

**No. MERC/FAC/20112012/ 01187**

**Date: 4 August 2011**

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

**Subject :** Approval of FAC submission of TPC-D for Q3\_FY11

**Reference :** TPC-D's submission No REG/MERC/11/117 dated June 7, 2011, for QIII FY 2010-11 for post facto Vetting

Sir

The Commission has scrutinized the FAC computation submitted by you as above and approved the FAC chargeable to the consumers for the months October, November & December 2011 At the end of Q3FY11, an amount of Rs.156.12 Crore is carried forward for adjustment at future date.

The detailed report and vetted summary sheet are attached herewith.

Yours faithfully  
Sd/  
(Kuldip N. Khawarey)  
Secretary, MERC

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

<p>Prayas Energy Group, Amrita Clinic, Athawale Corner, Lakdipool-Karve Road Junction, Deccan Gymkhana, Karve Road, Pune 411 004.</p>	<p>The President, Mumbai Grahak Panchayat, Grahak Bhavan, Sant Dynyaneshwar Marg, Behind Cooper Hospital, Vile Parle (West), Mumbai 400 056.</p>
<p>The General Secretary, Thane Belapur Industries Association, Plot No.P-14, MIDC, Rabale Village, PO Ghansoli, Navi Mumbai 400 7001</p>	<p>The President, Vidarbha Industries Association, 1<sup>st</sup> floor, Udyog Bhawan, Civil Lines, Nagpur 440 001.</p>
<p>Shri N.Ponarathnam 25, Majithia Industrial Estate Waman Tukaram Patil Marg Deonar, Mumbai 400 088</p>	<p>Shri Rakshpal Abrol Bhartiya Udhami Avam Upbhokta Sangh Madhu Compound, 2<sup>nd</sup> Floor 2<sup>nd</sup> Sonawal Cross Road Goregaon (E), Mumbai 400063</p>
<p>Prof Dr G H Barhate Organiser, Grahak Panchayat Shrirampur Chairman, Research Centre C D Jain College of Commerce Shrirampur, Dist Ahmednagar</p>	<p>Shri Sandeep Ohri A-74, Tirupati Tower Thakur Complex Kandivali (E) Mumbai 400101</p>



## **ANNEXURE- Detailed Vetting Report**

**Date : 4 August, 2011**

**Subject** :Detailed Vetting of Fuel Adjustment Cost (FAC) Charges of The Tata Power Company Ltd. for QIII FY 11, viz., October 2010 to December 2010

**Reference** : TPC-D's submission No REG/MERC/11/117 dated June 7, 2011, for QIII FY 2010-11 for post facto Vetting

### **1. Submission by TPC:**

TPC-D, vide its submission dated June 7, 2011, has computed the FAC for the month of October 2010 to December 2010 in accordance with the Order in Case 98 of 2009, dated 12<sup>th</sup> 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-1

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 October 2010 to December 2010 covering 3<sup>rd</sup> quarter of FY 2010-11.

The Commission has approved FAC of Rs. 19.29 Crores, Rs 18.46 Crores and Rs. 17.89 Crores for months October 2010, November 2010, December 2010 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 156.12 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 12<sup>th</sup> 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 12<sup>th</sup> 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 October 2010 it is 3.52%, for November 2010 it is 0.37% and for December 2010 it is reported to be -- 0.34% . It is appreciated 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 . 0.98%, 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 12<sup>th</sup> 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, after adding the energy inputs to TPC-D consumers, changed over consumers and energy grossed up for transmission loss. The TPC-D energy input, summed for its consumers is comparable to the IBSM statement for the corresponding months. The reconciliation, of TPC-D's Energy balance statement with SLDC's IBSM statements is thus achieved.

### **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 Independent Certification Agencies viz M/s SGS India Pvt Ltd, Mumbai in support of actual fuel calorific value of Coal and M/s Intertek Lab for Oil

c. **Normative Operating Parameters:**

Tata Power has considered **Unit-wise approved heat rate** for October to December 2010 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 October 2010 to December 2010 is as given below

For the months of QIIIFY11, 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 3.56/kWH in October 2010, Rs.3.40/kWH in November 2010 and Rs.3.327/kWH in December 2010

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 October 2010 to December 2010, the Commission had approved purchase of 25.56 MUs/ month energy by from sources other than TPC-G, at the rate of Rs 4.76/kWH. However, the procurement from these sources has been substantially high (4 times the MUs envisaged/approved by the Commission in the Tariff Order), on account of increase in demand due to migrated customers. These procurements have offset comparatively low cost of TPC-G power in October and November 2010, and therefore, overall increase is seen in cost of energy procured by TPC-D.

The net change in variable cost of power purchase for the months October 2010 to December 2010 is Rs 710.37 Lakhs; Rs.72.90 Lakhs and Rs.(213.70) 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, @ 12.34% Rs 24.78 Lakhs for October 2010, @ 12.5% Rs 11.12 Lakhs for November 2010 and @ 12.5% Rs 10.02 Lakhs for December 2010. 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

<b>Sr No.</b>	<b>Parameter</b>	<b>Unit</b>	<b>October 2010</b>	<b>November 2010</b>	<b>December 2010</b>
<b>(A)</b>	<b>(B)</b>	<b>(C)</b>	<b>(D)</b>	<b>(E)</b>	<b>(F)</b>
<b>1.0</b>	Adjustment for over-recovery/under-recovery ('B')				
<b>1.1</b>	Incremental Cost Allowed to be Recovered in the month j-4	Rs Lakh	1495	1940	1929
<b>1.2</b>	Incremental cost in Month j-4 actually recovered in month j-2	Rs Lakh	1908	1885	1934
<b>1.3</b>	Over-recovery/under-recovery (1.1-1.2)	Rs Lakh	(413)	55	(5)
<b>1.4</b>	Tariff Order adjustment	Rs Lakh	(1509)	(1444)	(1309)
<b>2.0</b>	Carried forward adjustment for over- /under-recovery attributable to application of ceiling limit	Rs Lakh	25286	22167	19013
<b>3.0</b>	Adjustment factor for over/under-recovery(1.3+2.0)	Rs Lakh	<b>13365</b>	<b>20779</b>	<b>17608</b>

### **8. Excess Distribution Loss:**

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

The Actual Distribution Loss in October 2010, November 2010 and December 2010 is 3.52% , -0.37% and -0.34% respectively. As per the observation earlier the negative loss reported for November and December 2010 is on account of 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 0.98%. 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 October 2010 to December 2010 are as under:

S.No	Parameter	Unit	Oct-10	Nov-10	Dec-10
	(B)	(C)	(AD)	(AD)	(AD)
1.0	<b>Calculation of FAC (A)</b>				
1.1	Change in weighted average variable cost of power purchase( C )	Rs Lakh.	710	73	(214)
1.2	Working Capital Interest (I)	Rs Lakh.	25	11	10
1.3	Adjustment for Over Recovery/Under Recovery (B)	Rs Lakh.	23365	20779	17608
2.0	<b>FAC (A) = C + I + B</b>	<b>Rs Lakh.</b>	<b>24100</b>	<b>20863</b>	<b>17405</b>
	<b>Calculation of FAC<sub>kwh</sub></b>				
2.1	Sale within License Area	MU	386.09	369.62	358.07
2.2	Excess T&D Loss	MU	.76	.71	.73
2.3	FAC Charge (FAC <sub>kwh</sub> ) without considering cap on monthly FAC Charge	Paise / KWh	623	563	485.08
2.4	Cap on monthly FAC Charge	Paise / KWh	49.95	49.95	49.95
3.0	<b>FAC Charge (FAC<sub>kwh</sub>) considering cap on monthly FAC Charge</b>	<b>Paise / KWh</b>	<b>49.95</b>	<b>49.95</b>	<b>49.95</b>
	<b>FAC (A)</b>				
3.1	FAC (A) considering cap on Monthly FAC Charge (Est)	Rs Lakh.	1929	1846	1789
3.2	FAC (A) disallowed corresponding to excess T&D loss (Est)	Rs Lakh.	3.79	3.57	3.64
3.3	<b>Carried forward FAC (A) for recovery during future period (Est)</b>	<b>Rs Lakh.</b>	<b>22167</b>	<b>19013</b>	<b>15612</b>

### Appendix-1

The normative parameters, are as under:

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