RHPCO

Riali Hydro Power Company (Pvt.) Ltd

Ref No: RHPCO/NEPRA/Riali-II HPP/TRF/18/056 Dated: June 22, 2018

The Registrar,
National Electric Power Regulatory Authority
NEPRA Tower, Ataturk Avenue (EAST)
Sector G-5/1, Islamabad.

Sub: Tariff hearing of 7.08 MW Riali-II Hydro Project located at Ghoriwallah Nullah, District Muzaffarabad, AJ&K – Submission of Additional Information

Dear Sir,

The Authority on 6th June, 2018 has conducted public hearing on the Tariff Proposal (the "Proposal") forwarded by CPPA-G (22.03.2018) on behalf of Riali Hydro Power Company (Private) Limited ("RHPCO") (the "Company") regarding the import of power from RHPCO's 7.08MW Riali-II Hydropower Project (the "Project") under Import of Electric Power Regulations ("IEPR"), 2017.

During the proceedings of the aforesaid hearing, the Authority allowed the Company to submit additional information/documents to substantiate its claim in relation to the Project EPC Bidding, EPC Cost and other Tariff Assumptions.

The Company during the aforesaid hearing has claimed that certain costs have been rationalized based on market norms, in order to further rationalize the tariff which includes reduced insurance costs as well as consumer friendly rates under the SBP Refinance Scheme etc.

As directed by the Authority during the hearing, please find enclosed additional information/documents which incorporate the above changes for your reference. We have only updated the relevant sections of the Proposal, all else remain the same.

We remain at your disposal in case of any questions or queries.

Yours sincerely,

RIALI HYDRO POWER COMPANY (PVT.) LTD.

(Shaikh Shahid Majeed)
Company Secretary
Riali Hydropower Company (Private) Limited

SHAHID MAJEED
Company Secretary

CC:
(1) Chief Executive Officer, CPPA-G, Ground Floor, ENERCON Building, G-5/2, Islamabad

"First Small Hydro Power Project in Private Sector"

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Riali Hydro Power Company (Pvt.) Ltd

RHPCO

Ref No: RHPCO/NEPRA/Riali-II HPP/TRF/18/056

Dated: June 22, 2018

The Registrar,
National Electric Power Regulatory Authority
NEPRA Tower, Ataturk Avenue (EAST)
Sector G-5/1, Islamabad.

REGISTRAR
Dy. No: 6300
Dated: 27-06-18

Sub: Tariff hearing of 7.08 MW Riali-II Hydro Project located at Ghoriwallah Nullah, District Muzaffarabad, AJ&K – Submission of Additional Information

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We remain at your disposal in case of any questions or queries.

Senior Advisor Tariff-I
Dy. No: 5312
Date: 28-6-18

For information & n/a M.
27 06 18

— SAT-I
— Consultant (HP)
Copy to:
— SA (Tech)
— DG (M&E)
— ADG (Lic)
— DRO/DRI/MF

cc: Chairman
M (T)
M (M&E)
M (Lic)

Yours sincerely,

(Shaikh Shahid Majeed)
Company Secretary
Riali Hydropower Company (Private) Limited

RIALI HYDRO POWER COMPANY (PVT) LTD.

SHAHID MAJEED
Company Secretary

SAT-II

CC:

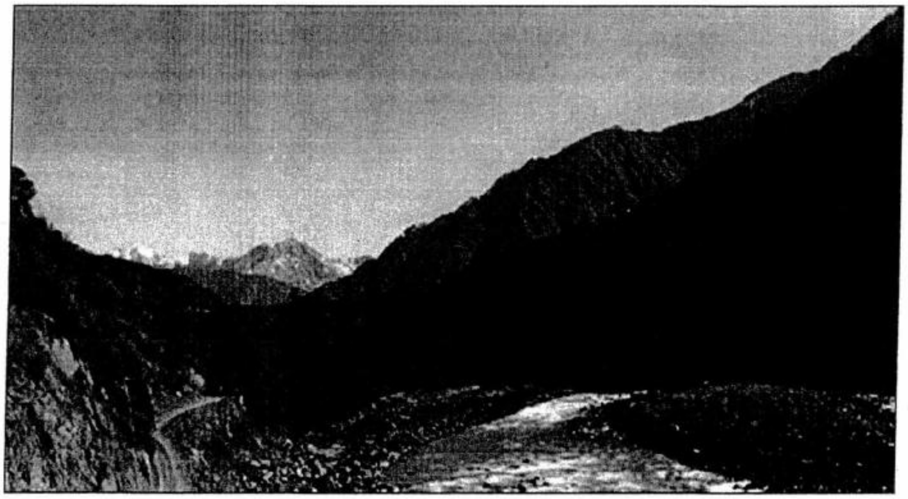
(1) Chief Executive Officer, CPPA-G, Ground Floor, ENERCON Building, G-5/2, Islamabad

DDT-IV

"First Small Hydro Power Project in Private Sector"

SUBMISSION OF ADDITIONAL INFORMATION

IN RELATION TO:
IMPORT OF ELECTRICITY
FROM
7.08 MW RIALI - II HYDROPOWER PROJECT
MUZAFFARABAD, AZAD JAMMU & KASHMIR



BEFORE
NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
(NEPRA)

22 JUNE 2018

Riali Hydropower Company Limited
59-E, Street 7, I-10/3, Islamabad
Ph no: 051-4436004, fax no: 051-4431774
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RIALI HYDRO POWER COMPANY (PVT) LTD.

ABBREVIATIONS

AJKPPC	Private Power Cell of the Government of Azad Jammu & Kashmir
COD	Commercial Operations Date
Company	Riali Hydropower Company Private Limited ("RHPCO")
CPPA	Central Power Purchasing Agency Guarantee Limited
DISCO	Distribution Company
EPA	Energy Purchase Agreement
EPC	Engineering Procurement & Construction
GOP	Government of Pakistan
GWh	Giga Watt hour; (1,000,000 kilowatt hours)
IDC	Interest During Construction
IPP	Independent Power Producer
KIBOR	Karachi Interbank Offered Rate
KWh	Kilowatt hour
LIBOR	London Interbank Offered Rate
LOI	Letter of Interest
E&M	Electrical & Mechanical
MW	Mega Watt (1000 kilowatts)
NEPRA	National Electric Power Regulatory Authority of Pakistan
NEPRA Act	Regulation for Generation, Transmission and Distribution of Electric Power Act (XL of) 1997
O&M	Operation & Maintenance
PEC	Pakistan Engineering Council
PESCO	Peshawar Electric Supply Company
POE	Panel of Experts
ROE	Return on Equity
ROEDC	Return on Equity During Construction
Upfront Tariff	Determination of NEPRA dated April 2. 2015 & October 14.2015 extended on April 10, 2017 regarding Upfront Tariff for Small Hydro Power Generation Projects Upto 25 MW Installed Capacity
US CPI	United States Consumer Price Index

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RIALI HYDRO POWER COMPANY (PVT) LTD.

1. INTRODUCTION

1.1 Grounds for Provision of Additional Information

The Authority on 6th June, 2018 has conducted public hearing on the Tariff Proposal forwarded by CPPA-G on behalf of Riali Hydro Power Company (Private) Limited ("**RHPCO**") regarding the import of power from RHPCO's 7.08MW Riali-II Hydropower Project (the "Project") under Import of Electric Power Regulations ("IEPR"), 2017.

During the proceedings of the aforesaid hearing, the Authority allowed the Company to submit additional information/documents in relation to the Project. The Company hereby requests the Authority to accept the revised tariff proposal/additional information provided herein, for the determination of EPC Stage tariff for the Project.

1.2 Project Company

No.	Parameter	Description
1	Project	Riali-II Hydropower Project
2	Sponsor	Riali Hydropower Company Pvt. Ltd.
3	Project Location	Ghoriwalla Nullah in District Muzaffarabad, Azad Jammu & Kashmir
4.	Source of Power Generation	Run-of-River, High-Head Small Hydro Power Plant
5.	Installed Capacity (MW)	7.08 MW (gross), 7.01 MW (net)
7.	Net Plant Factor	61.4%
8.	Net Annual Benchmark Energy (GWh)	37.73 GWh
9.	Expected duration of Import of Power	30 years
10.	Project Cost	Approx. US$ 20.005 million as per benchmark in the Upfront Tariff (excluding cost for constructing the purchaser interconnection facilities)

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1.3 The Power Purchaser

The Central Power Purchasing Agency (Guarantee) Limited ("CPPA") is the Power Purchaser on behalf of ex-Wapda distribution companies to purchase the Net Electrical Output from the Project. CPPA is a Company incorporated under the Companies Ordinance, 1984 and wholly owned by the Government of Pakistan (the "GOP"). Since June 2015, CPPA has assumed the business of National Transmission and Dispatch Company (the "NTDC") pertaining to the market operations. The Company performs power procurement and payment on behalf of DISCOs.

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

1.4 Connectivity with the National Grid

Three alternatives were considered for connection to the national grid:

Alternative	Evacuation Voltage
Alternative-I	11 kV D/C to 35 Muzaffarabad
Alternative-II	132 kV In-Out Jagran- Muzaffarabad S/C
Alternative-III	33 kV D/C to Muzaffarabad

Alternative-III with an evacuation voltage of 33kV has been considered the most economically and technically feasible. The alternative provides good reliability and stability. This connection will also be able to accommodate the evacuation of future adjoining hydro power plants. The capacity of 33kV double circuit is about 35 MVA per circuit and is adequate to transmit the total power of nearly 25 MW. Further, this alternative has been recommended and approved by NTDC and PESCO.

However, PESCO has refused to construct & maintain the Purchaser's interconnection facilities due to lack of resources. Moreover, PESCO, recommended the Power Producer to finance, built & operate the interconnection from project bus bar to grid station.

- The Power Producer after prolonged discussions with PESCO & Ministry of Energy (Power Division) has taken the initiative to arrange financing & constructing the Purchaser's Interconnection facilities. The Authority may allow the Company to arrange financing & construct the Purchaser's Interconnection facilities and to recover related cost through Supplemental Tariff.

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- PESCO has vast expertise in carrying operation & maintenance of interconnection facilities and already has sufficient staff in Muzaffarabad, which could be utilized to carryout O&M of Purchaser's Interconnection Facilities.
- Therefore, Authority may direct Power Purchaser/PESCO to provide O&M services for Purchaser's Interconnection Facilities.

The Company will submit cost details & nominal tariff to NEPRA for approval pertaining to financing & construction of Purchaser's Interconnection facilities at the time of COD of the Project. In case of PESCO/Power Purchaser refusal to carryout O&M services for Purchaser's Interconnection facilities, then the Sponsors at time of Project COD or earlier will request the Authority for the issuance of tariff or Special Purpose Transmission License (if required) in order to carry out the aforesaid O&M services. Further, net delivered energy shall be adjusted for line losses subject to figure as allowed under the NEPRA (Interconnection for Renewable Generation Facilities) Regulations, 2015 (amended on June 07, 2018).

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2.0 EPC SELECTION AND TENDERING PROCESS

As customary in limited recourse project financing, the project construction is based on a "fixed-price, time-certain" arrangement through a turnkey Engineering, Procurement and Construction ("EPC") Contract. In this regard, the Company initiated the standard process for competitive bidding and selection of EPC Contractor in line with the best international practice. A Letter of Award was issued to the lowest evaluated and most advantageous bid and the EPC Contracts were duly signed with the nominated bidder. A summary of the timelines in the overall EPC tendering and selection process are shown below:

Timelines

Sr. No	Activities	Dates
1	Invitation for EPC Bids	19-05-2016
2	Original Bid submission date	21-06-2016
3	Extended Bid submission date	27-09-2016
4	Bid Opening Date Technical Offer (Tender Part-1)	27-09-2016
5	Evaluation of EPC Bids-Technical Offer (Tender Part-1)	04-10-2016
6	Bid Opening of Financial Offer (Tender Part-2)	04-10-2016
7	EPC Bids Evaluation Report	06-10-2016
8	Issuance of Letter of Acceptance	08-11.2016
9	Signing of EPC Contract	24-01-2017
10	Notice to Proceed	24-01-2017

A notice for inviting EPC Bids was published in the Nation News Paper on 19-05-2016. The Copy of the Invitation Notice is annexed herewith as Annex- A. The last date of submission of tender bids was 21-06-2016. However; due to various requests from prospective local and international EPC bidders, the Sponsor's extended the bidding date till 27th September, 2016.

A pre-bid meeting was held on 20-08-2016 at 1030 hours (Pakistan Time) and was attended by prospective bidders. The Sponsors/Project Consultants gave a detailed presentation, overview of the Tender Documents, discussed Project specific requirements, scope of work and responded to specific questions raised by the participants.

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The names of firms, who submitted the bids, are as under:

S.No.	Bidder	Address
1	**Sh. Abdul Razzaq & Co. (Pvt) Ltd. ("SARCO")**	1ST Floor Al-Noor Plaza, T-Chowk, Shah Rukn-e-Alam Colony, Multan, Pakistan
2	**Xinjiang Beixin Road & Bridge Group Co., Ltd. ("BEIXIN")**	3rd Floor, SRB Plaza F-6 Markaz, Islamabad, Pakistan
3	**Habib Rafiq (Pvt.) Ltd. ("HRL")**	131, Street 57, E-11/3, Islamabad, Pakistan

2.1 Evaluation Criteria

The criteria defined in the Tender Documents for evaluation of Bids (the "Evaluation Criteria") comprises of three stages:

- **i. Eligibility of bidders,**
- **ii. Technical evaluation, and**
- **iii. Commercial evaluation**.

Bidders qualifying the Eligibility Requirements would be further eligible for Technical evaluation which more specifically was focused on the technical aspects of the Project itself. A bidder satisfying the minimum technical evaluation score of 50 out of 100 became eligible for the Commercial evaluation. The scores of Technical and Commercial evaluations were then consolidated by applying 50% weightage to each; and thereafter Bids were ranked according to their consolidated score to arrive at the lowest evaluated and most advantageous bid.

i. **Eligibility of bidders**

a) Examination of Bids

Requirement	**HRL**	**Beixin**	**SARCO**
Properly Signed	✔	✔	✔
Bid Security	✔	✔	✔
Bid Validity	✔	✔	✔
Documents relating to Eligibility Criteria	✔	✔	✔

b) Eligibility Criteria

Factor	**Criteria / Requirement**
Nationality	A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country.
History of non-	Non-performance of a contract did not occur within the last ten (10)

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performing contracts	years prior to the deadline for application submission, based on all information on fully settled disputes or litigation.
Litigation History	All pending litigation shall in total not represent more than 50 % of the applicant's net worth and shall be treated as resolved against the applicant
Annual Turnover	Total annual turnover in the civil works expressed as total of payment certificates for work performed in each of the last five years
Contract Performance	Performance as prime contractor, management contractor, partner in a joint venture, or subcontractor, on works of similar nature and complexity within the last 10 years.
Financial Resources	Availability of financial resources, lines of credit, and other financial means.

ii. Tender Part-I (Technical Bid)

The evaluation of bidder's technical proposal was based on criteria that allows an in depth examination of a potential contractor's capabilities to undertake and successfully complete the project within the prescribed time period. Major factors that have been considered in this base are listed below. The entire bidding process was carried out in strict compliance with the PEC guidelines.

S. No	Category	Weightage / Marks
1.	General and Relevant Experience	40
2.	Financial Strength / Soundness	15
3.	Technical Capabilities / Management Team	20
4.	Equipment Availability / Construction Resources	25
	Total:	**100**

1. General / Relevant Experience

No	Evaluation Criteria	Max Points	Points Scored		
			BEIXIN	SARCO	HRL
i	Projects of similar nature and complexity completed over latest 10 years (More than $ 10 Million)	10	2	0	2
ii	Civil Projects in hand (More Than $ 15 Million)	10	10	3	5
iii	Electro-Mechanical works carried out during last five years by the Sub-Contractor/JV Partner.	10	10	10	10
iv	Copy of Valid E&M manufacturing license from Sub-Contractor/ JV Partner	6	6	0	6
v	Status of enlistment with Government Organizations and other agencies.	4	4	4	4
	Sub-Total	**40**	**32**	**17**	**27**

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S. No.	Qualification Criteria	Points	Points		
			BEIXIN	SARCO	HRL
1	General / Relevant Experience	40	32	17	27
2	Firm's Financial Strength	15	15	10	07
3	Technical Capabilities / Management Team	20	20	20	20
4	Equipment Available / Construction Resources	25	25	25	25
	Total	100	**92**	**72**	**79**

2. Financial Strength / Position

No	Evaluation Criteria	Max Points	Points Scored		
			BEIXIN	SARCO	HRL
I	Available Bank Credit Line	6	6	5	0
ii	Average Annual Construction Turnover for last 3 years.	6	6	2	4
iii	Registration with Income Tax Department	3	3	3	3
	Sub-Total	**15**	**15**	**10**	**7**

3. Technical Capabilities

No	Evaluation Criteria	Max Points	Points Scored		
			BEIXIN	SARCO	HRL
I	Graduate Engineers working with the company				
	a) Number of Engineers	7	7	7	7
	b) Experience of Engineers in number of years	7	7	7	7
Ii	Number of Diploma Engineers in Employment of the Firm				
	a) Number of Diploma Engineers	4	4	4	4
	b) Experience of Diploma Engineers in number of Years	2	2	2	2
	Sub-Total	**20**	**20**	**20**	**20**

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4. Equipment/Construction Resources

S. No	Evaluation Criteria	Max Points	Points Scored		
			BEIXIN	SARCO	HRL
1	Heavy Duty Chain dozers	4	4	4	4
2	Excavators with Jack Hammers	5	5	5	5
3	Concrete Mixers	3	3	3	3
4	Tractors with trolley/tanker	2	2	2	2
5	Dump trucks	2	2	2	2
6	Soil Compaction Equipment	1	1	1	1
7	Transportation Vehicles	1	1	1	1
8	Survey and Laboratory Equipment	2	2	2	2
9	Forklift/Crane	1	1	1	1
10	Formwork Materials	2	2	2	2
11	Scaffolding Materials	2	2	2	2
	Sub-Total	**25**	**25**	**25**	**25**

Qualification of the Bidders (Technical)

Minimum of 50% of the overall score was mandatory in 1st Part of the bid in order to qualify for the 2nd part of the bid.

All the three bidders are above the threshold points of 50% in each category / sub-factors and have therefore been declared qualified.

The final score and ranking position in first part of bid is given in the following table:

S. No.	Qualification Criteria	Points	Points		
			BEIXIN	SARCO	HRL
1	General / Relevant Experience	40	32	17	27
2	Firm's Financial Strength	15	15	10	07
3	Technical Capabilities / Management Team	20	20	20	20
4	Equipment Available / Construction Resources	25	25	25	25
	Total	100	92	72	79

Therefore; based on the evaluation criteria and the final score, the ranking of the bidders in Tender Part-1 (Technical Section) is as follows:

S. No.	Bidders	Ranking
1	Xinjiang Beixin Road & Bridge Group Co., Ltd. (BEIXIN)	1
2	Habib Rafiq (Pvt.) Ltd (HRL)	2
3	Shaikh Abdul Razzaq & Co. (Pvt) Ltd. (SARCO)	3

iii. Tender Part-II (FINANCIAL BID)

The financial bids of the qualified bidders in technical bid section were opened on 3rd October, 2016 in front of the bid evaluation committee and the bidders. Summary of the prices offered by the bidders is given in **Table 1-2** as follows;

Bid Prices in US$ (As Read Out)

Sr. No	Work Heads	Xinjiang Beixin Road & Bridge Group Co., Ltd. ("BEIXIN")	Sh. Abdul Razzaq & Co. (Pvt) Ltd. ("SARCO")	Habib Rafiq (Pvt.) Ltd. ("HRL")
A.	General & Preparatory Works	1,040,000.00	1,152,000.00	1,107,200.00
B.	Civil Works	11,480,300.00	11,610,000.00	11,720,000.00
C.	Hydraulics Steel Structure	1,479,500.00	1,875,620.00	1,905,000.00
D.	E & M (Transportation, Installation and Performance)	3,500,000.00	3,668,100.00	3,769,800.00
	Total (US$)	17,499,800.00	18,305,720.00	18,502,000.00
	Discount Offer	2.5%	1.5%	1%
	Discounted Bid Price (US$)	17,062,305.00	18,031,134.00	18,316,980.00

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Bid Prices in US$ (After Discount)

No	Work Heads	("BEIXIN")	("SARCO")	("HRL")
A.	General & Preparatory Works	1,010,800.00	1,134,720.00	1,096,128.00
B.	Civil Works	11,237,005.00	11,435,850.00	11,602,800.00
C.	Hydraulics Steel Structure	1,464,500.00	1,847,485.00	1,885,950.00
D.	E & M (Transportation, Installation and Performance)	3,350,000.00	3,613,079.00	3,732,102.00
	Bid Price (US$)	**17,062,305.00**	**18,031,134.00**	**18,316,980.00**

Note: NEPRA Upfront Tariff allowed maximum EPC price of US$17,055,720/- for high head hydro power project with 7.08MW Installed Capacity. Since, the instant Proposal is based on the EPC Price determined in Upfront Tariff; therefore, the Sponsors have taken EPC Price of US$17,055,720/- for the purpose of this tariff calculation / Proposal. Any amount in excess of NEPRA determined EPC / Non-EPC price is borne by the Sponsors and their impact has not been made part of this tariff proposal/Project Costs.

Under the provisions of the relevant sections of the tender documents, the contractor is responsible to carry out the detailed engineering design, deploy construction machinery and construct the project infrastructure, procure the material, E/M equipment, tools, tackle, install the equipment and carry out tests in order to commission the facility on completion. The contractor shall also be responsible to maintain its presence during mandatory defects liability period of 12 months.

Based on the suitability of offered prices, credibility of previous experience and comprehensive nature, the bid received from M/**S Xinjiang Beixin Road & Bridge Group Co, Ltd.** ("**BEIXIN**") was finally evaluated to be most competitive.

The EPC cost of the Project is US$ 2.409 million per MW, which is reasonable keeping in view the project construction requirements, equipment & machinery requirements, geo-physical conditions, impacts of climate and the difficult terrain.

As per comparison of bid offers given above, the overall lowest bid price offered is by M/S Xinjiang Beixin Road & Bridge Group Co., Ltd. ("Beixin") ($17,062,305). The other bids prices are M/S Sh. Abdul Razzaq & Co. (Pvt.) Ltd. ("SARCO") ($18,031,134) (5.68% higher than the lowest) and M/S Habib Rafiq (Pvt.) Ltd ($18,316,980) (7.35% higher than the lowest).

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2.2 The Successful Bidder:

EPC contract has been awarded to **M/s Xinjiang Beixin Road & Bridge Group Company Limited ("Beixin")** which is a state-owned entity of China, listed in Shenzhen Stock Exchange. It has vast experience and reputation in comprehensive engineering of hydropower projects and public transport infrastructure, such as road, railway, bridge and tunnel projects.

In this bid, **M/s Zhejiang Jinlun Electromechanic Co., Ltd ("Jinlun")** is nominated by "**Beixin**" as the equipment & machinery (E & M) sub-contractor. The Bid Evaluation Committee has carefully reviewed and carried out necessary due-diligence regarding the E&M Supplier and the committee observed that the Beixin nominated E&M Supplier is a highly reputable and experienced hydropower plant equipment manufacturing and installation company.

After successful negotiations with EPC Contractor, the Company issued Letter of Award and signed the EPC Contract based on FIDIC Conditions of Contracts for EPC/turnkey projects with a capacity of 7.08 MW (at generator terminal) and 7.01 MW (at the metering point), after auxiliary load, yielding a net energy of 37.739 GWh per annum based on a net head loss of 7.5m and design flow of 2.8 m^3/s.

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3.0 PROJECT COST & FINANCING

3.1 Project Cost

The total Project cost of US$ 20.005 million (the "Project Cost") is based on contracts, expenses, firm quotations, reliable estimates, thorough analysis and understanding of the factors that affect the development and construction of a hydropower projects.

A summary of the Project Cost at EPC stage is given below:

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

Note: US dollar rate is assumed at PKR 101.95/USD as per the Upfront Tariff to allow for ease of comparison with the upfront tariff. However, the Authority is requested to use the updated exchange rate when determining the tariff of the Project.

3.2 Financing Plan & Terms

In this tariff petition, the Company proposed that the Project be financed in a Debt to Equity ratio of 75:25, with 100% local debt at a very competitive rate. The Company nonetheless retains the right to opt for an element of foreign financing with the requisite

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tariff adjustment, to reflect this at COD stage, if this is considered necessary, in the interest of the Project and availed during implementation of the Project.

The financing terms of local debt are as follows:

Debt Financing Terms	
Total Debt	US$ 13,824,862
Grace Period	3 Years
Repayment Period	9 Years
Door-to-Door Tenure	12 Years
Interest Rate - Local Financing	State Bank Base Rate + 3.5%
Reference State Bank Base Rate	2%
Repayment Frequency	Quarterly

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4.0 DETERMINATION OF EPC STAGE TARIFF

4.1 Rationale

The EPC Stage tariff is in form of Cost-plus tariff mechanism based on benchmarks set out in the Upfront based tariff mechanism so as to avoid repeat due diligence by the NEPRA Authority. Hence, the Project tariff proposal is based / formulated on the basis of NEPRA Upfront tariff for small hydro power generation projects up to 25MW. The tariff of any power plant is a direct derivative of the capital and operational cost.

Some of the main factors responsible for cost increase since the conduct of Feasibility study are described as under:

- The project area suffered from a devastating earthquake in October 2005 that required updating of the structural requirements of the entire civil works to meet the revised construction codes.
- The re-assessment of project feasibility study resulted in increase that was largely brought about by the geo-physical changes at site after earthquakes. New unstable areas emerged that would require special stabilization treatments.
- Emergence of new residential quarters in the vicinity of headrace and penstock area that would require relocation and compensation.
- The cost of land acquisition has particularly escalated after the event of earthquake. Compensations for land acquisition are therefore higher than that at the stage of feasibility study.
- The Installed Capacity has increased from 4.8MW (feasibility stage) to 7.08MW (EPC Stage), thus resulting in increase of civil works at Weir, Forebay and Penstock.
- The E/M plant has been upgraded from 4.8 MW to 7.08 MW. This would require increase in the capacity/length of water conveying system and increase in hydraulic works as well as equipment cost.
- The US$ - Pak Rupee exchange rate has been on the rise with rupee depreciating against the US$ since the determination of project feasibility stage tariff by NEPRA in 2011.
- Internationally, the inflation in prices of essential metals and materials (Copper, Aluminum, Silicone steel, alloys etc. etc.) which are used in production of plant, equipment, cables and accessories has forced the manufacturer to raise their ex-factory prices.
- In local markets, the cost of cement, steel, formwork and aggregates which are major material requirement for project civil works has been on the rise.

- The wages for skilled / unskilled workforce at junior and senior level have been raised over last many years.
- Any impact of the depreciation of Pak rupees against US$.

4.2 Methodology for Determination of EPC Tariff

The project shall be developed on turnkey basis under an EPC Contract. The EPC Contractor shall be responsible to design, supply, construct, test and commission the facility. The selection of EPC Contractor is based on the evaluation of EPC Bids.

4.3 EPC Costs

The EPC Contractor would execute the 'Works' in accordance with the Project Requirements of the EPC Contract, on a lump sum fixed price – time certain basis with the following adjustments in the EPC Price at Commercial Operations:

a) Changes in prices of cement, steel, labor and fuel;

b) Withholding taxes on onshore works in excess of seven percent (7%)

The EPC costs of the successful bidder evaluated after the bidding process is US Dollars 17.062 million, which *inter alia* covers the following scope of works:

No	Work Heads	Xinjiang Beixin Road & Bridge Group Co., Ltd. ("BEIXIN")
A.	General & Preparatory Works	1,010,800.00
B.	Civil Works	11,237,005.00
C.	Hydraulics Steel Structure	1,464,500.00
D.	E & M (Transportation, Installation and Performance)	3,350,000.00
	Bid Price (US$)	**17,062,305.00**

4.4 NON-EPC / Other Costs

No	Non-EPC Cost	US$
A.	Project Development & Land Cost	1,277,600.00
E.	Financing & Lenders Fees	280,000.00
	Sub Total Non-EPC Cost (US$)	**1,557,600.00**

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Overall Non-EPC Costs has been taken same as per NEPRA benchmark in upfront tariff. However, the Authority is requested to consider the breakdown suggested by the Company, as the same was not provided in the upfront tariff. The above provided breakdown is in line with NEPRA precedents.

4.4.1 PROJECT DEVELOPMENT & LAND COST

The Project Development & Land Cost includes expenses incurred or being incurred up to commercial operations date of the project relating to Project administration & management cost, engineering & supervision cost, legal cost as well as land acquisition & resettlement cost. The sponsors have been incurring the costs on the Project for the last 14 years during which substantial amount of above requested non-epc cost has already been incurred, however in order to rationalize the tariff the sponsors of the project has decided to accept the Authority's determined Non-EPC Cost in the Upfront tariff (Note: the LOI for the development of project was issued in year 2004).

The Company's requests for approval of US$1.2776 million against Project Development & Land Costs, which is considered as fully justified, prudent and reasonable and may be allowed at this stage, however the actual costs shall be brought forward at COD with documentary evidence.

4.4.2 FINANCING FEES & CHARGES

NEPRA in its earlier determinations had allowed finance fees and charges at 3.5% of debt. However, in its more recent determinations for renewable energy projects, the Authority reduced the same to 2 - 2.5%. Keeping in line with the Authority, the Project company assumed financing fee & charges at of 2.0% on the allowed debt portion which works out to approx. USD 0.280 million.

The Company requests the Authority to approve US$280,000/- for the Lender's Fee & Charges subject to adjustment at COD for the followings:

i. Final rates for Commitment and Management Fee agreed with the local lenders under financing documents;
ii. Any other fee such as Trustee Fee, Stamp Fee, Valuation Cost/Charges etc;
iii. NEPRA approved debt amount at COD;
iv. Variation in US$/PKR parity.

4.4.3 CUSTOM DUTIES/CESS

The Authority in previous tariff determinations has allowed that any duty/cess that is imposed on the Project Company up to the commencement of its commercial operations for import of its plant, machinery and equipment, the exact amount paid by the

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company on these accounts shall be reimbursed by the power purchaser on production of original receipts. Therefore, the project company (if required) will take a loan from the Main Sponsor (M/s Sachal Engineering Works Pvt. Ltd.) to pay any duty/cess, and such loan shall be reimbursed to the Company by the power purchaser on production of original receipts.

5.0 TARIFF STRUCTURE

5.1 Summary

The tariff is structured to be single tiered energy payment tariff based on 'Take and Pay' basis. Under the Take and Pay tariff regime tariff shall not have any fixed component, unlike tariff structured with Energy and Capacity payments.

- Key assumptions for tariff estimated are as follows

Particulars	Description
Project Size	7.08 MW (Gross) ; 7.01 MW (Net)
Project Cost	US$ 20.005 million
Debt to Equity Ratio	75:25
Local Debt	100%
Debt Tenor	9 years + 3 years (grace)
Plant Factor	61.465%
Debt Cost	SBP BASE RATE (2%) + 3.5%
ROE	20%
Hydrology Risk	Borne by the Project Company
Despatch	Must-Run
Annual Generation (Net)	37.739 GWh

The tariff will be allowed a onetime adjustment at COD, but will then remain unchanged throughout the tariff control period. However, indexations for the following components will be allowed on a quarterly basis:

The proposed rates based on the tariff assumptions are as follows:

Description	Tariff (PKR/kWh)	Indexation
O&M (Levelized)	0.9215	Pak CPI, US CPI, PKR/US$
Insurance (Levelized)	0.4838	PKR/US$
ROE (Levelized)	3.7638	PKR/US$
Debt Servicing (Local) (Levelized)	3.5067	3 months SBP Base Rate
Total Tariff (Yrs 1 to 9)	PKR 10.8875 / kWh, USc 10.6792/kWh	
Total Tariff (Yrs 10 to 30)	PKR 5.2032 / kWh, USc 5.1037/kWh	
Levelized Tariff	**PKR 8.6758 / kWh**	
Levelized Tariff	**USc 8.5099/ kWh**	

- **O&M** component of PKR 0.9215 /kWh has been assumed which is based on NEPRA determined O&M costs under the Upfront Tariff. The project is claiming a single

O&M component, unlike the fixed and variable structure in the Upfront Tariff. O&M costs are further bifurcated as 75% local and 25% foreign component. The local portion of the O&M cost shall be indexed with local CPI and the foreign portion shall be indexed with US CPI and US$: PKR exchange rate on a quarterly basis as per NEPRA precedents.

- **Insurance during Operation** is assumed to be 1.05% of the entire EPC cost. The Insurance during operation is currently assumed to be Rs. 0.4838/kWh. The Insurance cost consists of 'Operations all risk' insurance, 'Business Interruption' insurance, 'Terrorism' and 'Third Party liability' insurance for the Project. These are standard insurances required by all the lenders and the Power Purchaser as per the terms of financing documents and Power Purchase Agreement.
- **Debt servicing** table is attached herewith as Annex-II. As stated above, the Company currently assumes to arrange 75% of the Project costs as debt from the local banks under SBP scheme for renewable energy at a current base rate of 2% with a 3.5% spread. Debt service is calculated as Rs. 3.5067/kWh (Levelized), where Rs. 2.6580/kWh relates to Principal Repayment and Rs. 0.8487/kWh relates to Interest payment.
- **The ROE** (including SROE & ROEDC component) is calculated as Rs. 3.7638/kWh (Levelized), based on equity induction of 25% of Project cost. The sponsors are developing Project over last 14 years and have incurred substantial pre-development & development costs. The sponsors have claimed and assumed 20% ROE which can be comparable with other coal-fired projects being developed in the country. The sponsors of the Project are exposed to similar risks as on coal-fired projects which require lengthy construction periods and involve various uncertainties during the construction and operational periods. The Company has considered redemption of equity from year 10 and onward (after repayment of loans) as the Project is on BOOT basis and Company is required to redeem the equity and repay its shareholders before the Complex is handed over to Government.

5.2 Interest during Construction (IDC)

The interest rate for the purposes of IDC and the loan repayments is based on a base rate of 2% with a spread of 3.5% for the local financing under State Bank of Pakistan ("SBP") financing scheme for renewable energy. Sine the SBP is not willing to accept the total loan tenor of more than 12 years; accordingly, the Project Company has assumed the debt period of twelve years that includes 3 years of construction period and nine years of repayment period. Based on the aforesaid assumptions, **IDC is worked out to be US Dollars 1.393 million.**

Thus, the Authority is requested to approve IDC of US$ 1.393 million with subsequent adjustment on actual at COD to account for:

i. Actual Foreign and Local Debt proportion;
ii. Actual Local and Foreign Debt approved by NEPRA at COD;
iii. Fluctuations in base SBP Base Rate of 2% during construction period;
iv. Actual loan draw-downs pattern during the construction period;
v. Variation in US$ to PKR parity (if required).

5.3 Construction Period

The Authority has allowed 36 months construction period for the project during the feasibility stage tariff determination. **The Authority is requested that if the project sponsor is able to reduce the construction period and achieve COD before 36 months, the Company may be allowed to retain the full benefit of reduction in ROEDC, i.e. the ROEDC may be allowed to be calculated on 36 months regardless of the reduction in construction period.**

5.4 Pass Through Items

a) If the company is obligated to pay any tax on its income from generation of electricity from small hydro, or water use charges/IRSA charges/other such levies or charges, not being of refundable nature, are payable by the company for generation of electricity from small hydro or any duties and/or taxes, not being of refundable nature, are imposed on the company upto the commencement of its commercial operations for import of its plant, machinery and equipment, the exact amount paid by the company on these accounts shall be reimbursed by the power purchaser on production of original receipts. This payment should be considered as a pass-through payment spread over a twelve months period. The payment on account of water use charges shall be spread equally over 12 months for each year. Furthermore, in such a scenario, the company shall also submit to the power purchaser details of any tax/levies/charges savings and the power purchaser shall deduct the amount of these savings from its payment to the company on account of taxation.

b) The adjustment for duties and/or taxes will be restricted only to the extent of duties and/or taxes directly imposed on the company. No adjustment for duties and/or taxes imposed on third parties such as contractors, suppliers, consultants, etc., will be allowed.

c) Withholding tax on dividend shall be treated as pass through item, as allowed by the Authority at the time of Project feasibility stage tariff determination. Withholding tax shall be paid at the rate of 7.5% of the return on equity (including return on equity during construction). The power purchaser shall make payment on account of withholding tax at the time of actual payment of dividend subject to maximum of 7.5% of 17% return on equity according to the following formula:

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Withholding tax payable = [{17% * (E(Ref) - E(Red))}+ ROEDC(Ref)] x7.5%

Where:

$E_{(Ref)}$	=	Adjusted Reference Equity at COD
$E_{(Red)}$	=	Equity Redeemed
$ROEDC_{(Ref)}$	=	Adjusted Reference Return on Equity during Construction

In case the Project does not declare a dividend in any particular year or only declares a partial dividend, then the difference in the withholding tax amount (between what has been paid in that year and total entitlement as per net return on equity) would be carried forward and accumulated so that the Company is able to recover the same as pass through item from power purchaser in future on the basis of total dividend payout. No withholding tax on dividend has been included in the tariff. **Authority is requested to allow payment of withholding tax on dividend as pass through at the time of actual payment of dividend.**

e) Customs duties and any other import tax paid with respect to O&M of the Project.

f) Any cost incurred by the Company and/or Project, due to the "Change in Tax" regime under the Power Purchase Agreement.

5.4 Adjustment for variation in Dollar/Rupee parity

Relevant components of the tariff shall be adjusted at commissioning of the Project on account of actual variation in PKR/USD parity with reference to the assumed rate of PKR/USD of Pak Rs. 101.95. <u>However, the Authority is requested to use the updated exchange rate when determining the tariff for the Project</u>.

5.5 Hydrological Risk

The hydrological risk will be borne by the Power Producer, whereby the Authority is requested to allow all power generated by the Complex/Power Producer to sell & procured by the Power Purchaser at the prevailing tariff of the Project.

Project Company is bearing the hydrology risk and it is critical that company has adequate mitigating factors to secure financing. In order to reduce operational risks, the company may design key equipment including generators, turbines etc. with an overload feature depending on final detailed design.

Overloading shall allow the Project to produce marginally in excess of its determined capacity for a limited period of time, depending on availability of water.

5.6 Indexations & Adjustments

The Authority may allow all other terms and conditions and, assumptions not covered in this proposal to be treated as the same terms and conditions and assumptions as are contained in the Upfront Tariff, this includes *inter alia:*

5.6.1 Adjustments:

a) Adjustments will be made on quarterly basis and where applicable, the amounts will be spread equally into quarters.

b) All other project costs, excluding IDC (Interest during Construction) will be considered as local costs and shall not be adjusted in any way.

c) The tariff allowed to the company, after onetime adjustment where applicable, will remain unchanged throughout the tariff control period, except for the adjustments due to indexations/adjustment. The indexations of O&M, return on equity, principal repayment of debt and interest will be allowed on quarterly basis. Insurance component will be adjusted annually.

d) Interest During Construction (IDC) will be adjusted based on the combined impact of the allowed financing mix, actual loan draw-downs pattern during the construction period and One-Time adjustment of EPC cost.

5.6.1.1 Adjustment on Account of Savings in Cost of Debt

The Project tariff has been worked out on the basis of SBP Base Rate of 2% plus a premium of 350 basis points. In case the spread negotiated is less than the said limits, the savings in the premium over SBP Base Rate shall be shared by the power purchaser and the power producer in the ratio of 60 : 40 respectively. The power producer will submit relevant authentic documentary evidence to the Authority, for the aforesaid adjustment within 15 days of commercial operations date of the Project.

5.6.1.2 Adjustment of Insurance Component

In case of insurance denominated in US $, insurance cost component of tariff will be adjusted only on account of US $/PKR exchange rate variation annually, not exceeding the insurance cost actually incurred.

5.6.1.3 One Time Adjustment of Tariff after COD

A) With reference to the total EPC Costs, the tariff maybe allowed a onetime adjustment after COD in the following manner:

- 40% of the EPC Cost will be adjusted over 36 months starting from the date of financial close of the project for USD/PKR variation

- 60% of the EPC Cost will be converted at USD/PKR exchange rate prevailing at the time of financial close of the project and adjusted over a period of 36 months (maximum) starting from the date of financial close of the project according to the below mention formula:

Type	Weightage	
	Permissible Range (%)	Adjustment (%)
a) Fixed Portion	51	51
b) Adjustable Portion	49	49
Cement (C)	6 to 12	10
Reinforcing Steel (S)	9 to 16	15
Fuel (F)	9 to 18	17
Labor (L)	6 to 12	07

FORMULA:

$$Pn = 0.51 + 0.10 * (Cn/Co) + 0.15(Sn/So) + 0.17 * (Fn/Fo) + 0.07 * (Ln/Lo)$$

Where:

Pn	Adjustment Factor to be applied for civil works
Cn	Index value for the relevant month for Cement as given in the Monthly Bulletin of Statistics published by the Pakistan Bureau of Statistics
Sn	Index value for the relevant month for Steel Bar & Sheets as given in the Monthly Bulletin of Statistics published by the Pakistan Bureau of Statistics
Fn	Index value for the relevant month for Diesel Oil as given in the Monthly Bulletin of Statistics published by the Pakistan Bureau of Statistics
Ln	Index value for the relevant month for Construction Wages Rate as given in the Monthly Bulletin of Statistics published by the Pakistan Bureau of Statistics

The reference indices of the specified input cost items will be determined as under:

Cost Element	Remarks
Co, So, Fo and Lo	Co, So, Fo and Lo are the reference values of the price indices for Cement, Steel Bar & Sheets, Diesel Oil and Construction Wages Rate respectively as available at the time of financial close of the project.

5.7 General Assumptions

In addition to the assumptions taken in the foregoing sections and paragraphs, the Project Company's tariff proposal takes into account the following assumptions. Changes in any of these will result in an appropriate adjustment to the proposed tariff at the time of COD:

(a) The tariff is calculated on the basis of net annual electricity generation of 37.739 GWh derived from historical hydrology data.

(b) The costs pertaining to the 33 kV interconnection has not been assumed which shall be borne by the PESCO or the Project Company and shall be taken-up before Authority upon finalization of the plan by Purchaser in relation thereto. Any associated costs that may be incurred by the Company shall also be separately taken-up before the Authority.

(c) The cost of design, procurement, construction, operation and maintenance of the transmission line shall be borne by the PESCO or the Project Company and shall be taken-up before Authority upon finalization of the plan by Purchaser in relation thereto.

(d) Pre-COD sale of electricity shall be allowed to the Company, subject to the terms and conditions of EPA.

(e) No provision for working capital has been made on account of any delay in power purchaser payments.

(f) No political risk insurance has been assumed on debt and/or equity.

(g) No tax on income of RHPCO (including proceeds against sale of electricity to CPPA/NTDC) has been assumed. Corporate tax, minimum tax, Alternate Corporate Tax, General sales tax / provincial sales tax and all other taxes, excise duty, levies, fees etc. by any federal / provincial entity including local bodies as and when imposed, shall be treated as a pass through item;

(h) Any Excise Duty other Duty, levy, charge, surcharge or other impositions under the applicable laws whether AJ&K, Provincial or Federal not considered in the tariff will be a pass through under the EPA;

(i) No AJK taxes such as Education Cess, which payable in AJK @10% of Tax liability, have been assumed in the tariff petition. In case Project is required to pay any such taxes, same shall be treated as a pass through item;

(j) No withholding tax on supply of plant and equipment has been assumed.

(k) Any withholding tax, in excess of seven percent (7%), on onshore works under the Construction Contract, in Pakistan or AJ&K, shall be allowed and adjusted in the Project Cost and Reference Tariff.

(l) No hedging cost is assumed for exchange rate fluctuations during construction and all cost overruns resulting from variations in the exchange rate during construction shall be allowed as pass through;

(m) Any costs incurred by Project Company, which are required to be incurred by Power Purchaser pursuant to provisions of EPA shall also be treated as pass through.

(n) No taxes or duties (including stamp duties) have been assumed on the execution of the financing documents, loan repayment, and interest repayment. Such taxes or duties, if any, including that on advisors' fee, will be treated as pass-through under the energy purchase.

(o) No royalty or any payment or fees to the relevant port authorities has been assumed.

(p) Any benefit/concession/incentives given to any other IPP/projects will also be given to the Project Company.

(q) Any additional costs incurred to cater for any modifications or additions required by the PESCO, NTDCL or Power Purchaser will form part of the Project cost at the COD.

(r) Any taxes, duties and cess imposed either in Pakistan and or in AJ&K whether pursuant to a change in law or otherwise (where such tax, duty or cess has not been expressly assumed herein) shall be treated as a pass-through item.

(s) No provision for the payment of Workers Welfare Fund and Workers Profit Participation has been made in the tariff. In case, the company has to pay any such fund, that will be treated as pass through item in the EPA

5.8 List of Supporting Documents

a. EPC Bid of selected EPC contractor

b. Bids evaluation report

Other previously submitted documents remain the same.

We remain at your disposal in case of any questions or queries.

5.9 List of Annexure

i. **Tariff Table**

ii. **Debt Servicing Schedule (Local)**

iii. **Project Cost Summary**

iv. **SBP Approval Letter**

Annexure-I Tariff Table

7.08 MW RIALI-II HYDROPOWER PROJECT						
REFERENCE TARIFF ON 100% LOCAL FINANCING						
Year	O&M	Insurance	Return on Equity (ROE)	Principal Repayment	Interest	Total Tariff
	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh
1	0.9215	0.4838	3.7420	3.5839	2.1562	10.8875
2	0.9215	0.4838	3.7420	3.7852	1.9550	10.8875
3	0.9215	0.4838	3.7420	3.9977	1.7425	10.8875
4	0.9215	0.4838	3.7420	4.2221	1.5180	10.8875
5	0.9215	0.4838	3.7420	4.4592	1.2810	10.8875
6	0.9215	0.4838	3.7420	4.7095	1.0306	10.8875
7	0.9215	0.4838	3.7420	4.9740	0.7662	10.8875
8	0.9215	0.4838	3.7420	5.2532	0.4870	10.8875
9	0.9215	0.4838	3.7420	5.5482	0.1920	10.8875
10	0.9215	0.4838	3.7980	-	-	5.2032
11	0.9215	0.4838	3.7980	-	-	5.2032
12	0.9215	0.4838	3.7980	-	-	5.2032
13	0.9215	0.4838	3.7980	-	-	5.2032
14	0.9215	0.4838	3.7980	-	-	5.2032
15	0.9215	0.4838	3.7980	-	-	5.2032
16	0.9215	0.4838	3.7980	-	-	5.2032
17	0.9215	0.4838	3.7980	-	-	5.2032
18	0.9215	0.4838	3.7980	-	-	5.2032
19	0.9215	0.4838	3.7980	-	-	5.2032
20	0.9215	0.4838	3.7980	-	-	5.2032
21	0.9215	0.4838	3.7980	-	-	5.2032
22	0.9215	0.4838	3.7980	-	-	5.2032
23	0.9215	0.4838	3.7980	-	-	5.2032
24	0.9215	0.4838	3.7980	-	-	5.2032
25	0.9215	0.4838	3.7980	-	-	5.2032
26	0.9215	0.4838	3.7980	-	-	5.2032
27	0.9215	0.4838	3.7980	-	-	5.2032
28	0.9215	0.4838	3.7980	-	-	5.2032
29	0.9215	0.4838	3.7980	-	-	5.2032
30	0.9215	0.4838	3.7980	-	-	5.2032
Levilized Tariff						
Average(1-9)	0.9215	0.4838	3.7420	4.5037	1.2365	10.8875
Average (10-30)	0.9215	0.4838	3.7980	-	-	5.2032
Levilized Tariff (Rs/kWh)	**0.9215**	**0.4838**	**3.7638**	**2.6580**	**0.8487**	**8.6758**
Levilized Tariff (USc/kWh)	0.9039	0.4745	3.6918	2.6072	0.8325	**8.5099**

Exchange Rate = 1USD/101.95Rs

Annexure-II Debt Component (Local) :

Quarterly Debt Servicing Schedule Based on 100% Local Financing								
For the Purpose of Indexation of Debt Component Only								
Period	Principal Million Rs.	Repayment Million Rs.	Markup Million Rs.	Balance Million Rs.	Debt Service Million Rs.	Anuual Principal Repayment Rs./kWh	Anuual Interest Rs./kWh	Anuual Debt Servicing Rs./kWh
1	1,529.71	33.12	21.03	1,496.58	54.16			
2	1,496.58	33.58	20.58	1,463.00	54.16			
3	1,463.00	34.04	20.12	1,428.96	54.16			
4	1,428.96	34.51	19.65	1,394.45	54.16			
1	**1,529.71**	**135.26**	**81.38**	**1,394.45**	**216.63**	3.5839	2.1562	5.7402
5	1,394.45	34.98	19.17	1,359.47	54.16			
6	1,359.47	35.47	18.69	1,324.00	54.16			
7	1,324.00	35.95	18.21	1,288.05	54.16			
8	1,288.05	36.45	17.71	1,251.60	54.16			
2	**1,394.45**	**142.85**	**73.78**	**1,251.60**	**216.63**	3.7852	1.9550	5.7402
9	1,251.60	36.95	17.21	1,214.65	54.16			
10	1,214.65	37.46	16.70	1,177.19	54.16			
11	1,177.19	37.97	16.19	1,139.22	54.16			
12	1,139.22	38.49	15.66	1,100.73	54.16			
3	**1,251.60**	**150.87**	**65.76**	**1,100.73**	**216.63**	3.9977	1.7425	5.7402
13	1,100.73	39.02	15.13	1,061.70	54.16			
14	1,061.70	39.56	14.60	1,022.14	54.16			
15	1,022.14	40.10	14.05	982.04	54.16			
16	982.04	40.66	13.50	941.38	54.16			
4	**1,100.73**	**159.34**	**57.29**	**941.38**	**216.63**	4.2221	1.5180	5.7402
17	941.38	41.21	12.94	900.17	54.16			
18	900.17	41.78	12.38	858.39	54.16			
19	858.39	42.36	11.80	816.03	54.16			
20	816.03	42.94	11.22	773.10	54.16			
5	**941.38**	**168.29**	**48.34**	**773.10**	**216.63**	4.4592	1.2810	5.7402
21	773.10	43.53	10.63	729.57	54.16			
22	729.57	44.13	10.03	685.44	54.16			
23	685.44	44.73	9.42	640.71	54.16			
24	640.71	45.35	8.81	595.36	54.16			
6	**773.10**	**177.74**	**38.90**	**595.36**	**216.63**	4.7095	1.0306	5.7402
25	595.36	45.97	8.19	549.39	54.16			
26	549.39	46.60	7.55	502.78	54.16			
27	502.78	47.25	6.91	455.54	54.16			
28	455.54	47.89	6.26	407.64	54.16			
7	**595.36**	**187.72**	**28.92**	**407.64**	**216.63**	4.9740	0.7662	5.7402
29	407.64	48.55	5.61	359.09	54.16			
30	359.09	49.22	4.94	309.87	54.16			
31	309.87	49.90	4.26	259.97	54.16			
32	259.97	50.58	3.57	209.39	54.16			
8	**407.64**	**198.26**	**18.38**	**209.39**	**216.63**	5.2532	0.4870	5.7402
33	209.39	51.28	2.88	158.11	54.16			
34	158.11	51.98	2.17	106.12	54.16			
35	106.12	52.70	1.46	53.42	54.16			
36	53.42	53.42	0.73	0.00	54.16			
9	**209.39**	**209.39**	**7.25**	**0.00**	**216.63**	5.5482	0.1920	5.7402

Exchange Rate = 1USD/101.95Rs.

Annexure-III Project Details:

Project Name	Riali-II Hydropower Project
Installed Capacity (Gross) (MW)	7.08
Auxiliary Consumption	1%
Net Capacity (MW)	7.01
Plant Factor	61%
Annual Generation (Gross) (GWh)	38.12
Auxiliary Consumption (1%) (GWh)	0.38
Annual Generation (Net) (GWh)	37.739
EPC Cost	US$ 17.0557 million
Non-EPC Cost	US$ 1.5576 million
Project Cost without IDC	US$ 18.6133 million
Interest During Construction (IDC)	US $ 1.3926 million
Total Project Cost	US $ 20.0059 million
Debt : Equity Ratio	75 : 25
Total Debt	US $ 15.0044 million
Total Equity	US $ 5.0014 million
Construction Period (Max.)	3 Years from Financial Close
Debt Payback Period	9 years from COD
Tariff Control Period	30 Years from COD
EPC Stage Levelized Tariff	8.6758 Rs./kWh 8.5099 USc/kWh
Reference Exchange Rate	1US$ = PKR 101.95
O&M Per Annum	US$ 341,114
Insurance During Operation Per Annum	US$ 179,085
Power Purchaser	CPPA-G

Annexure-IV SBP Approval Letter:

State Bank of Pakistan

Infrastructure, Housing & SME Finance Department
I.I. Chundrigar Road
Karachi

No. IH&SMEFD/REPP/2016-3606 February 12, 2016

The Managing Director,
Pak-Brunei Investment Company Limited,
Horizon Vista Building, 6th floor, Comm-10,
Block 4, Scheme No. 5, Clifton
Karachi.
Fax No. 35361213

Attention Ms. Sadaf Aliuddin
Mr. Karim Hatim

Dear Madam,

Request for Financing for 6.6 MW Riali II Hydro Power Project (HPP) under SBP's Scheme for Financing Power Plants Using Renewable Energy

Please refer to your bank's letter No. ASIG/39/2015 dated 31-12-2015 regarding the captioned subject.

2. In this connection, the following approvals have been granted subject to fulfillment of rules and regulations set by the concerned regulatory authority and other relevant Government Departments, in compliance with the prevalent notifications and Renewable Energy Policy of Government of Pakistan:

a) Financing under the Scheme is being allowed for civil works, amounting to Rs. 1,012.383 million related to 6.6 MW Riali II HPP.
b) Availability Period of 03 years is granted. The total tenor shall, however, not exceed maximum of 10 years.

3. Accordingly, you may process the financing request, of M/s. Riali Hydro Power Company Ltd for their 6.6 MW Riali II Hydro Power Project, for civil works in addition to plant & machinery under the captioned Scheme. Furthermore, you are advised to approach us for refinance limit allocation after getting firm commitments from other banks/DFIs in the syndicate indicating share of each bank/DFI.

4. You must ensure fulfillment of requisite pre disbursement formalities by the borrower through due diligence as per your own internal arrangements to avoid malpractices and mis-utilization of funds under the Scheme. You will also be required to submit compliance certificate, verifying smooth progress based on the verification reports prepared by the technical consultants to the Project.

Sincerely,

(Dr Muhammad Saleem)
Additional Director

Phone 92-21-99221358 Fax 92-21-99221139