

No. MERC/FAC/20122013/ 00095

Date: 13th April, 2012

To
The Managing Director
The Tata power Company Ltd
24, Homi Mody street
Mumbai 400001

Subject : Detailed Vetting of Fuel Adjustment Cost (FAC) Charges of
The Tata Power Company Ltd. for QIIV FY 12, July 2011 to
September 2011

Reference : TPC-D's submission No REG/MERC/2011/49 dated February 16, 2012

Sir

The Commission has scrutinized the FAC computation submitted by you as above and approved the FAC chargeable to the consumers for QIIV FY 12, July 2011 to September 2011. At the end of QIIFY12, an amount of Rs.59.96 Crore is carried forward for adjustment at future date .

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

Yours faithfully

Sd/-
(Kuldip N. Khawarey)
Secretary, MERC

Enclosed : Detailed report: Annexure

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, 1 st floor, Udyog Bhawan, Civil Lines, Nagpur 440 001.

ANNEXURE- Detailed Vetting Report for QII FY12

Date : 13th April, 2012

Subject : Detailed Vetting of Fuel Adjustment Cost (FAC) Charges of The Tata Power Company Ltd. for QII FY 12, July 2011 to September 2011

Reference : TPC-D's submission No REG/MERC/2011/49 dated February 16, 2012, for QII FY 2011-12 for post facto Vetting

1. Submission by TPC:

TPC-D, vide its submission dated February 16, 2012, has computed the FAC for the month of July 2011 to September 2011 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 July 2011 to Sept. 2011 covering 2nd quarter of FY 2011-12.

The Commission has approved FAC of Rs. 22.23 Crores, Rs 23.79 Crores and Rs. 23.33 Crores for months July 2011, August 2011 and September 2011 resp. The monthly amount to be recovered is the 10 % cap value of paise 49.95/kWH

At the end of the said quarter Rs 59.96 Crores have 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:

- a. 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
- b. 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

- c. Normative/specified parameters of Heat Rate, Auxiliary Consumption, Transmission and Distribution loss are considered.
- d. Actual Distribution losses have been computed based on the metering arrangement established between Tata Power-T and Tata Power-D. The approved Distribution losses and these 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 2011 it is 1.28% for August 2011 it is 1.91% and for September 2011 it is 0.88%. 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 1.36%, which is approved.
- e. 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.

- f. 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
- g. As submitted by TPC-D, the G<>T interface MUs as shown in the "Energy Balance" tabulation of the FAC submission, is arrived at, as follows :

			July 2011	August 2011	September-2011
<u>Tata Power-D Requirement</u>					
Tata Power -D Input	Mus	(i)	255.26	249.86	248.80
Changeover	Mus	(ii)	241.25	252.80	262.79
Tata Power-D Requirement at T<>D interface	MUs		496.51	502.66	511.59
Gross up for Trans Loss	Mus	(iii)	21.83	22.70	23.10
Tata Power-D Requirement at G<> T interface	Mus	(iii)=(i)+(ii)+(iii)	518.34	525.35	534.69
Banking Return	Mus	(iv)			
Total of TPC-D	Mus	(v)=(iv)+(iii)	518.3406	525.35	534.69

			July 2011	August 2011	September-2011
<u>Met Through</u>					
Tata Power-G Share	Mus	a	397.18	386.78	387.65
RPO	Mus	b	30.27	39.09	23.28
Contracted Purchase	Mus	c	36.32	27.69	27.41
Less External Sales	MUs	b	-0.80	-6.58	0
Drawl/Supplied to Pool	MUs	d	54.57	71.80	96.35
Total	Mus	e	518.34	525.35	534.69

It is to be noted that FBSM has been implemented with effect from August 1, 2011. However, due to non availability of data regarding Wind energy, and Change over (migrated) consumers and non availability of ABT meter data for certain time blocks, there is slight mismatch with FBSM indicated data. The Commission observes that the wind energy data is taken on basis of credit notes for the particular month, and migrated consumer data is based on actual data submitted. Further, the TPC-G generation data for the concerned blocks is based on the readings of the Commercial metering available at those locations. The Commission approves the same.

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 2011 to September 2011 as per the Tariff Order for Tata Power Company Ltd.'s 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.

For Trombay Unit 6 (multi-fuel fired unit) the same approved heat rate is considered for all fuels. (Oil and RLNG) as approved in the Tariff Order as above.

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 months July 2011 to September 2011 is as given below.

For the months of QIIFY12, the Commission has approved weighted average variable cost of power purchase as Rs 3.381/kWH. As against this, the normative actual cost incurred is,

Rs 4.5081/kWH in July 2011, Rs.3.6136/kWH in August 2011 and Rs.3.9793 /kWH in September 2011

The explanation for the variance as above, is as follows :

It is observed from TPC’s submission that

Vide the tariff order under reference above, applicable for months July 2011 to September 2011, the Commission had approved purchase of 25.56 MUs/ month energy from sources other than TPC-G, at the rate of Rs 4.76/kWH. However, the

procurement from these sources has been substantially high (3 to 5 times the MUs envisaged/approved by the Commission in the Tariff Order), on account of increase in demand due to migrated customers. The cost of such procurements was Rs. 6.72/kWH in July 2011, Rs 3.29/kWH in August 2011 and Rs. 3.50/kWH in August 2011, These procurements have offset comparatively low cost of TPC-G power, and therefore, overall increase is seen in cost of energy procured by TPC-D. in July 2011 and also marginal rise in August 2011 and September 2011.

The net change in variable cost of power purchase for the months July 2011 to September 2011 is Rs 11308 Lakhs; Rs.6925.08 Lakhs and Rs.9217.39 Lakhs respectively

6. 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, @ 14.17% Rs 133.52 Lakhs for July 2011, @ 14.56% Rs 84 Lakhs for August 2011 and @ 14.75% Rs 113.30 Lakhs for September 2011. The same is approved.

7. 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	July2011	August 2011	September 2011
(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	2273	2354	2223
1.2	Incremental cost in Month j-4 actually recovered in month j-2	Rs Lakh	2223	2379	2333
1.3	Over-recovery/under-recovery (1.1-1.2)	Rs Lakh	50	(25)	(110)

Sr No.	Parameter	Unit	July2011	August 2011	September 2011
1.4	Tariff Order adjustment	Rs Lakh			
2.0	Carried forward adjustment for over- /under-recovery attributable to application of ceiling limit	Rs Lakh	2455	6246	5137
3.0	Adjustment factor for over/under-recovery(1.3+2.0)	Rs Lakh	2504	6221	5027

8. Excess Distribution Loss:

The approved distribution loss for TPC-D for FY 10 it is 0.66 %

The Actual Distribution Loss in July 2011, August 2011 and September 2011 is - 1.28% , 1.91% and 0.88% respectively. The wide variations are due to measurement inadequacies. Hence, average loss for the quarter is considered by the Commission for incentivisation/ dis-incentivisation

The average loss of the concerned quarter is 1.36%. Based on this, deduction or addition in MU loss is made for respectively months

9. Summary of FAC

The summarized details of FAC (A) & FAC per unit for the months April 2011 to June 2011 are as under:

S.No	Parameter	Unit	July11	August 11	September 11
	(B)	(C)	(AD)	(AD)	(AD)
1.0	Calculation of FAC (A)				
1.1	Change in weighted average variable cost of power purchase(C)	Rs Lakh.	5840	1220	3197
1.2	Working Capital Interest (I)	Rs Lakh.	134	84	113
1.3	Adjustment for Over Recovery/Under Recovery (B)	Rs Lakh.	2504	6221	5027
2.0	FAC (A) = C + I + B	Rs Lakh.	8478	7525	8338
a)	Adjustment due to IBSM	Rs Lakhs	0	0	0
	Total FAC(A)	Rs Lakhs			
	Calculation of FAC_{kWh}				
2.1	Sale within License Area	MU	485.67	493.90	501.45
2.2	Excess T&D Loss	MU	2	2	2
2.3	FAC Charge (FAC _{kWh}) without considering cap on monthly FAC Charge	Paise / KWh	174	152	166
2.4	Cap on monthly FAC Charge	Paise / KWh	49.95	49.95	49.95
3.0	FAC Charge (FAC_{kWh}) considering cap on monthly FAC Charge	Paise / KWh			
	FAC (A)				
3.1	FAC (A) considering cap on Monthly FAC Charge (Est)	Rs Lakh.	2223	2379	2333
3.2	FAC (A) disallowed corresponding to excess T&D loss (Est)	Rs Lakh.	9	9	9
3.3	Carried forward FAC (A) for recovery during future period (Est)	Rs Lakh.	6246	5137	5996

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

Consumer Category	E.nergy Charge	FAC cap	FAC applicable for Apr 2011	FAC applicable for May 2011	FAC applicable for June 2011
	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					

Consumer Category	E.nergy Charge	FAC cap	FAC applicable for Apr 2011	FAC applicable for May 2011	FAC applicable for June 2011
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
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					

Appendix-2.1

The normative parameters, are as under:

Sr.No.	Parameter	Unit	Normative Rate
			as per tariff order dated 8th Sept 2010
1	Heat Rate		
	Unit # 4	kCal/KWh	2683
	Unit # 5	kCal/KWh	2577
	Unit # 6	kCal/KWh	2514
	Unit # 7	kCal/KWh	1971
2	Auxiliary Consumption		
	Hydro	%	
	Unit # 4	%	8
	Unit # 5	%	5.5
	Unit # 6	%	3.5
	Unit # 7	%	2.75
3	Distribution Loss (TPC-D)	%	0.66
4	Transmission Loss	%	4.85
5	Weighted Average variable cost of power purchase	Rs./KWh	3.3814