



महाराष्ट्र विद्युत नियामक आयोग

Maharashtra Electricity Regulatory Commission

MERC/FAC/2014-2015/00966

Date: 15 September, 2014

To,
The Managing Director,
The Tata Power Company Ltd,
Dharavi Receiving Station,
Near Shalimar Industrial Estate,
Matunga, Mumbai 400 019

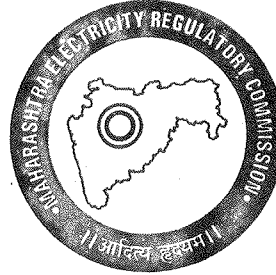
Subject: Detailed Vetting of Fuel Adjustment Cost (FAC) Charges of the Tata Power Company Ltd. for the QII FY 2012-13, *July 2012 to September 2012*.

Reference: TPC-D's submission No. CREG/MUM/MERC/14/102


Sir,

The Commission has scrutinized the FAC computation submitted by you as above and approved the FAC chargeable to the consumers for the QII FY 2012-13, *July 2012 to September 2012*. At the end of QII FY 2012-13, an amount of **Rs.494.07 Crore** is to be carried forward for adjustment at future date.

The detailed report and vetted summary sheet are attached herewith as Annexure.



Yours faithfully,


(Rajendra Ambekar)
Director (Tariff)

Enclosed: Detailed report.

Cc: All consumer representatives as per attached list.

Names and Addresses of Consumer Representatives authorized as per Section 94 (3) of the Electricity Act 2003

| | |
|---|--|
| Prayas Energy Group, Amrita Clinic, Athawale Corner, Lakdipool-Karve Road Junction, Deccan Gymkhana, Karve Road, Pune 411 004. | The President, Mumbai Grahak Panchayat, Grahak Bhavan, Sant Dynyaneshwar Marg, Behind Cooper Hospital, Vile Parle (West), Mumbai 400 056. |
| The General Secretary, Thane Belapur Industries Association, Plot No.P-14, MIDC, Rabale Village, PO Ghansoli, Navi Mumbai 400 7001 | The President, Vidarbha Industries Association, 1st floor, Udyog Bhawan, Civil Lines, Nagpur 440 001. |
| Maharashtra Chamber of Commerce, Industry & Agriculture, Oricon House, 6th Floor, 12 K. Dubash Marg, Fort, Mumbai- 400 001 (Nashik Branch) E-mail: maccia.nsk@gmail.com | |



ANNEXURE-I

Detailed Vetting Report for the QII FY 2012-13, July 2012 to September 2012.

Date: 15 September, 2014

Subject: Detailed Vetting of Fuel Adjustment Cost (FAC) Charges of the Tata Power Company Ltd. for the QII FY 2012-13, *July 2012 to September 2012*.

Reference: TPC-D's submission No. CREG/MUM/MERC/2013/86 dated 22 March 2013 for QII FY 2012-13, for Post Facto Vetting.

1. Submission by TPC:

TPC-D, in its submission has computed the FAC for the months of QII FY 2012-13, *July 2012 to September 2012* in accordance with the Order in Case 98 of 2009, dated 12th September 2010 in the matter of The Tata Power Company Limited - Distribution Business' (TPC-D) Petition for Truing Up for FY 2008-09, Annual Performance Review for FY 2009-10 and Tariff Determination for FY 2010-11 and detailed methodology as per MERC (Terms and Conditions of Tariff) Regulations, 2005. The relevant parameters approved in the APR Order for computation of FAC are enclosed at Appendix.

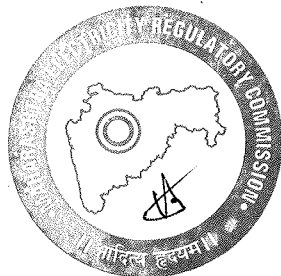
In terms of the aforesaid Regulation a Distribution Licensee is required to obtain post facto approval of the Commission on a quarterly basis for the FAC charges. Accordingly, TPC-D has submitted details of FAC chargeable from all consumers for the months of *July 2012, August 2012 and September 2012* of the 2nd quarter of FY 2012-13.

At the end of the month of September 2012 **Rs. 494.07 Crore** has been allowed to be carried forward for recovery at future date.

2. Methodology:

The methodology for arriving at FAC is as per Tariff Order in Case 98 of 2009, dated 12th September 2010. The salient features for arriving at FAC for the above period are as under:

- Variable cost of generation is calculated based on net generation for Tata Power-G, - allocated to TPC-D, Bilateral purchases and procurement of Renewable energy.
- The hydro generation continues to be charged based on the variable tariff @ Rs. 2.00 per kWh and Rs. 1.65 per kWh for peak and off peak period generation respectively. These charges are considered as given in the Tariff Order in Case 98 of 2009, dated 12th September 2010.



- Normative/specified parameters of Heat Rate, Auxiliary Consumption, Transmission and Distribution loss are considered.
- Actual Distribution losses have been computed based on the metering arrangement established between Tata Power-T and Tata Power-D.
- The approved Distribution losses are 0.66%. The distribution loss computed is widely fluctuating from month to month as the quantity of energy to be metered is very small compared to the feeder sizes and respective instrumentation provided, viz. For **July 2012** it is **3.16%** for **August 2012** it is **0.15%** and for **September 2012** it is **-0.43%**. It is understood that such wide fluctuations are due to the very small base of sales and inherent low distribution loss levels. Hence, TPC has presented **Average Distribution Loss** for the said quarter, viz **0.97%**, which is approved.
- Power purchase for Tata Power-D requirement is considered from all sources of power usually purchased by the utility. The sources include power from contracted capacity of Tata Power-G, renewable sources (wind), power purchase through bilateral contracts and power purchase through banking mechanism, Unscheduled Interchanges.
- The cap on the FAC rate, as per the Commission's Tariff Order in Case 98 of 2009, dated 12th September 2010 for Tata Power-Distribution Business which is set at 10% of the average variable charge works out to 49.95 paise.
- As submitted by TPC-D, the G\leftrightarrowT interface MUs as shown in the "Energy Balance" tabulation of the FAC submission, is arrived at, as follows :

| | | | Jul 2012 | Aug 2012 | Sep 2012 |
|---|----|----------------------|---------------|---------------|---------------|
| <i>Tata Power-D Requirement</i> | | | | | |
| Tata Power -D Input | MU | (i) | 281.231 | 281.682 | 272.438 |
| Changeover | MU | (ii) | 287.494 | 288.119 | 283.045 |
| Tata Power-D Requirement at T\leftrightarrowD interface | MU | | 568.726 | 569.802 | 555.483 |
| Gross up for Trans Loss | MU | (iii) | 25.306 | 24.795 | 24.172 |
| Tata Power-D Requirement at G\leftrightarrow T interface | MU | (iii)=(i)+(ii)+(iii) | 594.031 | 594.596 | 579.654 |
| Banking Return | MU | (iv) | 0.000 | 0.000 | 0.000 |
| Total of TPC-D | MU | (v)=(iv)+(iii) | 594.03 | 594.60 | 579.65 |

| | | | Jul 2012 | Aug 2012 | Sep 2012 |
|---------------------------|----|--|----------|----------|----------|
| <i>Met Through</i> | | | | | |
| Tata Power-G Share | MU | | 462.14 | 447.67 | 439.74 |
| RPO | MU | | 59.47 | 53.13 | 33.35 |
| Contracted Purchase | MU | | 24.58 | 14.81 | 24.82 |



| | | | | |
|------------------------|----|---------------|---------------|---------------|
| Less External Sales | MU | -5.65 | -3.65 | -2.57 |
| Drawl/Supplied to Pool | MU | 53.48 | 82.63 | 84.31 |
| Total | MU | 594.03 | 594.60 | 579.65 |

3. Variable cost of generation for Tata Power-G:

While assessing the actual variable cost of generation, the Commission has assessed unit wise variable cost of generation and weighted average variable cost of generation considering the following:-

- a. Change in generation mix
- b. Change in fuel price
- c. Normative operating parameters (i.e. heat rate and auxiliary consumption) as set out in the Tariff Order.

a. Change in generation mix

The Commission has carried out a broad assessment of adherence to the principles of merit order dispatch by comparing fuel wise, unit wise monthly gross generation with the levels considered in the Tariff Order and seeking justification for any material variation.

b. Change in Fuel Price:

Actual variable cost of power generation of each unit is certified by Cost Accountant. Tata Power also has submitted Fuel Analysis Report of representative monthly samples of fuels certified by an "International Independent Inspection and Testing company" based in Mumbai, in support of actual fuel calorific value and moisture content of Coal and calorific value of Oil.

c. Normative Operating Parameters:

Tata Power has considered Unit-wise approved heat rate for July 2012 to September 2012 as per the Tariff Order for Tata Power Company Ltd Generation Business' (TPC-G) for approval of Truing up for FY 2008-09, Annual Performance Review for FY 2009-10 and Determination of Tariff for FY 2010-11 for computing actual Unit-wise, variable cost of generation on monthly basis and the same is allowed.

4. Variable cost of power purchase of Tata Power-D:

In addition to purchase from Tata Power-G, Tata Power-D has considered power purchase from the Wind Plants of Tata Power, short term power purchase through bilateral contracts, power purchase through banking mechanism and Unscheduled interchanges (UI)



5. Change in variable cost of power purchase (“C”):

Change in variable cost of power purchase (Rs Lakhs) has been arrived at by multiplying power purchase (MUs) with the change in weighted average cost (Rs/kWh) of power purchase.

The change in variable cost of power purchase for month QI FY 2012-13, *July 2012 to September 2012* is as given below.

For the months of QII FY 2012-13, *July 2012 to September 2012*, the Commission has approved weighted average variable cost of power purchase as Rs 3.38/kwh. As against this, the normative actual cost incurred is Rs. 4.9995/kwh in July 2012, Rs. 4.5690/kwh in August 2012 and Rs. 4.6863/kwh in September 2012.

The net change in variable cost of power purchase for the months July to September 2012 is as under:

| <i>Months</i> | <i>Change in V.C. of Power Purchase (Rs. in Lakh)</i> |
|----------------|---|
| July 2012 | 9612.12 |
| August 2012 | 7060.46 |
| September 2012 | 7564.10 |

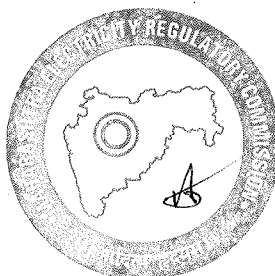
6. Auxiliary Consumption

For the share of TPC-D in the auxiliary consumption calculations, the percentage of Auxiliary consumption for the month of July 2012 is considered as 5.34% and for the months of August 2012 is considered as 5.58% and September 2012, it is considered as 5.24% of the total Auxiliary Consumption.

7. Interest on working capital (“I”):

Interest on working capital has been granted at the approved Interest rate for the eligible amount viz. the difference between the Normative Actual variable cost of Power procurement and the Order cost of power procurement, for the respective months. TPC-D has submitted for approval, the Interest on working capital due to enhanced fuel costs @ 14.75% for July 2012 to August 2012 and @14.66% for September, 2012, Rs. 216.82 Lakh for July 2012, Rs. 185.69 Lakh for August 2012 and Rs. 184.51 Lakh for September 2012.

The same is approved.



8. Adjustment factor for over recovery / under recovery ("B"):

In Form 6.6 of the FAC submission, the Adjustment factor is computed by considering the records of over/under recovery in the past as well as the costs approved by the Commission in the previous months and allowed to be carried forward for recovery in the future months. The Adjustment factor as arrived at is as follows:

Adjustment Factor

| Sr. No. | Parameter | Unit | July-2012 | Aug-2012 | Sep-2012 |
|---------|---|---------|---------------|---------------|---------------|
| (A) | (B) | (C) | (D) | (E) | (F) |
| 1.0 | Adjustment for over-recovery/under-recovery ('B') | | | | |
| 1.1 | Incremental Cost Allowed to be Recovered in the month j-4 | Rs Lakh | 2,653 | 5,718 | 5,379 |
| 1.2 | Incremental cost in Month j-4 actually recovered in month j-2 | Rs Lakh | 5,379 | 6,023 | 5,607 |
| 1.3 | Over-recovery/under-recovery (1.1-1.2) | Rs Lakh | (2,726) | (305) | (228) |
| 2.0 | Carried forward adjustment for over- /under-recovery attributable to application of ceiling limit | Rs Lakh | 44,880 | 46,594 | 47,502 |
| 3.0 | Adjustment factor for over/under-recovery(1.3+2.0) | Rs Lakh | 42,154 | 46,289 | 47,274 |

Excess Distribution Loss:

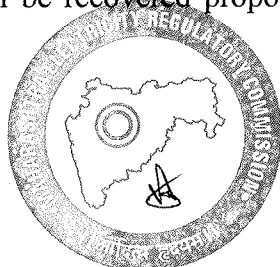
The approved distribution loss for TPC-D for FY 11 it is 0.66 %

The Actual Distribution Loss in July 2012, August 2012 and September 2012 is 3.16%, 0.15% and -0.43% respectively. The wide variations are due to measurement inadequacies. Hence, average loss for the quarter is considered by the Commission for incentivisation/ disincentivisation

The average loss of the concerned quarter is 0.97%. Based on this, deduction or addition in MU loss is made for respectively months

Additional Recovery:

The Commission in its Order is Case No. 29 of 2012 has allowed TPC-D to recover an accumulated amount of around Rs. 300/- Crore as requested by TPC-D, from its consumers through the bills during the months of June 2012 to February 2013. The average amount in such case will be Rs. 0.60/kWh, over and above the FAC allowed upto 10% cap. The additional amount of Rs. 0.60/kWh, average, will be recovered proportionate to the tariff charged to the

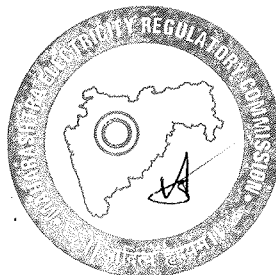


consumers as per their respective category and slab, in conformity with the principles specified in Regulation 82.10 of Maharashtra Electricity Regulatory Commission (Terms and Conditions of Tariff) (Amendment) Regulations, 2011. Accordingly, from June 2012 onwards, in addition to the FAC approved, additional FAC is allowed to charge to the consumers.

10. Summary of FAC

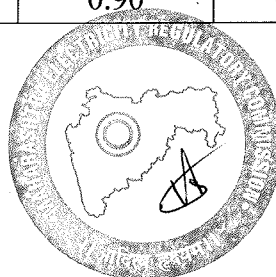
The summarized details of FAC (A) & FAC per unit for the months *July 2012 to September 2012* are as under:

| Sr. No. | Parameter | Unit | July-2012 | Aug-2012 | Sep-2012 |
|---------|--|----------------|---------------|---------------|---------------|
| (A) | (B) | (C) | | | |
| 1.0 | Calculation of FAC (A) | | | | |
| 1.1 | Change in weighted average variable cost of power purchase(C) | Rs Lakh | 9,612 | 7,060 | 7,564 |
| 1.2 | Working Capital Interest (I) | Rs Lakh | 217 | 186 | 185 |
| 1.3 | Adjustment for Over Recovery/Under Recovery (B) | Rs Lakh | 42,154 | 46,289 | 47,274 |
| 1.4 | FAC (A) = C + I + B | Rs Lakh | 51,983 | 53,536 | 55,023 |
| | Adjustment due to IBSM | | - | | |
| | Total FAC due to IBSM | | 51,983 | 53,536 | 55,023 |
| 2.0 | Calculation of FAC_{kWh} | | | | |
| 2.1 | Sale within License Area | MU | 559.85 | 569.37 | 556.66 |
| 2.2 | Excess T&D Loss | MU | 0.87 | 0.87 | 0.84 |
| 2.3 | FAC Charge (FAC _{kWh}) without considering cap on monthly FAC Charge | Paise/kWh | 927 | 939 | 987 |
| 2.4 | Cap on monthly FAC Charge | Paise/kWh | 109.95 | 109.95 | 109.95 |
| 2.5 | FAC Charge (FAC_{kWh}) considering cap on monthly FAC Charge | Paise/kWh | | | |
| 3.0 | FAC (A) | | | | |
| 3.1 | FAC (A) considering cap on Monthly FAC Charge (Est) | Rs Lakh | 5,379 | 6,023 | 5,607 |
| 3.2 | FAC (A) disallowed corresponding to excess T&D loss (Est) | Rs Lakh | 10 | 10 | 9 |
| 3.3 | Carried forward FAC (A) for recovery during future period (Est) | Rs Lakh | 46,594 | 47,502 | 49,407 |



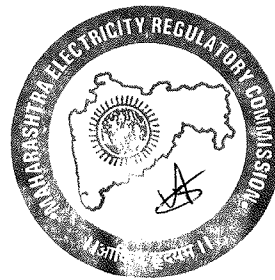
11. FAC charged as per MERC amended Regulations (Consumer Category-wise FAC)

| Consumer Category* | E.C. | FAC cap | FAC applicable for Jul 2012 | FAC applicable for Aug 2012 | FAC applicable for Sep 2012 |
|--|--------|------------|-----------------------------|-----------------------------|-----------------------------|
| | a | d = a *10% | e =min(c,d) | e =min(c,d) | e =min(c,d) |
| | Rs/kWh | Rs/kWh | Rs/kWh | Rs/kWh | Rs/kWh |
| LT 1 - Residential | | 10% | | | |
| Below Poverty Line (BPL 0-30Units) | 0.4 | 0.04 | 0.04 | 0.04 | 0.04 |
| > S1 (0-100 units) | 1.05 | 0.11 | 0.11 | 0.11 | 0.11 |
| > S2 (101-300 units) | 2.5 | 0.25 | 0.25 | 0.25 | 0.25 |
| > S3 (above 300 units) | 4.4 | 0.44 | 0.44 | 0.44 | 0.44 |
| > S4 (> 500 Units) | 5.3 | 0.53 | 0.53 | 0.53 | 0.53 |
| LT II - LT Commercial | | | | | |
| > 0 - 20 kW (LT-II -a) | 4.25 | 0.43 | 0.43 | 0.43 | 0.43 |
| > 20kW and <= 50 kW (LT-II -b) | 4.8 | 0.48 | 0.48 | 0.48 | 0.48 |
| > 50 kW (LT -II -c) | 5.05 | 0.51 | 0.51 | 0.51 | 0.51 |
| LT III - LT Industries below 20 kW Load | 4.5 | 0.45 | 0.45 | 0.45 | 0.45 |
| LT IV - LT Industries above 20 kW Load | 5.10 | 0.51 | 0.51 | 0.51 | 0.51 |
| LT IX - Agriculture | | | | | |
| LT VI - Street Light | 4.00 | 0.40 | 0.40 | 0.40 | 0.40 |
| LT VII - Temporary-Others (LT VII - b) | 11 | 1.10 | 1.10 | 1.10 | 1.10 |
| LT VII - Temporary-Religious (LT VII - a) | 2.00 | 0.20 | 0.20 | 0.20 | 0.20 |
| LT V - Advt & Hoardings | 13.55 | 1.36 | 1.36 | 1.36 | 1.36 |
| LT VIII - Crematorium and Burial Grounds | | | | | |
| HT I - Industry | 5 | 0.50 | 0.50 | 0.50 | 0.50 |
| HT II - Commercial | 5.2 | 0.52 | 0.52 | 0.52 | 0.52 |
| HT III - Group Housing Society | 4.1 | 0.41 | 0.41 | 0.41 | 0.41 |
| HT IV - Temporary Supply | 9 | 0.90 | 0.90 | 0.90 | 0.90 |



| Consumer Category* | E.C. | FAC cap | FAC applicable for Jul 2012 | FAC applicable for Aug 2012 | FAC applicable for Sep 2012 |
|------------------------|------|---------|-----------------------------|-----------------------------|-----------------------------|
| HT V - Railways | | | | | |
| > 22/33 kV | 4.95 | 0.50 | 0.50 | 0.50 | 0.50 |
| > 100kV | 4.80 | 0.48 | 0.48 | 0.48 | 0.48 |
| Total Recovery | | | | | |

***Note: Additional FAC as per Order in Case No. 29 of 2012 is allowed to charge over and above this charge**



Appendix-2.1

The normative parameters are as under:

| Sr. No. | Parameter | Unit | Normative Rate |
|---------|--|-----------|--|
| | | | (As per Tariff Order dated 8th Sep 2010) |
| 1 | <u>Normative Auxiliary Consumption</u> | | |
| | Hydro | | 0.50% |
| | Unit # 4 | % | 8.00% |
| | Unit # 5 | % | 5.50% |
| | Unit # 6 | % | 3.50% |
| | Unit # 7 | % | 2.75% |
| | Unit # 8 | % | 9.50% |
| 2 | <u>Heat Rate</u> | | |
| | Unit # 4 | kcal/ kWh | 2683.00 |
| | Unit # 5 | kcal/ kWh | 2577.00 |
| | Unit # 6 | kcal/ kWh | 2514.00 |
| | Unit # 7 | kcal/ kWh | 1971.00 |
| | Unit # 8 (150 MW) | kcal/ kWh | 2500.00 |
| 3 | Distribution Loss | % | 0.66% |
| 4 | Transmission Loss | % | 4.85 |
| 5 | Weighted Average Cost of Power Purchase | Rs. /kWh | 3.3814 |

