



# महाराष्ट्र विद्युत नियामक आयोग

## Maharashtra Electricity Regulatory Commission

No. MERC/DESK TECH-V//FAC/2012-2013/ 01831

Date: 12 November 2012

To  
The General Manager  
The Brihan Mumbai Electric Supply & Transport Undertaking  
BEST Bhavan, BEST Marg  
Post Box No. 192  
Mumbai 400 001

Subject: FAC Vetting of BEST submission for *QIV – FY 2011-2012 (From January 2012 To March 2012)*

Reference: a) BEST's submission dated 23 July, 2012 "Submission of FAC calculations from January 2012 To March 2012"  
b) Clarifications submitted by BEST on 30 October 2012

Sir,

The FAC submissions of BEST for the period *January 2012 To March 2012* submitted to the Commission by BEST vide the letters under reference above has been approved by the Commission. The detailed report of the same has been attached herewith.

The total FAC allowed to be recovered / (refunded) by BEST from its consumers and the amount allowed to be carried forward at the end of the said month for recovery in future is as tabulated below:

Month	FAC Allowed to be Recovered / (Refunded) (Rs. Crores)	FAC allowed to be carried forward for recovery in Future (Rs. Crores)
January 2012	15.08	183.10
February 2012	15.34	212.93
March 2012	18.14	231.03

The Commission observes that in compliance with the MERC Tariff Regulations, Amendment 2011, the FAC has been charged to the consumers Category wise/slab wise as per the specified formula, for the said quarter. The Commission hereby approves the FAC submission as above.

The Commission has observed that, the Transmission Loss figures for the months of the said Quarter IV FY12 reported in the FAC submission is varying over a wide range. BEST has

clarified that there are several issues involved, including the quantum of UI and RPO procurements as indicated in FBSM statements, which are causing the problem. The Commission advises BEST to take up these issues with MSLDC at an appropriate platform and ensure that accurate metering is done at all levels.



Yours Faithfully  
  
(Kuldip Khawarey)  
Secretary MERC

Encl: Annexure: Detailed Vetting Report

Cc: Authorized Consumer Representatives as per list

Names and Addresses of Consumer Representatives authorized as per Sec 94 (3) of EA 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 <sup>st</sup> floor, Udyog Bhawan, Civil Lines, Nagpur 440 001.
Shri N.Ponarathnam 25, Majithia Industrial Estate Waman Tukaram Patil Marg Deonar, Mumbai 400 088	Shri Rakshpal Abrol Bhartiya Udhami Avam Upbhokta Sangh Madhu Compound, 2nd Floor 2nd Sonawal Cross Road Goregaon (E), Mumbai 400063

## ANNEXURE

Date: 5 November 2012

- Reference: a) BEST's submission dated July 23, 2012 "Submission of FAC calculations from January 2012 to March 2012"  
b) Clarification queries made to BEST team at the Commission's office on 18 October 2012 and 25 October 2012 and submission of clarification letter by BEST on 30 October 2012

### **1. Background:**

**1.1** In terms of the MERC's Conditions of Tariff Regulations, 2005, a Distribution Licensee is required to obtain post facto approval of the Commission on quarterly basis for the FAC charges. After due vetting by the submissions, the utility is permitted to bill the FAC charge to its consumer up to a cap of 10% of its average variable component of tariff.

**1.2** The Commission, had issued its Order in Case 162 of 2011, dated February 8, 2012, in the matter of Petition of BEST undertaking of the Municipal Corporation of Greater Mumbai seeking permission to recover FAC for the period from April, 2011 to October, 2011 incurred by BEST in excess of 10% cap and to allow recovery of FAC levied by TPC. The Commission in its Order has directed BEST to recover the amount from the billing month of March 2012 to June 2012.

**1.3** The Commission had vetted the FAC submission of BEST for the period from January 2011 to September 2011 and also for the quarter QIII FY 2011-12 with due reference to the audited back-up data furnished by BEST along with the FAC forms.

**1.4** Further to the abovementioned submissions, BEST has now submitted its FAC submissions along with supporting documents, for the quarter, QIV of FY 2011-12, i.e. January 2012 to March 2012 for vetting by the Commission.

### **2. Power procurements by BEST:**

BEST is a Power Distribution Utility based in Mumbai and it does not own or operate any power generating stations. The entire power requirement for distribution to its consumers is procured by BEST through,

- a) Purchases from Tata Power company Ltd. (TPC-G)
- b) Renewable energy procurement (RPS)
- c) Bilateral contracts for any deficit

**NOTE:** It is to be noted that the allocation of TPC(G)'s power to BEST, for the months of QIV FY12 is in excess of its own requirement, and hence BEST has incremented the excess power to the State Pool and to the inter-state market through unscheduled interchange (UI).



BEST has submitted its FAC submission for the quarter , under Regulation 82.6 of the MERC (Terms and Conditions of Tariff) Regulations, 2005 giving details of the Power purchases and sales for the said period, along with the copies of all the supplementary statements, bills etc. The Commission has assessed FAC charge of BEST for the said period based on the FAC formula approved in the Tariff Regulations. The methodology adopted for vetting the FAC computations is as follows:

The FAC claim made by BEST is for charging difference in averaged out “change in the variable cost of power” every month, arising out of the difference between the “rate approved by the Commission” in the Tariff Order applicable for the concerned period and the “rate actually paid by the Utility”. The submissions prepared on the above basis have been scrutinized and vetted with due consideration to excessive Distribution loss, if any.

### 3. Change in variable cost of power purchase:

The variable cost of power procurement approved by the Commission for the months January 2012 to March 2012 as per the Tariff Order for FY 2010-11 (in the matter of approval of Truing Up for FY 2008-09, Annual Performance Review for FY 2009-10 and determination of ARR and Tariff for FY 2010 -11, Case 95 of 2009, issued on 12 December 2010), is Rs 3.01/ Kwh. BEST has submitted that it has incurred additional variable costs towards power procurement. The actual variable cost incurred by the company for QIV of FY 2011-12, is as follows:

Month	Approved Variable Cost (Rs/Kwh)	Energy Procured (MUs)	Actual Variable Cost of Energy Procured (Rs Lakhs)	Rate of Actual Variable Cost (Rs/Kwh)
January 2012	3.01	340.02	15,673.51	4.61
February 2012	3.01	292.83	12,944.00	4.42
March 2012	3.01	380.96	17,070.34	4.48

### 4. Adjustment for over recovery / under recovery

BEST has submitted the details regarding under recovery / over recovery of the variable charges for the said months as given in the following table:

(Rs. Lakhs)

Sr. No.	Parameter	January 2012	February 2012	March 2012
1.0	<i>Adjustment for (Over Recovery)/ Under Recovery</i>			
1.1	Incremental cost allowed to be recovered in Month j-4	1980.10	1843.03	1610.70



Sr. No.	Parameter	January 2012	February 2012	March 2012
		<i>Oct 2011</i>	<i>Nov 2011</i>	<i>Dec 2011</i>
1.2	Incremental cost in Month j-4 actually recovered in j-2	1607.07	1460.84	3597.72
		<i>Jan 2012</i>	<i>Feb 2012</i>	<i>Mar 2012</i>
1.2.1	Prior Period adjustments of FAC arising out of amendment cases	0.00	0.00	0.00
1.3	(Over-recovery)/under-recovery (1.1-1.2)	373.02	382.19	-1987.02
2.0	Carried forward adjustment for (over-recovery)/under-recovery attributable to application of ceiling limit	14000.53	18310.38	21293.73
3.0	Adjustment factor for (over-recovery)/under-recovery (1.3+2.0)	14373.55	18692.57	19306.71

## 5. Transmission and Distribution Losses

### 5.1 Excess Distribution Loss:

In the Tariff Orders applicable, the Commission had approved allowable Distribution loss at 9.5% for the months under reference above. The Commission has already approved the submission made by BEST to allow calculation of excess Distribution Loss on the basis of Cumulative loss incurred up to the specific month, on lines similar to those followed by MSEDCL.

### 5.2 Comparative Chart and Analysis of the Energy Balance and T & D Loss for the three months as submitted by BEST:

S.No	Particulars	Jan-12	Feb-12	Mar-12
<b>1</b>	<b><i>Power Purchase</i></b>			
1.1	TPC-G (MUs)	354.94	343.33	435.41
1.2	RPS Power (MU)	7.52	1.95	0.60
1.3	Bilateral Purchase (as per SLDC) (MU)	11.83	8.94	10.58
1.4	UI Purchase (as per SLDC) (MU)	(34.26)	(61.39)	(65.62)
1.5 (sum of 1.1 to 1.4)	<b><i>Total power available at G&lt;&gt;T (MU)</i></b>	<b>340.02</b>	<b>292.83</b>	<b>380.96</b>
<b>2</b>	<b>Transmission Loss in MU</b>	26.63	-16.23	11.77
2.1	% Transmission Loss	7.83%	-5.54%	3.09%
<b>3</b>	<b><i>Metered Reading of Power input in BEST Distribution System T&amp;D (MU)</i></b>	<b>313.38</b>	<b>309.06</b>	<b>369.20</b>



S.No	Particulars	Jan-12	Feb-12	Mar-12
4 (1.5-3)	Distribution Loss in MU	22.09	12.81	18.87
4.1	% Distribution Loss	7.05%	4.14%	5.11%
	<b>Consumer Metered sales (MUs)</b>	<b>291.29</b>	<b>296.25</b>	<b>350.33</b>
	<b>Cumulative Distribution Loss</b>	<b>Jan-12</b>	<b>Feb-12</b>	<b>Mar-12</b>
	Cumulative Units Purchased at T&D	3958.45	4267.51	4636.71
	Cumulative Units Sold	3619.94	3916.19	4266.52
	T & D Loss as % of Net Energy Input	8.55	8.23	7.98

### 5.3 Wide Variation in Distribution Loss

The Distribution Loss is varying from 4% to 7% on month to month basis. The reason for the same as explained by the BEST is that, the distribution loss calculated on month to month basis does not have uniformity as it is not possible to read all the consumer meters on same day. Hence to have the correct picture of Distribution loss it is necessary to calculate distribution loss on cumulative basis. This is shown in the following tabulation:

	Total Sales	Total Purchases	T&D Loss	D Loss as % of Net Energy Input	Cumulative Sales	Cumulative Purchase	Cumulative Distribution Loss	Cumulative % Distribution Loss	Excess T&D Loss (Cumulative)
Unit	MU	MU	MU	%	MU	MU	MU	%	MU
<b>Order</b>	4390 (Annual)	4851 (annual)	461 (Monthly)	9.50%				9.50%	
<b>Apr-11</b>	387.38	409.32	21.95	5.36	387.38	409.32	21.95	5.36%	0
<b>May-11</b>	399.90	434.40	34.50	7.94	787.27	843.72	56.44	6.69%	0
<b>Jun-11</b>	389.01	411.72	22.70	5.51	1176.29	1255.44	79.15	6.30%	0
<b>Jul-11</b>	371.00	404.03	33.03	8.17	1547.29	1659.46	112.18	6.76%	0
<b>Aug-11</b>	380.66	399.14	18.48	4.63	1927.95	2058.60	130.65	6.35%	0
<b>Sept-11</b>	351.09	395.03	43.95	11.12	2279.04	2453.64	174.60	7.12%	0
<b>Oct-11</b>	382.48	417.52	35.04	8.39	2661.52	2871.16	209.64	7.30%	0
<b>Nov-11</b>	356.00	400.48	44.47	11.11	3017.52	3271.64	254.12	7.77%	0



	Total Sales	Total Purchases	T&D Loss	D Loss as % of Net Energy Input	Cumulative Sales	Cumulative Purchase	Cumulative Distribution Loss	Cumulative % Distribution Loss	Excess T&D Loss (Cumulative)
Dec-11	311.13	373.43	62.31	16.69	3328.65	3645.07	316.42	8.68%	0
Jan-12	291.29	313.38	22.09	7.05	3619.94	3958.45	338.52	8.55%	0
Feb-12	296.25	309.06	12.81	4.14	3916.19	4267.51	351.32	8.23%	0
Mar-12	350.33	369.20	18.87	5.11	4266.52	4636.71	370.19	7.98%	0

As the cumulative distribution loss for the said months of QIV FY12 is lesser than 9.5% approved by the Commission, no deduction towards excess distribution loss are made. This is approved.

#### **5.4 Wide variation of Transmission Loss**

BEST has explained that The “Total Purchases” as indicated in the tabulation above is the metered input at T < > D interface and the units, and the “Total Power purchase” indicated in Form 4.1 is the algebraic sum showing energy input at G < > T interface. BEST further explained that the difference between these two quantities is the Transmission Loss incurred in each month. The Commission observed that the said Transmission Loss figure is varying over a wide range from month to month. Further, the Transmission Loss for the month of February 2012 appears to be Negative (G-T Drawl 292.83 MUs, T-D Drawl 309.06 MUs). This has been clarified by BEST as follows :

*The pool imbalance units are derived from FBSM Bills received from MSLDC. FBSM bills are prepared on weekly basis and not monthly basis. In the month of January 2012 the FBSM bills were from 02.01.2012 to 29.01.2012 (of 4 weeks). Similarly the FBSM bills considered for February 2012 are from 30.1.2012 to 04.03.2012. Hence there is no similarity in period of Units metered at G-T and UI sale through FBSM pool imbalance.*

*Also In February 2012, MSLDC had considered scheduled RE Generation and not actual RE Generation in total availability which had resulted in more pool imbalance units incremented by BEST as per the FBSM bill prepared by MSLDC. This resulted in G-T drawl less than T-D drawl giving negative Transmission Loss as per calculation. Therefore there is wide variation observed in Transmission Loss from the normative Transmission Loss of 4.85%.*

The Commission has noted that there are several issues which BEST needs to address, so as to make the metering system more accurate. Commission advises BEST to take up these issues with MSLDC at an appropriate platform.



**6. The summary of FAC recoverable and carried forward for recovery in future is as follows :**

Sr. No.	Parameter	Unit	Jan-12	Feb-12	Mar-12
(A)	(B)	(C)	(M)	(N)	(O)
<b>1.0</b>	<b>Calculation of FAC (A)</b>				
1.1	Apportionment of change in variable cost of power purchase to License Area (C)	Rs Lakh	5444.84	4134.87	5609.87
1.2	Working Capital Interest (I)	Rs Lakh	0.00	0.00	0.00
1.3	Adjustment for (Over Recovery)/Under Recovery (B)	Rs Lakh	14373.55	18692.57	19306.71
<b>1.4</b>	<b>FAC (A) = C + I + B</b>	Rs Lakh	19818.39	22827.44	24916.57
<b>2.0</b>	<b>Calculation of FAC<sub>kWh</sub></b>				
2.1	Sale within License Area	MU	291.29	296.25	350.33
2.2	Excess T&D Loss	MU	0.00	0.00	0.00
2.3	FAC Charge (FAC <sub>kWh</sub> ) without considering cap on monthly FAC Charge	Paise/kWh	680.37	770.54	711.23
2.4	Cap on monthly FAC Charge	Paise/kWh	51.77	51.77	51.77
<b>2.5</b>	<b>FAC Charge (FAC<sub>kWh</sub>) considering cap on monthly FAC Charge</b>	Paise/kWh	51.77	51.77	51.77
<b>3.0</b>	<b>FAC (A)</b>				
3.1	FAC (A) considering cap on Monthly FAC Charge	Rs Lakh	1508.01	1533.71	1813.67
3.2	FAC (A) disallowed corresponding to excess T&D loss	Rs Lakh	0.00	0.00	0.00
3.3	Carried forward FAC (A) for recovery during future period	Rs Lakh	18310.38	21293.73	23102.91

**7. Conclusion :**

At the end of QIV- FY 2011-2012, the FAC carried forward for recovery in future amounts to ***Rs 231.0291 Crores***

**8. Slab wise and Category wise FAC for the months of QIV FY12:**





Category	Slabs	ABR Rs/kWh	FAC Cap as per MERC (10% of var. cost)	For Month	Jan-12	Feb-12	Mar-12
BPL	0-30	0.49	0.04		0.04	0.04	0.04
LT-1	0-100	1.66	0.16		0.16	0.16	0.16
	101-300	3.72	0.33		0.33	0.33	0.33
	301-500	5.66	0.53		0.53	0.53	0.53
	>501	7	0.68		0.68	0.68	0.68
LT2(a)	0-300	5.31	0.40		0.40	0.40	0.40
	301-500	6.69	0.60		0.60	0.60	0.60
	501-1000	7.36	0.69		0.69	0.69	0.69
	>1000	7.72	0.76		0.76	0.76	0.76
LT2(b)	all units	8.25	0.73		0.73	0.73	0.73
LT2(c)	all units	8.44	0.76		0.76	0.76	0.76
LT-3	0-300	5.03	0.37		0.37	0.37	0.37
	301-500	6.09	0.55		0.55	0.55	0.55
	501-1000	6.52	0.60		0.60	0.60	0.60
	>1000	6.71	0.64		0.64	0.64	0.64
LT-4(a)	all units	6.93	0.54		0.54	0.54	0.54
LT-4(b)	all units	6.14	0.53		0.53	0.53	0.53
LT-5	all units	12.1	1.14		1.14	1.14	1.14
LT-6	all units	5.91	0.53		0.53	0.53	0.53
LT-7a	all units	2.88	0.29		0.29	0.29	0.29
LT-7b	all units	8.78	0.88		0.88	0.88	0.88
LT-8	all units	2.66	0.27		0.27	0.27	0.27
HT							
HT-I	all units	5.72	0.51		0.51	0.51	0.51
HT-II	all units	5.83	0.54		0.54	0.54	0.54
HT-III	all units	3.61	0.30		0.30	0.30	0.30
HT-IV	all units	8.2	0.82		0.82	0.82	0.82

