

**Detailed Vetting Report MSEDCL- *Post Facto* approval of
FAC Charges for June 2010 submitted by MSEDCL**

Reference : MSEDCL's letter No. MSEDCL/PP/FAC/L7/28805 of September 14, 2010 submission of month June-2010 and subsequent clarifications furnished regarding the same

1. FAC submission by MSEDCL:

- 1.1 Upon vetting the FAC calculations for the month of June 2010, submitted vide letter under above Reference, and after taking cognisance of the clarifications furnished by MSEDCL to the queries raised by the Commission, the Commission has accorded post facto approval for the FAC amount for the said months as detailed below.

The Commission issued MYT Order dated August 17, 2009 (Case 116 of 2008), approving principles of Annual Revenue Requirement (ARR) and Tariff for FY 2009-10 for MSEDCL and has also mentioned about the parameters and mechanism for computation of FAC. Further, the Commission appointed CPRI (A Govt. of India enterprise) to conduct tests and recommend "Achievable performance parameters".

MSPGCL and MSEDCL are required to note that for year 2010-11, the achievable performance parameters for MSPGCL stations, which have been tabulated under the title as above, in the Appendix to this letter, are to be used for FAC submissions in the current year.

The Commission has approved FAC charges for the month of June 2010 in accordance with the principles stipulated in the MYT Order dated August 17, 2009 and the MERC (Terms and Conditions of Tariff) Regulations, 2005

- 1.2 Regarding purchase of power from the external sources, the Commission has considered power purchase sources based on the MYT Order dated August 17, 2009

2. Details of approval:

The Commission has accorded post facto approval for the FAC amount of (net of T & D loss), Rs. 211.2544 Crore for the month June 2010. The summary of the FAC claim for June 2010 as submitted by MSEDCL and as approved by the Commission is shown in the Table below:-

Sr No	Particulars	Unit	MSEDCL	Approved
1	FAC incl of excess T&D Loss	Rs. Crore	211.2544	211.2544
2	FAC rate	Paise/kWh	35.47	35.47
3	FAC rate (unmetered)			
	-LT-Ag (>1318 hours per year)	Rs/hp/month	38.20	38.20
	-LT-Ag (<1318 hours per year)	Rs/hp/month	21.60	21.60

Further, the carried forward FAC at the end of the month June 2010 works out to Rs. Nil

3. Analysis of FAC proposal submitted by MSEDCL and computation of FAC charges is as below:

a) **Variable Cost of Generation:**

MSEDCL has submitted the break-up of purchase price of different fuels for all stations certified by Chartered Accountant.

i) **Variable Fuel Cost :**

MSEDCL has considered the base variable fuel cost for each station as approved by the Commission in the MYT Order of MSPGCL of August 17, 2009 (Case 115 of 2008) and in conformity with the directions given in the Commission's letter MERC/MON/FAC/MSEDCL/09/2637 dated November 20, 2009

MSEDCL has submitted sample bills for the fuel purchased along with the FAC submissions. MSEDCL has also submitted fuel analysis report of representative monthly sample of fuels certified by an Independent Certification Agency along with FAC submissions.

Station-wise based variable charge per unit considered for FAC based on the approved cost by the Commission is as given at the end of the report

ii) **Secondary fuel consumption :**

The Commission's clarifications on the issues of secondary fuel oil consumptions for FAC computations are as under:

- a) In case the secondary oil consumption is more than 2 ml/kWh, the same should be limited to the approved level of 2 ml/kWh
- b) In case usage of actual secondary fuel oil consumption is less than normative value of 2 ml/kWh (or no consumption),

Accordingly, the Commission has computed the cost of secondary fuel oil consumption, Such that, the normative fuel consumption allowed for FAC vetting for the month June 2010 is upto a limit value of 2 ml/kWh in combination of Fuel Oil, LDO and LSHS .

The summary of fuel related costs for the month June 2010 for existing generating stations of MSPGCL as approved by the Commission after detail vetting, is shown in the Table below:

Sr No	Detail	Unit	For June10
1	Actual Fuel Cost	Rs Crore	510.8201
2	Normative Actual Fuel cost	Rs Crore	450.2607
3	Net Generation	MU	2403.53
4	Approved variable cost of generation	Rs./kWh	1.60
5	Actual average variable cost of generation	Rs./kWh	1.91
6	Average Normative variable cost of generation	Rs./kWh	1.87
7	Change in variable cost of generation ={(3)X[(6)-(4)]}/10	Rs. Crore	64.895

iii) Auxiliary consumption:

Auxiliary consumption for all generating stations has been considered by MSEDCL at normative levels for calculation of variable cost of generation and the same is allowed.

iv) Heat Rate:

MSEDCL has worked out the variable cost of generation considering normative heat rates of each station and the same is allowed.

MSPGCL and MSEDCL are required to note that for year 2010-11, the achievable performance parameters for MSPGCL stations, which have been tabulated in MSPGCL tariff Order issued by the Commission on 12th September 2010 in the matter of Case 102 of 2009 should be applied to the FAC submission for the year FY2010-11

v) Transit Loss:

MSEDCL has worked out the variable cost of generation considering normative transit loss as approved in the APR Order dated June 20, 2008 for FY 2008-09, and the same is allowed.

b) Variable cost of power purchase

The Commission has considered the increase in power purchase cost in case of approved power purchase sources as per the MYT order of MSEDCL of August 17, 2009 (Case 116 of 2008) as per the tabulation given at the end of the Report.

MSEDCL has submitted the data for the power purchase certified by Chartered Accountant.

The details of power purchase by MSEDCL for June 2010 is given below

S.No	Details	Unit	June 2010
-1	Net Energy Purchase	MU	3757
-2	Variable Cost of Energy purchased	Rs Crore	779.7055
-3	Average Rate of energy purchased	Rs./kWh	2.08
-4	Approved Rate for Energy purchase	Rs./kWh	2.13

c) **Unscheduled Interchange (UI) Charges:**

In June-10 MSEDCL has purchased 280 MU through UI at avg rate of Rs. 2.34 per kWh. This is allowed

Scheduled Energy Received in grid through Imports from various regions and losses:

MSEDCL has claimed losses in power purchase through grid at (61) MU in June-10 as the difference between the Scheduled Energy (including UI) and Actual Drawal.

The Commission has considered the losses in the grid as submitted by MSEDCL.

For the month of June-10 the Commission has approved change in Variable (Fuel) Cost of Generation and Power Purchase Cost (C), of Rs 102.1304 Crore

d) **Interest on working capital –**

MSEDCL has mentioned that 10.25% is the rate of Interest for working capital. In the Note MSEDCL has mentioned that Rs.6.41 Crores is the interest accrued on Working Capital for incurred by the company in June 2010. However, no claim has been tabulated in FAC submission.

As per APTEL judgment, interest on the difference of normative actual cost and approved cost of fuel in a month is eligible for payment through FAC mechanism, in case such claim is made along with supportive documentation. Else it will be addressed through the Annual True-up.

e) **Adjustment factor for over recovery / under recovery (B) –**

In addition to the difference in the “Incremental cost actually recovered in month J-2 viz. June 2010” and ”Incremental cost allowed to be recovered in month J-5 viz. March 2010”, MSEDCL has also claimed the following adjustments

ii) Rs. (45.1195) Crores towards ZLS impact from January 2010 to May 2010

- iii) Rs. 82.776091 Crores towards payment for infirm power of Parli U 7 and Paras U 4 made to MSPGCL
iv) Rs. 4.8333 Crores towards Carried forward amount from month of May 2010

Total adjustment (sum of above) Rs 106.0541 Crores. This has been allowed in the adjustment table . The summary of the adjustment factor for over recovery/under recovery for the month of June-2010 as submitted by MSEDCL and as approved by the Commission is shown in the Tables below:

Adjustment Factor

The Adjustment factor under item 2.0 below, in addition to the amount carried forward from May 2010 on account of 10 % Cap on FAC in that month, is inclusive of the following amounts :

- i) Rs. 63.56 Crores permitted by the Commission's Order of Case 16 of 2008 (7th instalment)
ii) Rs. 45.11 Crore towards adjustment made for ZLS against RGPPL , Uran Unit-3 & TPC Unit 4 for the Period of Jan 2010 to May 2010. (UI charges reversed)
iii) Cost of infirm power procured from MSPGCL in months Jan 2010 to May 2010 (Parli U7 & Paras U4)

Sr. No.	Parameter	Unit	Value
(A)	(B)	(C)	(D)
1.0	Adjustment for over-recovery/under-recovery ('B')		
1.1	Incremental cost allowed to be recovered in Month (MARCH 2010)	Rs Lakh	103.26
1.2	Incremental cost in Month j-4 actually recovered in month j-2 (JUNE- 2010)	Rs Lakh	(204)
1.3	Over-recovery/under-recovery (1.2-1.1)	Rs Lakh	306.99
2.0	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit	Rs Lakh	10,605.41
3.0	Adjustment factor for over-recovery/under-recovery (1.3+2.0)	Rs Lakh	10,912.40

f) **Transmission and Distribution Loss:** .

Transmission Loss :

As per IBSM statements, the transmission loss for the Intra state transmission system of Maharashtra for the month June 2010 is 3.95 %. However in the FAC submission, MSEDCL have reported Transmission loss as 3.86 % . This is allowed.

Distribution loss:

In the previous month, May 2010, MSEDCL had reported 20.77 % Distribution Loss (20.81% cumulative Distribution loss upto the month)

In stark contrast to above, for the current month June 2010, MSEDCL has reported 7.78 % Distribution Loss (16.92 % cumulative Distribution loss upto the month).

Such drastic reduction in Distribution Loss has occurred without taking any specific steps towards reduction in Technical loss or Commercial loss. However, MSEDCL has furnished the following explanation :

“The % Distribution loss for the month JUN-10 is very low as compared to previous months. Analysis is as follows:

- *The input varies throughout the year depending on season.*
- *Further the **input for a month** is for **First to Last day of the month**, whereas consumers of MSEDCL are **billed on monthly, bimonthly or quarterly** basis affecting the sale for the respective month.*
- *Major cause for high variation in loss levels between various months are mainly due to Agriculture consumption pattern which is computed quarterly in MSEDCL.*
- *Philosophy for Apportioning of AG Consumption:*
 - ✓ *For first two months of any quarter, LT-Ag consumption units are taken on pro-rata basis (1/3rd of the total consumption of previous quarter for 1st month and 1/3rd for 2nd month)*
 - ✓ *Actual LT-Ag consumption becomes available at the end of the quarter.*
 - ✓ *For the third month, the 1/3rd units considered in 1st month and 1/3rd units considered in 2nd month are deducted from the total units for the quarter and balance units are considered for the last third month of the quarter*
- *This causes wide variation in loss levels of the divisions with higher quantum of Agriculture load for the quarter end months.*

*For the month of **JUN-10**, there is considerable drop in Distribution Input as compared to previous month mainly due to good rainfall this year. But the sale for the month Jun-10 is almost constant.*

Although actual AG consumption for the month of June has reduced due to good rainfall, but substantial consumption for the month April and May is getting reflected in sale of June, because of the methodology adopted as above. The same trend is observed almost every year.”

Based on the explanation as above, the Commission has observed that existence of large amount of Unmetered consumers and irregular/infrequent meter reading cycles appear to be the main reasons behind such unrealistic values of Distribution loss. On account of such arbitrary and ad-hoc measurements, proper audit of loads and realistic trending thereof are not possible. The Commission would like MSEDCL to improve Metering and take actual meter readings every month rather than taking the readings in certain areas once in 3 months and apply “Assessed reading” for next 2 months.

As the reported distribution loss (cumulative upto the month) is lesser than the stipulated limit value, no deductions from FAC charges are made.

g. Energy Sales for within License area:

The energy sales within licence area as submitted by MSEDCL for the month May-10 is 5955.76 MUs. and the same is approved by the Commission. As explained above by MSEDCL, substantial consumption for the month April 2010 and May 2010 is getting reflected in sale of June 2010, because of incorrect Meter reading methodology adopted as above by MSEDCL.

4. Summary :

The summary of the FAC amount as approved by the Commission for June-10 is shown in the Tables below:-

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At the above rate, total FAC amount of Rs 121.84 Crores is to be charged to the consumers .
The amount to be carried forward for recovery at future date is zero

Sr. No.	Parameter	Unit	MSEDCL	Approved
1	Calculation of FAC (A)			
1.1	Disallowance of change in variable cost of generation corresponding to excess auxiliary consumption	Rs Lakh	0	0
1.2	Change in weighted average variable cost of generation and power purchase after accounting for disallowance of change in variable cost corresponding to excess auxiliary consumption	Rs Lakh	0	0
1.3	Apportionment of change in variable cost of generation and power purchase to License Area (C)	Rs Lakh	10213.04	10213.04
1.4	Working Capital Interest (I)	Rs Lakh	0	0
1.5	T & D Loss Adjustment for the year		0	0
1.6	Adjustment for Over Recovery/Under Recovery (B)	Rs Lakh	10912.40	10912.40
1.7	FAC (A) = C + I + B	Rs Lakh	21125.44	21125.44
2	Calculation of FACkWh			
2.1	Sale within License Area	MU	5955.76	5955.76
2.2	Excess T&D Loss	MU	0	0
2.3	FAC Charge (FACkWh) without considering cap on monthly FAC Charge	Paise/K Wh	35.47	35.47
2.4	Cap on monthly FAC Charge	Paise/K Wh	37	37
2.5	FAC Charge (FAC/kWh) considering cap on monthly FAC Charge	Rs/KWh	0.3547	0.3547
3	FAC (A)			
3.1	FAC (A) considering cap on Monthly FAC Charge	Rs Lakh	21125.44	21125.44
3.2	FAC (A) disallowed corresponding to excess T&D loss	Rs Lakh	0	0
3.3	Carried forward FAC (A) for recovery during future period	Rs Lakh	0	0

APPENDIX

**Assumptions/Norms as per MYT order for MSPGCL dated May 31, 2008
and for MYT Order dated August 17, 2009 (Case 116 of 2008),**

1. CAP on monthly FAC charge.

CAP on monthly FAC charge for FY 2009-10 works out to 37 paise per unit (10% of energy charge).

2 Summary of New Norms:

2.1 Purchase from MSPGCL:

Station	Net Gen (MUs)	Energy Charge as per Order (Rs/kWh)	Heat rate (kcal/kwh)	Auxiliary Consumption	Approved Heat Rate applicable for FY 2010-11 kCal/kWH	Approved Auxiliary Consumption for FY 2010-11 %
Khaparkhe da	5,627	1.75	2612	8.50%	2559.9	9.74
Paras	373	1.86	3224	9.70%	3186.5	12.45
Bhusawal	2,938	2.28	2784	9.75%	2733.9	10.55
Nasik	5,630	2.4	2774	9.00%	2721.9	10.95
Parli	4,226	2.13	2796	9.00%	2744.6	11.15
Koradi	5,888	1.51	3015	9.80%	2964.8	10.70
Chandrapur	13,227	1.23	2664	7.80%	2617	9.15
Paras -3	1,594	1.28	2500	9%	2500	9.0
Parli -6	1,594	1.47	2500	9%	2500	9.0
Uran	3,761	1.23	1980	2.40%	1980	2.40

Note : The Net approved MUs are based on last 3 years' average Net generation of MSPGCL Stations

2.2 Purchase from Other sources

Particulars	ESO	Total Variable Charges (Rs Cr)	Avg. Cost (Rs./kWh)
MSPGCL	49093	7734	1.58
Korba STP	5014	319	0.64
Vindhayanchal STP I	3361	403	1.20
Vindhayanchal STP II	2625	304	1.16
Vindhayanchal STP III	2187	251	1.15
KAWAS APM	1393	828	5.94
GANDHAR APM	1366	539	3.95
Farakka STPP-EP	499	83	1.67
Kahalgaon TPS-EP	242	36	1.49
KahalgaonTPS-II	300	48	1.60
TSTPS-EP	300	29	0.96
Sipat Stage - II	2235	189	0.84
Barh	110	22	1.96
NTPC	19634	3052	1.55
Kakrapar APP	310	65	2.10
Tarapur APP 1&2	1080	104	0.97
Tarapur APP 3&4	1559	457	2.93
NPCIL	2949	626	2.12
Saradar Sarovar Project	924	189	2.05
PENCH	103	21	2.05
U.I. CHARGES	0	0	
DODSON-I	40	9	2.31
DODSON-II	38	10	2.63
RGPPL	7500	1824	2.43
TOTAL PP	80281	13466	1.68
NCE Sources	4110	1509	3.67
CPPs	250	95	3.80
TOTAL	84641	15070	1.78

T and D loss- Approved Intra State Transmission Loss is 4.85% and Distribution Loss as per

3 APR Order is
18.20%

4 Transit Loss: 0.80% for all stations