

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

Reference :

MSEDCL's letter No. MSEDCL/CAS/FAC/L7/23 of July 12, 2010 submission of month April-2010

1. FAC submission by MSEDCL:

- 1.1 Upon vetting the FAC calculations for the month of April 2010, submitted vide letter under above Reference, 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" which have been summarized in the Appendix to this letter. The Commission has approved FAC charges for the month of April 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. 121.84 Crore for the month April 2010. The summary of the FAC claim for April 2010 as submitted by MSEDCL and as approved by the Commission is shown in the Table below:-

Sr No	Particulars	Unit	MSEDCL	Approved by Commission
1	FAC incl of excess T&D Loss	Rs. Crore	121.84	121.84
2	FAC rate	Paise/kWh	20.27	20.27
3	FAC rate (unmetered)			
	-LT-Ag (>1300 hours per year)	Rs/hp/month	21.90	21.90
	-LT-Ag (<1300 hours per year)	Rs/hp/month	12.30	12.30

Further, the carried forward FAC at the end of the month April 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 April 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 April 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 April 10
1	Actual Fuel Cost	Rs Crore	595.24
2	Normative Actual Fuel cost	Rs Crore	545.00
3	Net Generation	MU	3239
4	Approved variable cost of generation	Rs./kWh	1.60
5	Actual average variable cost of generation	Rs./kWh	1.8375
6	Average Normative variable cost of generation	Rs./kWh	1.6824
7	Change in variable cost of generation = $\{(3) \times [(6)-(4)]\} / 10$	Rs. Crore	26.39

Based on the submission made, it is seen that the main reasons for the “Actual average Normative variable cost of generation” for the Month April 2010 to be lesser than “Actual average variable cost of generation” is due to **inefficient operation** of the MSPGCL plants as follows :

a) Secondary Oil consumption of the following stations is higher than the Normative consumption specified :

Paras, Bhusawal, Nashik, Parli, Koradi, New Paras 3

b) The Heat Rate achieved by the following stations is higher than even the revised parameters applied to these stations after CPRI recommendations

The details are tabulated below

Station	Achieved Heat Rate in April 2010 (kCal/kWh)	Revised Heat rate specified as per CPRI tests (kcal/kwh)	Remark
Khaparkheda	2710	2612	Higher than Revised Heat Rate
Paras	4018	3224	Higher than Revised Heat Rate
Bhusawal	2900	2784	Higher than Revised Heat Rate
Nasik	3017	2774	Higher than Revised Heat Rate
Parli	3178	2796	Higher than Revised Heat Rate
Koradi	3743	3015	Higher than Revised Heat Rate
Chandrapur	2557	2664	<u>Lower than Revised Heat Rate</u>
Paras -3	2698	2500	Higher than Revised Heat Rate
Parli -6	2785	2500	Higher than Revised Heat Rate
Uran			

The tabulated figures above are quite alarming and indicative of continued degeneration without any apparent evidence of efforts by the respective stations to bring about even simple operational and maintenance related improvements.

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.

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 :April 2010 & March 2010 is given below

S.No	Details	Unit	April 2010 & March 2010
-1	Net Energy Purchase	MU	3,431
-2	Variable Cost of Energy purchased	Rs Crore	722.14
-3	Average Rate of energy purchased	Rs./kWh	2.10
-4	Approved Rate for Energy purchase	Rs./kWh	2.13

c) Unscheduled Interchange (UI) Charges:

In January-10 MSEDCL has purchased 113 MU through UI at avg rate of Rs. 4.96 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 (146) MU in April-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 April-10 the Commission has approved change in Variable (Fuel) Cost of Generation and Power Purchase Cost (C), of Rs 45.95 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.6.23 Crores is the interest accrued on Working Capital for incurred by the company in April 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. Else it will be addressed through the Annual Trueup.

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

MSEDCL/MSPGCL have applied the revised performance parameters for the Actual values s per CPRI studies for month April 2010 (same as that done for previous months of FY10)

In addition to the difference in the “Incremental cost actually recovered in month J-2 viz. April 2010” and ”Incremental cost allowed to be recovered in month J-5 viz. January 2010”, MSEDCL has also claimed the adjustments of Rs. 63.56 Crores permitted by the Commission's Order of Case 16 of 2008. This has been allowed in the adjustment table..

The summary of the adjustment factor for over recovery/under recovery for the month of April-2010 as submitted by MSEDCL and as approved by the Commission is shown in the Tables below:

Adjustment Factor

Sr. No.	Parameter	Unit	MSEDCL	Commission
(A)	(B)	(C)	(D)	(D)
1	Adjustment for over-recovery/under-recovery ('B')			
1.1	Incremental cost allowed to be recovered in Month J-5(Januaryr 2010)	Rs Lakh	19501	19501
1.2	Incremental cost in Month j-5 actually recovered in j-2 (April 2010)	Rs Lakh	17858	17858
	January-10			
1.3	Over-recovery/under-recovery (1.2-1.1)	Rs Lakh	1643	1643
2				
2.1	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit	Rs Lakh	0	0
2.2	adjustments permitted by the Commission's Order of Case 16 of 2008.	Rs Lakh	6356	6356
3	Adjustment factor for over-recovery/under-recovery (1.3+2.0)	Rs Lakh	7999	7999

f) **Distribution Loss:**

Excess Distribution loss:

MSEDCL has incurred 20.86% cumulative Distribution loss upto the month. As this is more than the approved value of 18.20% deduction of Rs. 4.09 Crore has been made from the computed FAC amounts of the month. It is noted that MSEDCL has not been able to restrict its Distribution loss and as a result, in the power deficit condition through which the State is passing at the moment, valuable Energy is being wasted, probably due to want of adequate measures in place.

g. **Energy Sales for within License area:**

The energy sales within licence area as submitted by MSEDCL for the month April-10 is 6011 MU and the same is approved by the Commission.

4. Summary :

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

The Rate at which the amount is to be refunded is arrived at by dividing the above amount by the total consumption in licensed area.

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	-	-
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	-	-
1.3	Apportionment of change in variable cost of generation and power purchase to License Area (C)	Rs Lakh	4,595	4,595
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	7999	7999
1.7	FAC (A) = C + I + B	Rs Lakh	12594	12594
2	Calculation of FACkWh			
2.1	Sale within License Area	MU	6011	6011
2.2	Excess T&D Loss	MU	202	202
2.3	FAC Charge (FACkWh) without considering cap on monthly FAC Charge	Paise/KWh	20.27	20.27
2.4	Cap on monthly FAC Charge	Paise/KWh	37	37
2.5	FAC Charge (FAC/kWh) considering cap on monthly FAC Charge	Rs/KWh	0.2027	0.2027
3	FAC (A)			
3.1	FAC (A) considering cap on Monthly FAC Charge	Rs Lakh	12184	12184
3.2	FAC (A) disallowed corresponding to excess T&D loss	Rs Lakh	409	409
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
Khaparkhe da	5,627	1.75	2612	8.50%
Paras	373	1.86	3224	9.70%
Bhusawal	2,938	2.28	2784	9.75%
Nasik	5,630	2.4	2774	9.00%
Parli	4,226	2.13	2796	9.00%
Koradi	5,888	1.51	3015	9.80%
Chandrapur	13,227	1.23	2664	7.80%
Paras -3	1,594	1.28	2500	9%
Parli -6	1,594	1.47	2500	9%
Uran	3,761	1.23	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