Rated Discharge	2 Cumecs for each unit

Project Cost	**Description**	**PKR.**
	EPC	324,517,798
	Construction of Residential & Offices	7,000,000
	Equipment and capital purchases	17,809,836
	General and administrative costs	33,888,321
	Total Project Cost	**383,215,955**

Project Financing	Debt (0%)		
	Equity (100%)		383,215,955
	Total Project Financing		**383,215,955**
	Return on equity	17%	**65,146,712**

Operations and Maintenance Cost	**Description**	**PKR.**
	O&M (per annum)	33,750,000
	Water Use Charges (average)	-
	Insurance	3,832,160
	Total annual operational cost	**37,582,160**

EPC Stage Tariff Proposal	US Cent 6.1468 /kWh (Rs. 6.4541 /kWh)
Exchange Rate	1US$ =PKR 105

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6 PROCEEDINGS:

6.1 In order to arrive at an informed decision on the matter, the Authority decided to hold a hearing, which was initially scheduled for February 02, 2018; however, the same was subsequently rescheduled for February 08, 2018. Notices of hearing and rescheduling were published in daily newspaper, whereas written notices of hearing and rescheduling were also served on major stakeholders.

6.2 During the proceedings, written comments on the matter were submitted by M/s Bridge Factor dated Jan 25, 2018, M/s Sinohydro-Sachal Consortium dated Jan 22, 2018 and February 13, 2018 and the Private Power Infrastructure Board (PPIB) dated February 06, 2018.

6.3 Subsequent to the hearing, the Petitioner submitted additional information/ clarifications vide letter dated February 22, 2018, another letter dated February 22, 2018, letter dated March 16, 2018, and letter dated April 03, 2018.

7 ISSUES FARMED:

7.1 Based on the submissions of the parties, the following issues were framed by the Authority, and the issue-wise findings of the Authority are as under:

I. Whether the Project has been setup under a Federal or Provincial Policy? Whether Hydrological risk will be borne by the Sponsor?

The Authority noted that the Petitioner requested for certain concessions "under the Policy". However, it was unclear whether the project has been setup under a provincial or Federal policy.

Bridge Factor in its comments stated that SRSP has not referred to an LOI from any relevant Authority (e.g. PEDO, AEDB, GoKPK etc.) to undertake Development of 2MW Birmogh HPP. Although the effort for social uplift is appreciated, one concern growing out of this missing document is that this sets a dangerous precedent for developers to initiate project development outside the domain of existing Power Policies & Federal/Provincial Energy Plan without due approvals. Further, it is disconcerting that upon issuance of a Generation License/Award of Tariff, the Project shall establish Water Usage Rights which could possibly hinder development of larger Projects in the vicinity. Bridge Factor requested the Authority to ensure that allowing such projects to proceed should not encroach upon rights of developers or Projects validated by relevant authorities.

PPIB in its comments stated that the PPIB has issued Letter of Intent (LOI) with consent of GoKP for carrying out feasibility of Turtonas-Uzghor HPP to be located on the same stream as the SRSP project. The PPIB informed that the SRSP project is located between intake and power-house of Turtonas-Uzghor HPP. PPIB further stated that it seems the SRSP project has been developed without any consent of provincial or federal government under any policy framework. The PPIB showed its apprehension that other sponsors may adopt similar approach of constructing hydropower projects without any knowledge or information of the relevant government departments due to which identified and planned hydropower potential is likely to be compromised.

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The Petitioner acknowledged during the hearing that the Project is not constructed specifically under any Federal or Provincial policy, and the sponsor has not obtained LOI from any facilitating agency of the government. The Petitioner argued that developing a project under a policy is not a requirement, as the purpose of policies is to generally create an enabling environment for investment, and therefore developing a project without policy support should not undermine the right of SRSP to develop the Project. The Petitioner also quoted precedents where NEPRA has awarded tariff to projects which have been setup without the cover of any policy.

Moreover, the Petitioner submitted that the hydrological risk shall be borne by SRSP itself and in case of non-availability of water flow, no capacity payments shall be made to the Company by the power purchaser. The power purchaser will pay on Take-and-Pay basis as per the availability of the Project.

The Authority considers that since the project has been constructed without obtaining the nod of the relevant government agencies, it is not allowed the incentives which are generally available to projects developed under a Policy. However, the Petitioner has taken the hydrological risk on its own shoulders, which ensures that other projects in the vicinity will not be compromised. Based on the aforementioned, the Authority has decided to allow tariff to the Project on take-and-pay basis.

II. Whether the plant factor, net annual energy, installed capacity and auxiliary consumption figures claimed by the Petitioner are justified?

The Petitioner requested the Authority to determine the plant factor of the Project after adjustment of auxiliary consumption on gross installed capacity.

The Authority has observed that the gross est. annual energy of the plant is 16.47 GWh and the net est. annual energy = 16.387 GWh (after adjustment of Aux consumption (10 kW). Hence the plant factor determined by the Authority is 94.01% based on the following:

Installed capacity = 2 MW
Net capacity = 1.99 MW

III. Whether the entire funding of the project comes through a grant? Whether any debt or equity has been injected into the project other than the European Union Grant? Whether it is justified to consider grant money as Equity?

The Petitioner indicated in the petition that the funding of the project has been made through a grant of the European Union, however, it was unclear whether any other sources of funding have been utilized for the construction of this project. During the hearing, the Petitioner was asked to clarify this matter. The Petitioner clarified that the entire funding of the project is based on the EU grant.

Bridge Factor in its comments stated that Project Finance is an integral tool to optimise capital utilisation resulting in lowest charge to the consumer. In the present case, SRSP has considered a Grant (Aid) to be a substitute for Equity, while requesting a 17% Return on IRR basis (exclusive of Withholding Tax on Dividend) on the Total Project Cost. Bridge Factor alleged that this proposition is contrary to recent NEPRA Determinations, and in itself raises doubt on the purpose of EU Grant/Aid.

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Sinohydro-Sachal Consortium in its comments stated that the main purpose of the EU Grant was to provide electric power to the locals of District Chitral through tapping the hydropower potential in the district and achieving the objectives of poverty elimination and community building. Since the Project was created and developed with the financial grant of EU and such grant is not re-payable to the donors, therefore in this case, SRSP's claim for receiving the benefits as of an Independent Power Producer ("IPP") may not be justified.

The Petitioner clarified during the hearing that although there is no aspect of grant repayment in this project, one of the integral elements of the grant is that the Project must be sustainable through, a) the ability to pay for its operational costs and, b) the ability to pay dividends back to the local community.

The Authority considers that this project was financed through a grant for the benefit of the local community. The Project will be connected to the Grid, thus the community will be charged a GoP tariff which is higher than the tariff of Birmogh plants based on its actual cost. This would mean that the Community will not benefit by getting a fairly low cost of power from this project.

In order to ensure that the benefits of the grant are received by the intended recipients, the project must be allowed a sustainable operational cost as well as a return on the investment which shall be utilized entirely for sustained community development work to be carried out by SRSP through the life of the project. Based on the aforesaid, the Authority has decided to allow recovery of the project investment cost and treat the grant money as Equity. The SRSP is directed to ensure that all funds generated from sale of electricity of this project shall be utilized for i) smooth operation of the plant and, ii) empowerment and economic development of the local community, and periodically apprise the Authority only on the utilization of funds generated from the Project.

IV. Whether it is justified to allow a Tariff based on 100% equity and 0% Debt?

The Petitioner requested in its Petition to treat all grant funding as equity for the purpose of calculation of tariff. However, during the hearing the Petitioner revised its claim and requested the Authority to allow tariff based on 30% of project cost assumed as equity (with 20% Return on Equity) and 70% of project cost assumed as debt (with cost of debt of KIBOR+0). The Authority has observed that there is no aspect of debt repayment in this project, therefore allowing a debt servicing component is not justified, however, in such a case tariff can be calculated by including a depreciation charge and a rate of return on the capital investment commensurate to that earned by other investments of comparable risk.

The Authority considers that normally, for determination of tariff, debt equity ratio of 80:20 to 70:30 is considered optimal for projects falling under the cover of a Policy. However, for the purpose of calculating overall cost of capital, the Debt: Equity ratio of 70:30 claimed by the Petitioner is reasonable.

V. Whether Return on Equity of 20% is justified?

The Petitioner claimed Return on Equity (ROE) of 17% in its tariff Petition, similar to the ROE allowed to hydropower IPPs under cost-plus regime. However, during the hearing the Petitioner revised its claim and requested 20% ROE based on the ROE allowed under the upfront tariff for small hydropower projects. Further, the Petitioner has submitted that Return on Equity During Construction

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has not been assumed because funds have already been injected, the construction phase of the project has completed and the Project is ready to undergo testing and commercial operations.

The Authority noted that under the cost plus regime, an ROE of 17% has been allowed to hydropower projects, whereas ROE of 20% was allowed to hydropower projects only under the upfront tariff regime, owing to the higher risks associated under upfront tariff. Since, the Petitioner has applied for a cost-plus tariff, the Petitioner can only be allowed ROE commensurate to the ROE allowed to other hydropower projects under cost-plus regime. Further, the Petitioner has assumed equity in US$ which is not applicable in this case as the Project does not fall under a policy. Based on the aforementioned, the Authority hereby allows cost of capital of 9.41% to the Project based on ROE of 17% on 30% assumed Equity, cost of debt of KIBOR+0% on 70% assumed debt.

VI. Whether the cost associated with taxes, stamp duties and levies etc. has been finalized? Whether all other costs are firm and final?

The Petitioner submitted that Taxes (Federal, Provincial, Local or district), stamp duties and levies etc. are not factored in the tariff calculation and will be claimed separately under Tariff. The Petitioner requested to allow adjustment of duties and taxes in the project cost.

Since the project is complete and is generating electricity, the Authority questioned the Petitioner during the hearing that duties and taxes should have been finalized at this stage. The Petitioner submitted in the hearing that immediately after the determination of tariff the company will enter into Energy Purchase Agreement with the power purchaser and subsequently will approach NEPRA again for COD stage adjustment.

The Petitioner is directed to submit its request based on verifiable documentary evidence for necessary adjustments in tariff to the Authority after COD.

VII. Whether the Power Purchaser agrees with the proposed interconnection arrangement?

The Petitioner submitted that the Power Purchaser will exclusively be responsible for the financing of construction, operation and maintenance of the Interconnection and Transmission Lines as per the prevailing policy at the time of tariff determination and any monies spent by the Petitioner shall be reimbursed by the power purchaser/system operator in accordance with the prevailing regime of NEPRA.

During the hearing the Petitioner submitted that the interconnection line from the project site to PESCO grid is 37km long, with 7 km line constructed by the company which is then connected to around 27km long PEDO line which is then connected to the grid from where PESCO is evacuating power from the Project. The Authority has noted that PESCO vide letter No. 1670/Hydel/Birmogh Golen dated 19.02.2017 has issued its No Objection Certificate (NOC) for power evacuation from the Project, however, since PESCO has not provided input on the proposed interconnection arrangement including the reasonability of interconnection costs, the Authority has decided to exclude the cost of interconnection from the generation tariff of the Project.

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VIII. Whether it is justified to allow Withholding Tax on dividend as Pass-Through item?

The Petitioner requested that withholding tax (WHT) on dividend may appropriately be allowed as a pass through item. The Authority has disallowed WHT on dividend in its recent decisions for power projects. The Authority has decided to disallow WHT on dividends as pass-through item in this case as well.

IX. Whether the firm EPC cost of PKR. 324.52 Million is justified, and is based on fair and transparent competitive bidding?

The Petitioner submitted that the construction of the Project was executed through multiple BOQ based contracts instead of a single turn-key EPC Contract. As per the Petitioner, the procurement and selection of contractors and equipment was done through a detailed competitive bidding process. The Petitioner submitted that tenders were floated and advertised in leading national dailies and after careful evaluation, the most competitive bidder was selected on the basis of suitability and technical experience. The Petitioner had already provided executed contracts relating to construction works as part of its Generation license application.

The following break-up of EPC cost was provided by the Petitioner:

EPC Cost	**Rs.**
Project feasibility, Designing & Consultant Fee	7,459,654
Crops & Land compensation and local development cost	9,500,000
Mini Hydel Power Station (Civil cost)	174,577,881
Electrical and Mechanical Equipment (EME)	110,057,325
Transmission and Distribution (T&D)	22,922,938
Total EPC Cost	**324,517,798**

The Project feasibility, Designing & Consultant Fee, and Crops & Land compensation and local development cost claimed by the Petitioner under EPC are essentially development costs which fall under Non-EPC cost head and therefore the same are excluded from EPC cost and have been discussed under the relevant head.

Regarding the cost of transmission line of PKR 22.9 Million, the Petitioner submitted during the hearing that the 7 km transmission line constructed by the project company may be taken over by PESCO, and reimbursement of cost of transmission line may be allowed. The Authority observed that in this regard, PESCO has not provided necessary input during the proceedings, however, the Authority has already issued the National Electric Power Regulatory Authority (Interconnection for Renewable Generation Facilities) Regulation, 2015 and the NEPRA (Sale of Electric Power by Renewable Energy Companies) Guidelines, 2015 which can be followed for the purpose of interconnection arrangement and reimbursement of the transmission line cost. Based on the aforementioned, the cost of transmission line is also excluded from the generation tariff of the Project.

Moreover, the Authority observed that the following costs claimed by the Petitioner under Non-EPC head belong under the EPC head:

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i. Construction of Residential & Offices for which Rs. 7,000,000 is budgeted;
ii. Cost of Equipment and capital purchases which includes purchase of various hardware and engineering equipment used during construction of the project costing Rs. 17,809,836.

Based on the contract values and budget estimates provided by the Petitioner, the cost relating to EPC, i.e. Civil works, E&M, Residential & Offices and Equipment and capital purchases when combined works out to be Rs. 303,735,562 or approx. US$ 2.897 Million (US$ 1.448 Million per MW).

The Petitioner submitted bid evaluation reports for EPC related costs vide letter received on April 18, 2018. According to the bid evaluation reports the financially viable offers were evaluated for best lowest price vs. offered specification. The tender evaluation committee recommended the name of M/S AMC for Civil Works contract, and MEW, AFJ JV for Electrical-Mechanical Works contract.

The Authority observed that the bid evaluation reports submitted by the Petitioner were not very detailed, however the EPC cost claimed by the Petitioner is much lower compared to EPC cost allowed for similar sized projects and also less than the EPC cost assumed in the now expired Upfront Tariff for small hydropower projects. Additionally, it was noted that the construction contracts are fixed priced, PKR based contracts which contain no price escalation or dollar indexation mechanisms. Based on the aforementioned the Authority has decided that the EPC cost of Rs. 303,735,562 or approx. US$ 2.897 Million is reasonable and therefore allowed.

X. Whether non-EPC cost amounting to PKR. 58.70 Million is justified?

The following break-up of Non-EPC cost was provided by the Petitioner:

Non-EPC Cost	**Rs.**
Construction of Residential & Offices	7,000,000
Equipment and capital purchases	17,809,836
General and administrative costs	33,888,321
Total Non-EPC Cost	**58,698,157**

The total Non-EPC cost claimed by the Petitioner amounts to approx. US$ 0.560 Million. As discussed above, the Project feasibility, Designing & Consultant Fee, and Crops & Land compensation and local development cost originally claimed by the Petitioner under EPC, have been added to the Non-EPC cost, whereas the Construction of Residential & Offices and Equipment and capital purchases costs have been excluded from Non-EPC head and included in the EPC cost. Resultantly, the Non-EPC cost of the Project works out to approx. US$ 0.485 Million.

The Authority considers that the Non-EPC cost claimed by the Petitioner is reasonable overall given the size of the project and costs allowed to other similar projects under cost-plus regime, and the same is hereby allowed. The cost of land will be adjusted at the time of COD based on authentic documentary evidence to be provided by SRSP.

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XI. Whether the claimed Insurance cost per annum for the operation period based at 1% of the EPC cost is justified?

The Petitioner claimed 1.00% of the EPC price as an annual insurance cost. The Authority has considered the operational insurance allowed to other small hydropower projects, and has decided that the operational insurance claimed by the Petitioner is reasonable, and therefore allowed.

The Insurance component will be adjusted annually upon the submission of an invoice of actual premium payment to an insurance company. If insurance is denominated in US$, the insurance cost component of tariff will be adjusted on account of US $/PKR exchange rate variation annually, not exceeding 1% of the approved EPC cost.

XII. Whether the claimed per annum O&M cost of PKR. 33.75 Million for O&M during operations is justified?

The Petitioner claimed Fixed O&M cost at a rate of Rs. 2.0241/kWh based on PKR 33.75 Million annual O&M cost. The Authority observed that the O&M cost claimed by the Petitioner is very high compared to O&M cost allowed to other small hydropower projects and also the O&M cost assumed in the now expired Upfront Tariff for small hydropower projects, i.e. Rs. 0.9463/kWh.

The Authority has assessed O&M cost of Rs. 20 Million per annum for the Project and hereby allows the same. Further, the Petitioner had claimed O&M as 100% foreign components, which is not justified. The Authority has decided to allow O&M split into 80% local component and 20% foreign component.

<u>ORDER:</u>

Sarhad Rural Support Program (SRSP) is hereby allowed to charge the generation tariff for electricity produced from its 2MW Birmogh Golen hydropower project as given in Annex-I.

i. The reference tariff has been calculated on the basis of net contracted capacity of 1.99 MW and net annual energy production of 16.387 GWh.

ii. The above tariff is applicable for a period of thirty (30) years commencing from Commercial Operations Date (COD).

iii. The reference PKR/Dollar rate has been assumed at 1 USD = 104.85 PKR.

iv. The component wise tariff is indicated at Annex-I.

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I. One-Time Adjustments

a. 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, upon production of verifiable documentary evidence to the satisfaction of the Authority.

b. Cost of land and resettlement will be adjusted in accordance with the Hydropower Mechanism based on authentic documentary evidence at COD.

c. The reference tariff table shall be revised at COD while taking in to account the above adjustments. SRSP shall submit its request to the Authority within 90 days of COD for necessary adjustments in tariff.

II. Indexation

The following indexation shall be applicable to the reference tariff:

i) Indexation applicable to O&M

The O&M cost is based on 80% local expense and 20% foreign expense. 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 WPI (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:

a. O&M

$$O\&M_{(LREV)} = O\&M_{(LREF)} * CPI_{(REV)} / CPI_{(REF)}$$
$$O\&M_{(FREV)} = O\&M_{(FREF)} * USCPI_{(REV)} / USCPI_{(REV)} * ER_{(REV)} / ER_{(REF)}$$

Where:

$O\&M_{(LREV)}$ = The revised applicable O&M local component of tariff indexed with Pakistan CPI (General).

$O\&M_{(FREV)}$ = The revised applicable O&M foreign component of tariff indexed with US CPI and exchange rate variation.

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$O\&M_{(LREF)}$	=	The reference O&M local component of tariff for the relevant period.
$O\&M_{(FREF)}$	=	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 2017 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 2017.
$ER_{(REV)}$	=	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 104.85.

ii) 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 the company, according to the following formula:

$$Ins_{(REV)} = Ins_{(REF)} * ER_{(REV)}/ER_{(REF)}$$

Where;

$Ins_{(REV)}$	=	Revised Insurance cost component of tariff adjusted with the exchange rate variation (PKR/US$).
$Ins_{(REF)}$	=	Reference insurance cost component of tariff for the relevant period.
$ER_{(REV)}$	=	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.

The order along with reference tariff table are recommended for notification by the Federal Government in the official gazette in accordance with Section 31 (4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997

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14.5.18

(Himayat Ullah Khan)
Member

16/5/18

(Rehmatullah)
Member

15/5

(Syed Masood-ul-Hassan Naqvi)
Member

(Saif Ullah Chattha)
Vice Chairman

16.5.2018

(Brig (R) Tariq Saddozai)
Chairman

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Annex- I

2 MW BIRMOGH GOL HPP
EPC STAGE REFERENCE TARIFF

Year	O&M Local	O&M Foreign	Insurance	Depreciation Charge	Return on Assets (ROA)	Total Tariff
	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kWh
1	0.9764	0.2441	0.1390	0.7213	2.0011	4.0819
2	0.9764	0.2441	0.1390	0.7213	1.9333	4.0141
3	0.9764	0.2441	0.1390	0.7213	1.8655	3.9462
4	0.9764	0.2441	0.1390	0.7213	1.7976	3.8784
5	0.9764	0.2441	0.1390	0.7213	1.7298	3.8106
6	0.9764	0.2441	0.1390	0.7213	1.6620	3.7427
7	0.9764	0.2441	0.1390	0.7213	1.5941	3.6749
8	0.9764	0.2441	0.1390	0.7213	1.5263	3.6071
9	0.9764	0.2441	0.1390	0.7213	1.4585	3.5392
10	0.9764	0.2441	0.1390	0.7213	1.3906	3.4714
11	0.9764	0.2441	0.1390	0.7213	1.3228	3.4036
12	0.9764	0.2441	0.1390	0.7213	1.2550	3.3357
13	0.9764	0.2441	0.1390	0.7213	1.1871	3.2679
14	0.9764	0.2441	0.1390	0.7213	1.1193	3.2000
15	0.9764	0.2441	0.1390	0.7213	1.0514	3.1322
16	0.9764	0.2441	0.1390	0.7213	0.9836	3.0644
17	0.9764	0.2441	0.1390	0.7213	0.9158	2.9965
18	0.9764	0.2441	0.1390	0.7213	0.8479	2.9287
19	0.9764	0.2441	0.1390	0.7213	0.7801	2.8609
20	0.9764	0.2441	0.1390	0.7213	0.7123	2.7930
21	0.9764	0.2441	0.1390	0.7213	0.6444	2.7252
22	0.9764	0.2441	0.1390	0.7213	0.5766	2.6574
23	0.9764	0.2441	0.1390	0.7213	0.5088	2.5895
24	0.9764	0.2441	0.1390	0.7213	0.4409	2.5217
25	0.9764	0.2441	0.1390	0.7213	0.3731	2.4539
26	0.9764	0.2441	0.1390	0.7213	0.3053	2.3860
27	0.9764	0.2441	0.1390	0.7213	0.2374	2.3182
28	0.9764	0.2441	0.1390	0.7213	0.1696	2.2504
29	0.9764	0.2441	0.1390	0.7213	0.1018	2.1825
30	0.9764	0.2441	0.1390	0.7213	0.0339	2.1147
Levelized Tariff	**0.9764**	**0.2441**	**0.1390**	**0.7213**	**1.4465**	**3.5273**

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