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PART II

**Statutory Notifications (S.R.O.)**

GOVERNMENT OF PAKISTAN
**MINISTRY OF ENERGY**
**(Power Division)**

NOTIFICATION

*Islamabad, the 11th November, 2019*

**S.R.O. 1382(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 as under the National Electric Power Regulatory Authority's approved tariff whereby the Master Green Energy (Pvt.) Limited is allowed to charge tariff for its 50 MW Wind Power Project, as set out in the Reference Tariff thereof for delivery of electricity to Central Power Purchase Agency (CPPA) of National Transmission and Dispatch Company Limited (NTDC) for procurement on behalf of *Ex*-WAPDA Distribution Companies, namely:—

2545 (1—9)

*Price : Rs. 20.00*

[1789(2019)/Ex. Gaz.]

***Rs./kWh***

| Tariff Component | Year 1-10 | Year 11-25 |
|---|---|---|
| Operations and Maintenance Cost | 0.7161 | 0.7161 |
| Insurance during Operation | 0.1443 | 0.1443 |
| Return on Equity | 1.2146 | 1.2146 |
| Debt Servicing | 4.2564 | - |
| **Total** | **6.3314** | **2.0750** |

- Levelized tariff works out to be US Cents 4.1302/kWh.
- EPC cost of USD 57.940 million has been considered.
- PDC cost of USD 2.500 million has been taken into account.
- Insurance during construction at the rate of 0.5% of the EPC cost has been approved.
- Financing charges at the rate of 2.5% of the debt portion of the capital cost has been approved.
- Net Annual Plant Capacity Factor of 44% has been approved.
- O&M Cost ceiling of USD 23,000 per MW per year has been approved.
- The aforementioned tariff is applicable for twenty five (25) years from COD.
- Debt to Equity of 80:20 has been used.
- Debt Repayment period of 10 years has been taken into account.
- The cost of financing of 6% for construction and operation has been used.
- Return on Equity during construction and operation of 14% has been allowed.
- Construction period of fifteen (15) months has been used for the workings of ROEDC and IDC.
- Insurance during Operation has been calculated as 0.4% of the allowed EPC Cost.
- Reference Exchange Rates of 120 PKR/USD has been used.
- Detailed component wise tariff is attached as **Annex-I** of this decision.
- Debt Servicing Schedule is attached as **Annex-II** of this decision.

**A. <u>One Time Adjustments at COD</u>**

- The EPC cost shall be adjusted at actual considering the approved amount as the maximum limit. Applicable foreign portion of the EPC cost will be adjusted at COD on account of variation in PKR/ USD parity, on production of authentic documentary evidence to the satisfaction of the Authority. The adjustment in approved EPC cost shall be made only for the currency fluctuation against the reference parity values.

- PDC, Insurance during construction and Financing Fee and Charges shall be adjusted at actual at the time of COD considering the approved amount as the maximum limit. The amounts allowed on these accounts in USD will be converted in PKR using the reference PKR/USD rate of 120 to calculate the maximum limit of the amount to be allowed at COD.

- Duties and/or taxes, not being of refundable nature, relating to the construction period directly imposed on the company up to COD will be allowed at actual upon production of verifiable documentary evidence to the satisfaction of the Authority.

- IDC will be recomputed at COD on the basis of actual timing of debt draw downs (for the overall debt allowed by the Authority at COD) for the project construction period of fifteen months allowed by the Authority.

- For full/part of conventional local or foreign loans or a mix of both, if availed by the company, the IDC shall also be allowed adjustment for change in applicable KIBOR/LIBOR.

- The tariff has been determined on debt : equity ratio of 80 : 20. The tariff shall be adjusted on actual debt : equity mix at the time of COD, subject to equity share of not more than 20%. For equity share of more than 20%, allowed IRR shall be neutralized for the additional cost of debt : equity ratio.

- The reference tariff has been worked out on the basis of cost of 6% offered under SBP financing scheme. In case cost negotiated by the company under SBP scheme is less than the said limit of 6%, the savings in that cost shall be shared between the power purchaser and the power producer in the ratio of 60:40 respectively.

- For full or part of local or foreign loan, if any, the savings in the approved spreads shall be shared between the power purchaser and power producer in the ratio of 60:40.

- ROEDC will be adjusted at COD on the basis of actual equity injections (within the overall equity allowed by the Authority at COD) for the project construction period of fifteen months allowed by the Authority.
- O&M components shall be adjusted on the basis of bidding results at the time of COD to be carried out by the petitioner considering the approved amount as the maximum limit.

**B. <u>Indexations</u>**

Adjustment of O&M, return on equity, return on equity during construction shall be made on quarterly basis for the quarters starting from 1st July, 1st October, 1st January and 1st April based on latest available information. Adjustment of Debt Servicing Component (if any) shall be made either quarterly or bi-annually depending upon the final terms approved by the Authority. For bi-annual adjustments, the periods shall start from 1st July and 1st January. Insurance component shall be adjusted on annual basis. The indexation mechanisms are given hereunder:

(i) **<u>Operation and Maintenance Costs</u>**

O&M components of tariff shall be adjusted based on revised rates of local Inflation (CPI) as notified by Pakistan Bureau of Statistics, foreign inflation (US CPI) as notified by US Bureau of Labour Statistics and TT&OD selling rate of US Dollar as notified by National Bank of Pakistan according to the following formula;

| | | |
|---|---|---|
| F. $O\&M_{(REV)}$ | = | F. $O\&M_{(REF)}$ * US $CPI_{(REV)}$ / US $CPI_{(REF)}$ *$ER_{(REV)}$/$ER_{(REF)}$ |
| L. $O\&M_{(REV)}$ | = | L. $O\&M_{(REF)}$ * $CPI_{(REV)}$ / $CPI_{(REF)}$ |
| Where; | | |
| F. $O\&M_{(REV)}$ | = | The revised O&M Foreign Component of Tariff |
| L. $O\&M_{(REV)}$ | = | The revised O&M Local Component of Tariff |
| F. $O\&M_{(REF)}$ | = | The reference O&M Foreign Component of Tariff |
| L. $O\&M_{(REF)}$ | = | The reference O&M Local Component of Tariff |
| US $CPI_{(REV)}$ | = | The revised US CPI (All Urban Consumers) |
| US $CPI_{(REF)}$ | = | The reference US CPI (All Urban Consumers) of 251.588 of May, 2018 |
| $CPI_{(REV)}$ | = | The revised CPI (General) |
| $CPI_{(REF)}$ | = | The reference CPI (General) of 225.40 for the month of May, 2018 |

| | | |
|---|---|---|
| $ER_{(REV)}$ | = | The revised TT & OD selling rate of US dollar |
| $ER_{(REF)}$ | = | The reference TT & OD selling rate of Rs. 120/USD |

Note: *The reference indexes shall be revised after making the required adjustments in tariff components at the time of COD.*

(ii) **Insurance during Operation**

The actual insurance cost for the minimum cover required under contractual obligations with the Power Purchaser, not exceeding 0.4% of the EPC cost, will be treated as pass through. Insurance component of reference tariff shall be adjusted annually as per actual upon production of authentic documentary evidence according to the following formula:

| | | |
|---|---|---|
| AIC | = | $Ins_{(Ref)} / P_{(Ref)} * P_{(Act)}$ |
| Where; | | |
| AIC | = | Adjusted insurance component of tariff |
| $Ins_{(Ref)}$ | = | Reference insurance component of tariff |
| $P_{(Ref)}$ | = | Reference premium @ 0.4% of EPC Cost at Rs. 120 |
| $P_{(Act)}$ | = | Actual premium or 0.4% of the EPC Cost converted into Pak Rupees on exchange rate prevailing at the time of insurance premium payment of the insurance coverage period whichever is lower |

(iii) **Return on Equity**

The total ROE (ROE + ROEDC) component of the tariff will be adjusted on quarterly basis on account of change in USD/PKR parity. The variation relating to these components shall be worked out according to the following formula;

| | | |
|---|---|---|
| $ROE_{(Rev)}$ | = | $ROE_{(Ref)} * ER_{(Rev)} / ER_{(Ref)}$ |
| Where; | | |
| $ROE_{(Rev)}$ | = | Revised ROE Component of Tariff |
| $ROE_{(Ref)}$ | = | Reference ROE Component of Tariff |
| $ER_{(Rev)}$ | = | 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 Rs. 120/USD |

Note: *The reference tariff component shall be revised after making the required adjustments at the time of COD.*

(iv) **Indexations applicable to debt**

For full or part of conventional foreign debt, if any, respective principle and interest components will be adjusted on quarterly/

bi-annual basis, on account of revised TT & OD selling rate of US Dollar, as notified by the National Bank of Pakistan as at the last day of the preceding quarter, over the applicable reference exchange rate. The interest part of the foreign loan shall be allowed adjustment with respect to change in the applicable LIBOR. For full or part of local loan, if any, the interest component shall be allowed adjustment with respect to change in applicable KIBOR.

**C. Terms and Conditions**

The following terms and conditions shall apply to the determined tariff:

- All plant and equipment shall be new and of acceptable standards. The verification of the plant and equipment will be done by the independent engineer at the time of the commissioning of the plant duly appointed by the power purchaser.

- This tariff will be limited to the extent of net annual energy generation supplied to the power purchaser up to 44% net annual plant capacity factor. Net annual energy generation supplied to the power purchaser in a year, in excess of 44% net annual plant capacity factor will be charged at the following tariffs:

| Net annual plant capacity factor | % of prevalent tariff |
|---|---|
| Above 44% to 45% | 80% |
| Above 45% to 46% | 90% |
| Above 46% | 100% |

- The risk of wind resource shall be borne by the power producer.

- In the tabulated above tariff no adjustment for certified emission reductions has been accounted for. However, upon actual realization of carbon credits, the same shall be distributed between the power purchaser and the power producer in accordance with the applicable GOP Policy, amended from time to time.

- In case the company shall secure full or part of local conventional loan then the tariff of company shall be adjusted at the time of COD at applicable KIBOR + spread of 1.75%. The tenor of the debt servicing shall not be less than thirteen years for this loan.

- In case the company shall secure full or part of foreign conventional loan then the tariff of company shall be adjusted at the time of COD at applicable LIBOR + spread of 4.25%. The tenor of the debt servicing shall not be less than thirteen years for this loan.

- In case the company shall secure foreign loan under any credit insurance (Sinosure etc.) then the cost of that insurance shall be allowed to the maximum limit of 0.6% of the yearly outstanding principal and interest amounts. For that purpose, the spread over that full/part of loan shall be considered as 3.5% as the maximum limit.

- The company will have to achieve financial close within six months from the date of issuance of this determination. The tariff granted to the company will no longer remain applicable/valid, if financial close is not achieved by the company in the abovementioned timeline or its generation license is declined/revoked by NEPRA.

- The targeted maximum construction period after financial close is fifteen months. No adjustment will be allowed in this tariff to account for financial impact of any delay in project construction. However, the failure of the company to complete construction within fifteen months will not invalidate the tariff granted to it.

- Pre COD sale of electricity is allowed to the project company, subject to the terms and conditions of Energy Purchase Agreement, at the applicable tariff excluding principal repayment of debt component and interest component. However, pre COD sale will not alter the required commercial operations date stipulated by the Energy Purchase Agreement in any manner.

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

- 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.

- The approved tariff along with terms & conditions shall be made part of the EPA. General assumptions, which are not covered in this determination, may be dealt with as per the standard terms of the EPA.

REFERENCE TARIFF FOR MASTER GREEN ENERGY LIMITED

| Year | O&M | Insurance | Return on Equity | ROEDC | Loan Repayment | Interest Charges | Tariff | |
|---|---|---|---|---|---|---|---|---|
| | Rs. / kWh | Rs. / kWh | Rs. / kWh | Rs. / kWh | Rs. / kWh | Rs. / kWh | Rs. / kWh | ¢ / kWh (for comparison only) |
| 1 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 2.3997 | 1.8567 | 6.3314 | 5.2761 |
| 2 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 2.5470 | 1.7094 | 6.3314 | 5.2761 |
| 3 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 2.7033 | 1.5531 | 6.3314 | 5.2761 |
| 4 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 2.8692 | 1.3873 | 6.3314 | 5.2761 |
| 5 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 3.0452 | 1.2112 | 6.3314 | 5.2761 |
| 6 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 3.2321 | 1.0243 | 6.3314 | 5.2761 |
| 7 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 3.4304 | 0.8260 | 6.3314 | 5.2761 |
| 8 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 3.6409 | 0.6155 | 6.3314 | 5.2761 |
| 9 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 3.8643 | 0.3921 | 6.3314 | 5.2761 |
| 10 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 4.1015 | 0.1549 | 6.3314 | 5.2761 |
| 11 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 12 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 13 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 14 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 15 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 16 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 17 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 18 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 19 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 20 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 21 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 22 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 23 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 24 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| 25 | 0.7161 | 0.1443 | 1.1142 | 0.1004 | - | - | 2.0750 | 1.7291 |
| Levelized Tariff | 0.7161 | 0.1443 | 1.1142 | 0.1004 | 2.0570 | 0.8243 | 4.9563 | 4.1302 |

Master Green Energy Limited
DEBT SERVCING SCHEDULE

| Relevant Quarters | Base amount ( USD) | Principal Repayment (USD) | Interest (USD) | Balance Principal (USD) | Total Debt Service (Million USD) | Annual Principal Repayment Rs./kWh | Annual Interest Rs./kWh |
|---|---|---|---|---|---|---|---|
| 1 | 51,124,729 | 942,081 | 766,871 | 50,182,649 | 1,708,952 | 2.3997 | 1.8567 |
| 2 | 50,182,649 | 956,212 | 752,740 | 49,226,437 | 1,708,952 | | |
| 3 | 49,226,437 | 970,555 | 738,397 | 48,255,882 | 1,708,952 | | |
| 4 | 48,255,882 | 985,113 | 723,838 | 47,270,769 | 1,708,952 | | |
| 5 | 47,270,769 | 999,890 | 709,062 | 46,270,879 | 1,708,952 | 2.5470 | 1.7094 |
| 6 | 46,270,879 | 1,014,888 | 694,063 | 45,255,990 | 1,708,952 | | |
| 7 | 45,255,990 | 1,030,112 | 678,840 | 44,225,879 | 1,708,952 | | |
| 8 | 44,225,879 | 1,045,563 | 663,388 | 43,180,315 | 1,708,952 | | |
| 9 | 43,180,315 | 1,061,247 | 647,705 | 42,119,069 | 1,708,952 | 2.7033 | 1.5531 |
| 10 | 42,119,069 | 1,077,166 | 631,786 | 41,041,903 | 1,708,952 | | |
| 11 | 41,041,903 | 1,093,323 | 615,629 | 39,948,580 | 1,708,952 | | |
| 12 | 39,948,580 | 1,109,723 | 599,229 | 38,838,857 | 1,708,952 | | |
| 13 | 38,838,857 | 1,126,369 | 582,583 | 37,712,489 | 1,708,952 | 2.8692 | 1.3873 |
| 14 | 37,712,489 | 1,143,264 | 565,687 | 36,569,224 | 1,708,952 | | |
| 15 | 36,569,224 | 1,160,413 | 548,538 | 35,408,811 | 1,708,952 | | |
| 16 | 35,408,811 | 1,177,819 | 531,132 | 34,230,992 | 1,708,952 | | |
| 17 | 34,230,992 | 1,195,487 | 513,465 | 33,035,505 | 1,708,952 | 3.0452 | 1.2112 |
| 18 | 33,035,505 | 1,213,419 | 495,533 | 31,822,086 | 1,708,952 | | |
| 19 | 31,822,086 | 1,231,620 | 477,331 | 30,590,466 | 1,708,952 | | |
| 20 | 30,590,466 | 1,250,095 | 458,857 | 29,340,372 | 1,708,952 | | |
| 21 | 29,340,372 | 1,268,846 | 440,106 | 28,071,526 | 1,708,952 | 3.2321 | 1.0243 |
| 22 | 28,071,526 | 1,287,879 | 421,073 | 26,783,647 | 1,708,952 | | |
| 23 | 26,783,647 | 1,307,197 | 401,755 | 25,476,450 | 1,708,952 | | |
| 24 | 25,476,450 | 1,326,805 | 382,147 | 24,149,645 | 1,708,952 | | |
| 25 | 24,149,645 | 1,346,707 | 362,245 | 22,802,938 | 1,708,952 | 3.4304 | 0.8260 |
| 26 | 22,802,938 | 1,366,907 | 342,044 | 21,436,031 | 1,708,952 | | |
| 27 | 21,436,031 | 1,387,411 | 321,540 | 20,048,620 | 1,708,952 | | |
| 28 | 20,048,620 | 1,408,222 | 300,729 | 18,640,398 | 1,708,952 | | |
| 29 | 18,640,398 | 1,429,346 | 279,606 | 17,211,052 | 1,708,952 | 3.6409 | 0.6155 |
| 30 | 17,211,052 | 1,450,786 | 258,166 | 15,760,266 | 1,708,952 | | |
| 31 | 15,760,266 | 1,472,548 | 236,404 | 14,287,719 | 1,708,952 | | |
| 32 | 14,287,719 | 1,494,636 | 214,316 | 12,793,083 | 1,708,952 | | |
| 33 | 12,793,083 | 1,517,055 | 191,896 | 11,276,028 | 1,708,952 | 3.8643 | 0.3921 |
| 34 | 11,276,028 | 1,539,811 | 169,140 | 9,736,217 | 1,708,952 | | |
| 35 | 9,736,217 | 1,562,908 | 146,043 | 8,173,308 | 1,708,952 | | |
| 36 | 8,173,308 | 1,586,352 | 122,600 | 6,586,957 | 1,708,952 | | |
| 37 | 6,586,957 | 1,610,147 | 98,804 | 4,976,809 | 1,708,952 | 4.1015 | 0.1549 |
| 38 | 4,976,809 | 1,634,299 | 74,652 | 3,342,510 | 1,708,952 | | |
| 39 | 3,342,510 | 1,658,814 | 50,138 | 1,683,696 | 1,708,952 | | |
| 40 | 1,683,696 | 1,683,696 | 25,255 | (0) | 1,708,952 | | |

[No. Tariff/MGEL-2017.]

SYED MATEEN AHMED,
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