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PART II

Statutory Notifications (S. R. O.)

GOVERNMENT OF PAKISTAN

MINISTRY OF ENERGY

(Power Division)

NOTIFICATION

Islamabad, the 13th February, 2019

S.R.O. 235(I)/2019.—In pursuance of sub-section (7) of section 31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997(XL of 1997), the Federal Government is pleased to notify the National Electric Power Regulatory Authority's approved tariff, whereby the Pak Matiari Lahore Transmission Company (Private) Ltd. (PMTC) is allowed to charge tariff, as specified below, namely:—

"Tariff

Tariff Components	Year 1-10 Rs/kW/h	Year 11-25 Rs/kW/h	Indexation
O&M-PMTC			
Foreign	0.0441	0.0441	PKR/USD, US CPI

Price: Rs. 20.00

[250(2019)/Ex. Gaz.]

Local	0.0323	0.0323	CPI – General
NTDCL-O & M	0.0411	0.0411	CPI – General
Land Lease	0.0073	0.0073	As per actual
Insurance	0.0409	0.0409	Annually as per actual up to 1% of EPC Cost, PKR/USD
Sinosure Fee	As per Annex-I		As per actual upto 0.60% of the (outstanding debt at the start of the year plus expected interest payment during the year)
Debt service	0.5227	-	LIBOR, PKR/USD
Return on equity	0.1680	0.1856	PKR/USD
Return on equity during construction	0.0388	0.0388	PKR/USD

i. The reference TSC is based on 98.5% availability with 1.5% annual non-penalized maintenance outages.

ii. The reference PKR/Dollar exchange rate has been assumed at Rs. 104.40.

iii. Construction period of 27 months is allowed.

iv. The above Tariff is applicable to the PMTC as per the LOS by PPIB and as per the acceptance by the Project Company for a period of twenty (25) years commencing from the date of the COD.

v. Sinosure Fee on outstanding balance of Debt and interest at gross rate of 0.60% has been allowed for each applicable year as indicated in the reference tariff table attached herewith as Annex-II.

vi. The Tariff is calculated on the basis of Build Own Operate and Transfer (BOOT) basis. The Project will be transferred to NTDCL upon the expiry of the term of the TSA signed between NTDCL and Project Company (PMTC).

vii. All invoicing and payment terms are assumed to be in accordance with the TSA which will be signed between NTDCL and PMTC not inconsistent with the instant determination.

viii. Redemption of equity has been allowed after 10 years of commercial operations of the Transmission Line.

ix. The payment will be made to PMTC in Pak Rupee as per the below mentioned formula:

Payment = Capacity *No of hours in a year*Rate in Rs/kW/hr

Where;

Capacity = The contracted capacity as agreed in TSA

No of hours in a year = 8,760

x. The impact of actual losses upto 4.3% shall be allowed on the basis of units transmitted.

xi. The Project Company should maximize engaging of local resources for the project.

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

xiii. Debt Servicing Schedule is attached as Annex-II.

The following indexations shall be applicable to the reference tariff;

I. **One Time Adjustments**

(a) The transmission line cost components will be adjusted at the time of COD, the rates/price is fixed for every component whereas the actual quantities verified by NTDCL Independent Engineer/ Owner's Engineer will be considered for COD adjustment as per the mechanism given below;

(i) Tower Material Cost:

Type of Tower	Height of Tower	Weight of Tower (Ton)	No of Towers	Total weight of tower (ton)	USD/ Ton	Total Tower Material Cost
1	2	3	4	5=2*3*4	6	7=5*6
Basis of Adjustment at COD						
ZP1, ZP2, ZPT, JP1, JP2, JP3 and Electrode Line Tower	As per actual	As per actual	As per actual	To be Calculated	(Fixed) 1,050	To be Calculated

(ii) Conductor Cost:

Type of Conductor	Length (kM)	Weight of Conductor (Ton/kM)	Total Weight/Ton	USD /Ton	Conductor Cost
1	2	3	4=2*3	5	6=5*4
ACSR 1250 conductor JL1/G3A-1250/70, ACSR 630 Conductor JNRLH1/G1A-630/45, Ground Wire GJ-80 & AAAC Conductor JL 1 /LHA1-800/550	As per actual	As per actual	To be Calculated	(Fixed) 2,600 for ACSR & ground wire, 3,050 for AAAC	To be Calculated

(iii) Civil Works:

Tower Type	Average volume of tower foundation (m^3)	Quantity of tower	Total volume (m3 of tower foundation)	USD/ In^3	Conductor Cost
1	**2**	**3**	**4=2*3**	**5**	**6=4*5**
ZP1,ZP2,ZPT, JP1,JP2,JP3 and Electrode Line Tower	As per Actual	As per actual	To be calculated	Fixed 440	To be calculated

(iv) <u>Tower Erection:</u>

Type of Tower	Weight of Tower (Ton)	No of Towers	Total weight of tower (ton)	USD/ Ton	Total Tower Material Cost
1	**2**	**3**	**4=2*3**	**5**	**6=4*5**
ZP 1 ,ZP2,ZPT,JP 1 ,JP2,JP3 and Electrode Line Tower	As per Actual	As per Actual	To be Calculated	Fixed 220	To be Calculated

(v) <u>Stringing Cost:</u>

Length of line	USD/ Km	Total Tower Material Cost
1	**2**	**3=1*2**
As per Actual	Fixed 20,000	To be Calculated

(vi) <u>Insulator Cost:</u>

Type of insulator	Quantity	Per Unit (USD) Cost	Total Cost (USD)
HVDC T/Lines	**1**	**2**	**3=1*2**
Composite Insulators (Set)		(Fixed) 397	To be Calculated
Porcelain Insulators (Piece)		(Fixed) 70	
Electrode T/Lines	As per actual		
Porcelain Insulators (Piece)		(Fixed) 70	

Note:

The above required actual data for COD adjustment must be verified by Independent Engineer/Owner Engineer to be appointed by NTDCL, for techno-economic optimized design.

(vii) <u>Total Transmission Line Cost:</u>

The total transmission line cost will be work out at COD as tabulated:

Sr.No	Description	Price USD
1.	Tower Material	To be adjusted as per actual quantities
ii.	Conductor	
iii.	Foundation	
iv.	Tower Erection	
v.	Stringing	
vi.	Insulator	
vii.	OPGW	5.47 % of conductor cost
viii.	Hardware	15.41 % of tower material cost
ix.	Grounding Material	2.16 % of tower material cost
x.	Relay Station	USD 3,663,217 (Fixed)
xi.	OPGW connection	USD 301,471 (Fixed)
xii.	**Total equipment and machinery cost**	**********
xiii.	Spare Parts (warranty Period)	1.42% of total equipment and machinery cost
xiv.	Design and Engineering	3.65% of total equipment and machinery cost
xv.	Mobilization	7% of total equipment and machinery cost
xvi.	Transportation and custom clearance	5.85% of total equipment and machinery cost
xvii.	Project Management Cost	1.79% of total equipment and machinery cost
xviii.	Supervision for construction and installation	1.73% of total equipment and machinery cost
xix.	Security Coverage Cost	USD 9,895,358 (Fixed), cost for deployment of security forces including rangers will be allowed as per actual, subject to submission of documentary evidences to the satisfaction of the Authority at the time of COD

Note:

- The above required actual data for COD adjustment must be verified by Independent Engineer/Owner Engineer to be appointed by NTDCL, for techno-economic optimized design.

- All the cost components of transmission line as mentioned above will be adjusted at COD on the basis of verifiable documentary evidence (verified by the Independent engineer/ owner's engineer and duly endorsed by the NTDCL) to the satisfaction of the Authority subject to maximum limits as mentioned in the table above.

(b) Duties and/or taxes, not being of refundable nature, directly imposed on PMTC up to the commencement of its commercial operations for

the import of its machinery and equipment for the construction of converter station and transmission line will be subject to adjustment at actual on COD, upon production of verifiable documentary evidence to the satisfaction of the Authority.

(c) Actual amounts withheld from contractors as per applicable laws and regulations will be allowed as part of the project cost at the time of COD on the basis of verifiable documentary evidence.

(d) Security cost in addition to already allowed amount for this project will be allowed as per actual, subject to the submission of the documentary evidence to the satisfaction of the Authority at the time of COD justifying the need as confirmed by the relevant Authority / Agencies.

(e) NTDCL development cost which includes right of way compensation, land lease cost and cost of site survey, load flow studies and environmental studies will be adjusted on the basis of actual up to maximum limit of USD 12 Million as allowed by the Authority on the basis of verifiable documentary evidence at COD. The cost specific to this project will not be admissible to be claimed by NTDCL in any other tariff petition submitted to the Authority.

(f) Insurance during construction will be adjusted as per actual, subject to maximum limit of 1% of the adjusted and approved EPC cost, on production of authentic documentary evidence at the time of COD tariff adjustment.

(g) Financial charges will be adjusted at COD on the basis of actual, up to a maximum of 3% of the total debt allowed (excluding the impact of interest during construction, Sinosure fees and financial charges), on production of authentic documentary evidence.

(h) Sinosure Fee, applicable on debt and accrued interest thereon (IDC) during the project construction period will be adjusted at COD on the basis of actual subject to the maximum allowed limit and payments terms as approved by the Authority, on account of variation in PKR/USD exchange rate during the project construction period, based on documentary evidence to be provided by PMTC.

(i) If PMTC is required to make payment of Withholding Tax on Overseas Investment Insurance Fee (Sinosure Fee) on interest part of debt during the project construction period of 2 years 3 months and debt repayment period of ten years after COD, the same shall be

allowed as pass through cost in tariff based on actual upon production of verifiable documentary evidence to be provided by PMTC.

(j) For Overseas Investment Insurance Fee (Sinosure Fee), reference component of tariff for each year expressed in Rs./kWh as indicated in the reference tariff table at Annex-II will be adjusted on the basis of variation in PKR/USD exchange rate variation subject to maximum rate of 0.60% per annum and terms of payment as approved by the Authority at COD. Reference Sinosure component of tariff for each year will be revised accordingly.

(k) The cost of feasibility study will be allowed up to maximum of USD 5.4 Million subject to timely submission of studies to NTDCL for endorsement of cost and relevance of studies. In addition, the evidence of payments made to the Institute carrying out the feasibility study will have to be also provided for verification at the time of COD.

(l) Interest during Construction (IDC) will be adjusted at COD on the basis of actual debt composition, variation in PKR/USD, debt drawdown (not exceeding the amount allowed by the Authority) and applicable 6-months LIBOR/KIBOR during the project construction period allowed by the Authority.

(m) Principal repayment and the cost of debt will be adjusted at COD as per the actual borrowing composition and variation in LIBOR/ KIBOR at relevant dates during the project construction period.

(n) In case, the spread over LIBOR/KIBOR is agreed at lower than 450/300 basis points, the benefit of such reduction in rate will be adjusted in proportion of 40% to PMTC and 60% to the consumer through necessary adjustment in tariff at COD.

(o) Return on Equity (ROE) and Return on Equity During Construction (ROEDC) will be adjusted at COD on the basis of actual equity injections and PKR/USD exchange rate variation (within the overall equity allowed by the Authority at COD) during the project construction period as allowed by the Authority.

(p) The specific items of project cost paid in foreign currency (*i.e.* USD) will be adjusted at COD on account of actual variation in exchange rate over the reference PKR/USD exchange rate of Rs. 104.40 on production of verifiable documentary evidence to the satisfaction of the Authority.

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

II. **Pass-Through Items**

a. No provision for Income Tax has been accounted for in the tariff. If PMTC is obligated to pay any tax in relation to its transmission business, the exact amount paid by PMTC may be reimbursed by the NTDCL to PMTC on production of original receipts. This payment may be considered as pass-through payment (as Rs./kWh) spread over a 12 months period in addition to fixed charges proposed in the Reference Tariff. Furthermore, in such a scenario, PMTC may also submit to the NTDCL details of any tax shield savings and the NTDCL will deduct the amount of these savings from its payment to the Petitioner on account of taxation.

b. If PMTC is required to make payment of Withholding Tax on Sinosure Fee and Debt Servicing component of tariff, the same shall be treated as Pass Through cost of PMTC.

c. Sales Tax, Excise Duty or other Duty, Levy, Charge, Surcharge or Other Impositions applicable on the PMTC (whether federal or provincial) not considered in the Tariff will be Pass-Through under the TSA if not adjustable.

d. No provision for the payment of Workers Welfare Fund and Workers Profit Participation has been made in the tariff. In case, the PMTC has to pay any such fund as per legal requirements, that will be treated as pass through item in the TSA.

e. As security is the prime responsibility of GoP as mentioned above in this document, no extensive security costs have been assumed. If such costs apply, these will be treated as pass-through item in the TSA.

III. **Indexations:**

The following indexation shall be applicable to the reference tariff:

i. Indexation applicable to O&M

The local part of PMTC-O&M cost and NTDCL O&M will be adjusted on account of Inflation (CPI) and PMTC-O&M foreign will be adjusted on account of variation in Rupee/Dollar exchange rate 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 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 indexation will be as follows:

F-O&M- PMTC $_{(FREV)}$	=	F-O&M- PMTC $_{(FREF)}$ * US CPI $_{(REV)}$/ US CPI(REF)*ER$_{(REV)}$ / ER(REF)
F-O&M- PMTC $_{(LREV)}$	=	F-O&M- PMTC $_{(LREF)}$ * CPI - G $_{(REV)}$/ CPI - G $_{(REF)}$
F-O & M-NTDCL$_{(LREV)}$	=	F-O&M-NTDCL $_{(LREF)}$ * CPI - G $_{(REV)}$/ CPI - G $_{(REF)}$
Where;		
F-O&M- PMTC $_{(FREV)}$	=	The revised applicable Fixed O&M foreign component of the fixed charges of Independent Transmission Company indexed with US CPI and USD/PKR fluctuation.
F-O&M- PMTC $_{(LREV)}$	=	The revised applicable Fixed O&M Local component of the fixed charges of Independent Transmission Company indexed with CPI – General
F-O & M-NTDCL$_{(LREV)}$	=	The revised applicable Fixed O&M Local component of the fixed charges of NTDCL indexed with CPI – General
F-O&M- PMTC$_{(FREF)}$	=	The reference Fixed O&M foreign component of the fixed charges of Independent Transmission Company for the relevant period
F-O&M- PMTC $_{(LREF)}$	=	The reference Fixed O&M local component of the fixed charges of Independent Transmission Company for the relevant period
F-O & M-NTDCL$_{(LREV)}$	=	The reference Fixed O&M local component of the fixed charges for NTDCL for the relevant period
CPI - G $_{(REV)}$	=	The Revised Consumer Price Index (General)
CPI - G $_{(REF)}$	=	207.30, Reference Consumer Price Index (General) of June, 2016 as notified by the Pakistan Bureau of Statistics
US CPI$_{(REV)}$	=	The Revised US Consumer Price Index (All Urban Consumers) notified by US Bureau of Labor Statistics.
US CPI(REF)	=	241.38, Reference US CPI notified by the US Bureau of Labor Statistics (All Urban Consumers) for the month of June, 2016.
ER$_{(REV)}$	=	The Revised TT & OD selling rate of US dollar as notified by the National Bank of Pakistan
ER$_{(REF)}$	=	104.4 The reference TT & OD selling rate of US dollar as notified by the National Bank of Pakistan

ii. <u>Adjustment for LIBOR variation</u>

The interest part of fixed charge component will remain unchanged throughout the term except for the adjustment due to exchange rate variation and variation in 6- month LIBOR, while spread on LIBOR (4.50%) remaining the same, according to the following formula

Δ I	=	P(REV) * (LI BOR$_{(REV)}$ _ 1.1442%) / 2
Where:		
Δ I	=	The variation in interest charges applicable corresponding to variation in 6-month LIBOR. Δ I can be positive or negative depending upon whether LIBOR$_{(Rev)}$ > or < 1.1442%. The interest payment obligation will be enhanced or reduced to the extent of A I for each period under adjustment applicable on bi-annual basis.

$P_{(REV)}$	=	Is the outstanding principal (as indicated in the attached debt service schedule to this order at Annex-11) on a Bi-annual basis at the relevant calculations dates.

Note:

Foreign debt and its interest shall be adjusted on account of actual variation in PKR/USD over the applicable reference PKR/USD exchange rate on bi-annual basis.

iii. Sino-sure:

In case of Overseas Investment Insurance Policy, PMTC will be allowed annual indexation in the reference tariff component of sinosure fee based on the submission of documentary evidences upto the allowed limit (0.60% of the outstanding debt plus interest payment during the year). Further, the tariff component of Sinosure Fee will also be adjusted on account of variation in PKR/USD exchange rate variation on annual basis.

iv. Return on Equity and Return on Equity During Construction

The Return on Equity (ROE) and Return on Equity during Construction (ROEDC) components of tariff will be adjusted for variation in PKR/USD exchange rate on the basis of revised TT & OD selling rate of US Dollar notified by the National Bank of Pakistan according to the following formula;

$ROE_{(REV)}$	=	$ROE_{(REF)} \times ER_{(REV)} / ER_{(REF)}$
$ROEDC_{(REV)}$	=	$ROEDC_{(REF)} \times ER_{(REV)} / ER_{(REF)}$
Where:		
$ROE_{(REV)}$	=	The revised ROE component of the tariff expressed in Rs/kW/h
$ROE_{(REF)}$	=	The reference ROE component of the tariff expressed in Rs/kW/h
$ROEDC_{(REV)}$	=	The revised ROEDC component of the tariff expressed in Rs/kW/h
$ROEDC_{(REF)}$	=	The reference ROEDC component of the tariff expressed in Rs/kW/h
$ER_{(REV)}$	=	The revised USD/PKR exchange rate as notified by the National Bank of Pakistan
$ER_{(REF)}$	=	The reference exchange rate of PKR 104.4=1 USD

v. Insurance:

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

$Ins_{(REV)}$	=	IF1S(REF) * ER (REV)/ER(REF)
Where:		
$Ins_{(REV)}$	=	Revised Insurance cost component of tariff adjusted with the exchange rate variation (PKR/USD)
$ER_{(REV)}$	=	The revised USD/PKR exchange rate as notified by the National Bank of Pakistan
$ER_{(REF)}$	=	The reference exchange rate of PKR 104.4=1 USD

vi. Land Lease:

Land Lease component of tariff will be adjusted on annual basis on production of verifiable documentary evidence by PMTC.

vii. Adjustment on account of inflation, US CPI, foreign exchange rate variation and LIBOR variation will be approved and announced by the Authority within fifteen working days after receipt of the Petitioner's request for adjustment in tariff in accordance with the requisite indexation mechanism stipulated herein.

IV. **Directions to the Petitioner and NTDCL**

The Authority directed following aspects to be addressed by Petitioner and NTDCL:

i. Since it is the first HVDC project of the Country, it needs to be ensured that there is a reliable and robust power transmission corridor fully integrated with the power generation projects at the sending end and fully capable of receiving at the Lahore converter station. It should be ensured that generation load of 4,000 MW is timely and consistently available for this transmission line. It is important that clear responsibilities are identified and defined in this regards.

ii. It should be ensured by NTDCL to effectively and efficiently manage in its network the energy transmitted through this HVDC transmission line.

iii. Both, technical and financial capability of NTDCL should be ensured with regards to various obligations being entrusted for this HVDC transmission line.

iv. TSA and IA and related other legal covenants should incorporate and consider technology transfer and indigenous capacity development for this and future HVDC projects. Specifically training to NPCC to be ensured.

v. All required system studies should be completed by the EPC contractor and NTDCL.

vi. Necessary contingency planning should be carried out for this HVDC Transmission Line as it has envisaged significant energy transmission from South to load centers.

vii. Compliance should be ensured with grid code and NEPRA Performance Standard (Transmission) Rules, 2005.

viii. PMTC and NTDCL should ensure that limits of reactive power exchange between HVDC link and AC system needs are clearly defined and duly complied.

ix. Minimum possible transmission line length should be ensured giving due consideration to future transmission plans, social and environment aspect. Among other benefits, it will also reduce the construction cost, land cost and associated maintenance and security costs.

x. NTDCL to ensure mitigation measures for reinforcement to strengthen its network after completion of detailed studies.

xi. The security related costs claimed as part of this Project Cost should not duplicate the amount and security measures as assured to CPEC Projects.

xii. The TSA should adequately cover and address transmission consideration including NTDCL role as System Operator.

xiii. TSA must be consistent with the provisions of the SPTL granted by NEPRA.

xiv. TSA should specify on bi-directional transmission based on future requirements envisaged at this stage.

xv. Any payment by NTDCL inconsistent to this determination will not be recognized as allowed cost in NTDCL Revenue Requirements in its tariff Petition submitted to NEPRA.

xvi. PMTC to meet the maximum targeted losses of 4.3% and the comprehensive mechanism in this regard for achieving these targeted losses and the penalties for failure to achieve the targeted losses must be agreed in the TSA.

xvii. The TSA and IA should clearly set out related terms and conditions including financial, technical and performance specifications as per international standards.

xviii. The PMTC/PPIB shall be required to decide clearly the responsibility structure for construction, operations, routine and related maintenance for the project as per the international standards.

xix. All requirements of the Pakistan Environmental and Protection Agency (PEPA) Act 1997 relating to environmental protection environmental impact and social assessment shall required to be ensured by the Petitioner at the time of issuing LOS to the related entity/organization including NOCs from respective Provincial Authorities of Sindh and Punjab.

xx. PPIB shall ensure that all technical studies which are in progress are finalized to the satisfaction of NTDCL. NTDCL shall provide a certificate to the effect that it is satisfied with the results of such studies and all concerns identified under "Adequacy of Studies" para no 47.6.2 of decision dated Aug. 18, 2016 have been fully addressed.

xxi. TSC shall be payable if the transmission line is complete and capable of transmitting 4,000MW as per commitment of petitioner.

xxii. The TSC will be due and paid whether or not any power is transmitted to the Transmission Line subject to the availability of the transmission line and the detailed mechanism to be agreed under the TSA.

xxiii. Relevant and applicable Income Tax, Sales Tax Incentives and reduced Duties (Custom) Cess etc. to be ensured by PPIB to PMTC.

xxiv. Pre-COD energy transmission is allowed on terms arid conditions to be mutually agreed and mentioned in Transmission Service Agreement (TSA). The Transmission Service Charge however should not exceed the rates as approved by the Authority in this tariff determination.

xxv. The PPIB shall be required to decide and agree the relevant terms and duration for lock-in period for this Project and ensure necessary exemption are availed by PMTC to reduce the transmission cost of the Project.

Annex-I

REFERENCE TARIFF TABLE-MATIARI LAHOR HVDC TRANSMISSION LINE

Year	O&M				Total O&M	Insurance	Return on Equity	ROEDC	Loan Repayment	Interest Charges	Sinosure	Tariff
	Foreign	Local ICT	Local NTDC	Land								
	Rs. / kW/h	Rs. / kW/h	Rs. / kW/h	Rs. / kW/h	Rs. / kW/h	Rs. / kW/h	Rs. / kW/h	Rs. / kW/h	Rs. / kW/h	Rs. / kW/h	Rs. / kW/h	Rs. / kW/h
1	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1680	0.0388	0.3038	0.2189	0.0250	0.9203
2	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1680	0.0388	0.3212	0.2015	0.0231	0.9184
3	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1680	0.0388	0.3396	0.1831	0.0211	0.9163
4	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1680	0.0388	0.3590	0.1637	0.0189	0.9142
5	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1680	0.0388	0.3796	0.1431	0.0166	0.9119
6	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1680	0.0388	0.4013	0.1214	0.0142	0.9095
7	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1680	0.0388	0.4243	0.0984	0.0117	0.9069
8	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1680	0.0388	0.4485	0.0741	0.0090	0.9042
9	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1680	0.0388	0.4742	0.0485	0.0061	0.9014
10	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1680	0.0388	0.5014	0.0213	0.0031	0.8984
11	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
12	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
13	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
14	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
15	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
16	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
17	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
18	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
19	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
20	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
21	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
22	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
23	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
24	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
25	0.0441	0.0323	0.0411	0.0073	0.1249	0.0409	0.1856	0.0388	-	-	-	0.3902
Levellized Tariff	**0.0441**	**0.0323**	**0.0411**	**0.0073**	**0.1249**	**0.0409**	**0.1737**	**0.0388**	**0.2562**	**0.0976**	**0.0113**	**0.7435**

The reference TSC is based on 98.5% power transmitting capacity with 1.5% annual non-penalized maintenance outages.

Exchange Rate 1 US $ = 104.4 PKR

Levellized Tariff @ 10% works out to be US Cents 0.7121/kW/h

Annex-II

DEBT SERVICING SCHEDULE-MATIARI LAHOR HVDC TRANSMISSION LINE

Libor	1.144%
Spread	4.500%
Interest rate	5.64%

Period	Foreign Debt					Annual Principal Repayment	Annual Interest	Annual Debt Servicing
	Principal	Repayment	Mark UP	Balance	Total Debt Service			
	US $	US $	US $	US $	US $	Rs./kW/h	Rs./kW/h	Rs./kW/h
1	1,326,671,165	50,272,921	37,439,987	1,276,398,244	87,712,908	0.3038	0.2189	0.5227
2	1,276,398,244	51,691,673	36,021,235	1,224,706,571	87,712,908			
3	1,224,706,571	53,150,464	34,562,444	1,171,556,107	87,712,908	0.3212	0.2015	0.5227
4	1,171,556,107	54,650,423	33,062,485	1,116,905,684	87,712,908			
5	1,116,905,684	56,192,713	31,520,195	1,060,712,972	87,712,908	0.3396	0.1831	0.5227
6	1,060,712,972	57,778,527	29,934,381	1,002,934,444	87,712,908			
7	1,002,934,444	59,409,095	28,303,813	943,525,349	87,712,908	0.3590	0.1637	0.5227
8	943,525,349	61,085,679	26,627,229	882,439,670	87,712,908			
9	882,439,670	62,809,578	24,903,330	819,630,092	87,712,908	0.3796	0.1431	0.5227
10	819,630,092	64,582,127	23,130,781	755,047,965	87,712,908			
11	755,047,965	66,404,699	21,308,209	688,643,266	87,712,908	0.4013	0.1214	0.5227
12	688,643,266	68,278,706	19,434,202	620,364,560	87,712,908			
13	620,364,560	70,205,600	17,507,308	550,158,960	87,712,908	0.4243	0.0984	0.5227
14	550,158,960	72,186,872	15,526,036	477,972,088	87,712,908			
15	477,972,088	74,224,058	13,488,850	403,748,030	87,712,908	0.4485	0.0741	0.5227
16	403,748,030	76,318,735	11,394,173	327,429,296	87,712,908			
17	327,429,296	78,472,526	9,240,382	248,956,770	87,712,908	0.4742	0.0485	0.5227
18	248,956,770	80,687,099	7,025,809	168,269,671	87,712,908			
19	168,269,671	82,964,170	4,748,738	85,305,501	87,712,908	0.5014	0.0213	0.5227
20	85,305,501	85,305,501	2,407,407	-	87,712,908			

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(Syed Mateen Ahmed)
Section Offier (Tariff)

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