

No. MERC/FAC/20102011/

Date: 10th February 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 Q2_FY11

Reference : a) TPC-D's submission No REG/MERC/10/4 dated January 4, 2011, for QII FY 2010-11 for post facto Vetting
b) Revised FAC Computation (Sh 7.1, 7.3 and 8.1) submitted on 27.1.2011

Sir

The Commission has scrutinized the FAC computation submitted by you as above and approved the FAC chargeable to the consumers for the months July 2010 and August 2010 at Paise 42.1 and for September 2011 as 49.95 paise per kWh, being the 10% cap applicable. At the end of Q2FY11, an amount of Rs.271.93 Crore is carried forward for adjustment at future date.

The detailed report and vetted summary sheet are attached herewith.

Yours faithfully

(K 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 Dnyaneshwar 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, 1st 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, 2nd Floor 2nd 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 : February 10, 2011

Subject : Detailed Vetting of Fuel Adjustment Cost (FAC) Charges of The Tata Power Company Ltd. for QII FY 11, viz., July 2010 to September 2010

Reference : a) TPC-D's submission No REG/MERC/10/4 dated January 4, 2011, for QII FY 2010-11 for post facto Vetting
b) Revised FAC Computation (Sh 7.1, 7.3 and 8.1) submitted on 27.1.2011

1. Submission by TPC:

TPC-D, vide its submission dated January 4, 2011, has computed the FAC for the month of July 2010 to August 2010 in accordance with the Order dated June 15, 2009 in the matter of Annual Performance Review for (APR) for FY 2008-09 and Tariff Determination for FY 2009-10 and for September 2010 in accordance with the Order dated September 12, 2010 in the matter of Annual Performance Review for (APR) for FY 2009-10 and Tariff Determination for FY 2010-11 (herein after 'relevant APR Order') passed by the Commission 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 July 2010 to September 2010 covering 2nd quarter of FY 2010-11.

The Commission has approved FAC of Rs. 14.48 Crores, Rs 15.03 Crores and Rs. 17.77 Crores for months July 2010, August 2010, September 2010 resp. The monthly amount to be recovered is the 10 % cap value of paise 42.1/kWH for July and August 2010 and paise 49.6/kWH for September 2010.

At the end of the said quarter Rs 271.93 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 dated 15th June, 2009 for July, August 2010 and that for September 2010 is as per Tariff Order 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 dated 28th May, 2009 and 8th September 2010 for months July-Aug 2010 and September 2010 respectively
- 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. TPC-D had submitted that separate Distribution Losses may be approved for TPC-D's own consumers and those migrated from Reliance. However in the tariff Orders issued for FY 09-10 and FY 10-11, the Commission has not considered separate limits for the Distribution losses and these are pegged at 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 2010 it is 4.5%, for August 2010 it is 3.97% and for September 2010 it is reported to be -1.22% . 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 . 2.43%, 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 dated 15th June, 2009 for Tata Power-Distribution Business (for July, August 2010) and Tariff Order dated 12th September 2010 (for September 2010) , which is set at 10% of the average variable charge works out to 42.10 paise/kWH for the months July, August 2010 and 49.95 paise for September 2010.
- 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 July and August 2010 as per the Tariff Order for Tata Power-G dated 28th May 2009 and for September 2010 as per the Tariff Order for Tata Power-G dated 8th September 2010, for computing actual Unit-wise, variable cost of generation on monthly basis and the same is allowed.

For Trombay Unit 6 , the same approved heat rate is considered for all fuels. (Oil and RLNG) as approved in the respective Tariff Orders 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 2010 to September 2010 is as given below

For the months July and August 2010, the Commission has approved weighted average variable cost of power purchase as Rs 2.14/kWH. As against this, the normative actual cost incurred is,

Rs 3.34/kWH in July 2010 (**increased by Rs 1.194/kWH**) and
Rs 3.35/kWH in August 2010 (**increased by Rs 1.20/kWH**).

For the months September 2010 the Commission has approved weighted average variable cost of power purchase as Rs 3.381/kWH. As against this, the normative actual cost incurred during the month is,

Rs 2.943/kWH in September 2010 (**decreased by Rs. 0.4380/kWH**)

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

It is observed from TPC's submission that

a) vide the tariff order for FY 2010, applicable for months July and August 2010, the Commission had approved **sale** of 45.5 MU (excess) energy by TPC-D at the rate of Rs 7/kWH. However, the sale has not taken place, and on account of increase in demand due to migrated customers, TPC-D has **procured** 129.35 MU at the rate of Rs. 4.14/kWH in July 2010 and 159.69 MUs in August 2010 at the cost of Rs 3.729/kWH. This additional cost of procurement of energy has caused the above increase in the weighted average price paid by TPC-D in the months July and August 2010.

b) In the tariff order issued by the Commission dated 08th September 2010, the Commission has already factored for purchase of 26 MU energy per month from "others" at the average rate Rs. 4.758/kWH. And 21 MU of RE power at the rate of Rs 3.934/kWH. As against the same, TPC-D has procured 69.27 MU energy at the rate of Rs 2.92/KWh through Bilateral purchase and 15.35 MU energy from RE sources at the rate of Rs 3.70/KWh for the month of September 2010. This has effectively caused decrease in the weighted average cost of energy in September 2010.

The net change in variable cost of power purchase for the months July 2010 to September 2010 is Rs 4417.53 Lakhs; Rs.4593.36 Lakhs and Rs.(1611.16) 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 month

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	July-11	Aug-11	Sept 11
(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	1550	1529	1448
1.2	Incremental cost in Month j-4 actually recovered in month j-2	Rs Lakh	1486	1497	1842
1.3	Over-recovery/under-recovery (1.1-1.2)	Rs Lakh	64	32	394
2.0	Carried forward adjustment for over- /under-recovery attributable to application of ceiling limit	Rs Lakh	24739	27844	31042
3.0	Adjustment factor for over/under-recovery(1.3+2.0)	Rs Lakh	24802	27876	30648

8. Excess Distribution Loss:

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

The Actual Distribution Loss in July 2010 to September 2010 is 4.5% , 3.97%, -1.22% respectively. As per the observation earlier the negative loss reported for September 2010 is on account of measurement inadequacies. Hence, average loss for the quarter is considered by the Commission for incentivisation/ disincentivisation

The average loss of the concerned quarter is 2.43%. 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 July 2010 to September 2010 are as under:

S.No	Parameter	Unit	July-10	Aug-10	Sept-10
	(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.	4418	4593	1611
1.2	Working Capital Interest (I)	Rs Lakh.	72	77	13
1.3	Adjustment for Over Recovery/Under Recovery (B)	Rs Lakh.	24802	27876	30648
2.0	FAC (A) = C + I + B	Rs Lakh.	29292	32546	29024
	Calculation of FAC_{kWh}				
2.1	Sale within License Area	MU	344	357	356
2.2	Excess T&D Loss	MU	4.04	4.14	4.04
2.3	FAC Charge (FAC _{kWh}) without considering cap on monthly FAC Charge	Paise / KWh	842	901	806
2.4	Cap on monthly FAC Charge	Paise / KWh	42.1	42.1	49.6
3.0	FAC Charge (FAC_{kWh}) considering cap on monthly FAC Charge	Paise / KWh	42.1	42.1	49.6
	FAC (A)				
3.1	FAC (A) considering cap on Monthly FAC Charge (Est)	Rs Lakh.	1448	1503	1777
3.2	FAC (A) disallowed corresponding to excess T&D loss (Est)	Rs Lakh.	17	17	20
3.3	Carried forward FAC (A) for recovery during future period (Est)	Rs Lakh.	27827	31008	27193

Appendix-1

The normative parameters, are as under:

Sr.No.	Parameter	Unit	Normative Rate	
			as per tariff order dated 28th May 2009	as per tariff order dated 8th Sept 2010
1	Heat Rate			
	Unit # 4	kCal/KWh	2575	2683
	Unit # 5	kCal/KWh	2499	2577
	Unit # 6	kCal/KWh	2400	2514
	Unit # 7	kCal/KWh	1971	1971
2	Auxiliary Consumption			
	Hydro	%	0.5	
	Unit # 4	%	8	8
	Unit # 5	%	5.5	5.5
	Unit # 6	%	3.5	3.5
	Unit # 7	%	2.75	2.75
3	Distribution Loss (TPC-D)	%	0.63	0.66
4	Transmission Loss	%	4.85	4.85
5	Weighted Average variable cost of power purchase	Rs./KWh	2.1479	3.3814