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Ref. No. MERC/FAC/20202021/ E-Letter

Date: 22 April, 2020

To,
The Chief Executive Officer,
Adani Electricity Mumbai Limited,
Devidas Lane, Off SVP Road,
Near Devidas Telephone Exchange
Borivali (W), Mumbai – 400 092

Subject: Post facto approval of AEML-D's Fuel Adjustment Charges (FAC) for the period of July, 2018 to September, 2018, October, 2018 to December, 2018 and January, 2019 to March, 2019.

Reference: AEML-D' FAC submissions for post-facto approvals of FAC for the period from July, 2018 to September, 2018, October, 2018 to December, 2018 and January, 2019 to March, 2019.

Sir,

Upon vetting the FAC calculations for the months of July, 2018 to September, 2018, October, 2018 to December, 2018 and January, 2019 to March, 2019 as mentioned in the above reference, the Commission has accorded post facto approval to AEML-D for charging FAC to its consumers as shown in the table below:

Month	Jul, 2018	Aug, 2018	Sept, 2018
Z _{FAC} allowed (Rs. Crore)	43.15	32.93	52.71

Month	Oct, 2018	Nov, 2018	Dec, 2018
Z _{FAC} allowed (Rs. Crore)	40.68	36.31	31.04

Month	Jan, 2019	Feb, 2019	Mar, 2019
Z _{FAC} allowed (Rs. Crore)	28.48	28.58	33.95



The above approved FAC amounts have been adjusted in the final True up of FY 2018-19 under the MERC (Multi Year Tariff) Regulations, 2015 vide Order dated 30 March, 2020 in Case No. 325 of 2019. Hence, there is no financial impact of the same and no further action is required to be taken by AEML-D.

In the MYT order for the 4th Control period, Commission has given dispensation with regards to FAC mechanism. The Commission has also issued the detail guidelines/formats vide letter MERC/Tech/FAC/dated 20 April, 2020, for claiming the FAC and the same requires prior approval.

AEML-D is directed to comply with the guidelines dated 20 April, 2020 for all the future submissions on FAC.

Yours faithfully,



(Prafulla Varhade)
Director (EE)

Encl: Annexure A: Detailed Vetting Report for the period of July, 2018 to September, 2018.
Annexure B: Detailed Vetting Report for the period of October, 2018 to December, 2018.
Annexure C: Detailed Vetting Report for the period of January, 2019 to March, 2019.



**POST FACTO APPROVAL FOR FAC CHARGES FOR THE MONTHS OF JULY, 2018
TO SEPTEMBER, 2018**

Subject: Post facto approval of AEML's Fuel Adjustment Charges (FAC) for the period of July, 2018 to September, 2018.

Reference: AEML's FAC submission vide letter dated 26 November, 2018 for post-facto approval of FAC for the period from July, 2018 to September, 2018.

1. FAC submission by AEML-D:

1.1 AEML-D (formerly RInfra-D) has submitted FAC submissions for the months of July, 2018 to September, 2018 as referred above. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by RInfra-D, the Commission has accorded post facto approval for the FAC amount to be charged in the billing months of September, 2018 to November, 2018.

2. Background

2.1 On 21 October, 2016, the Commission has issued Tariff Order for RInfra-D, (Case No.34 of 2016) for True-up of FY 2014-15, provisional Truing-up for FY 2015-16, and Aggregate Revenue Requirement and Tariff for FY 2016-17 to FY 2019-20. Revised Tariff has been made applicable from 1 October, 2016

2.2 On 12 September, 2018, the Commission has issued Tariff Order for RInfra-D (now AEML-D), (Case No.200 of 2017) for Mid-Term Review, including Truing-up of FY 2015-16 and FY 2016-17, provisional Truing-up for FY 2017-18, and revised Aggregate Revenue Requirement and Tariff for FY 2018-19 to FY 2019-20. Revised Tariff has been made applicable from 1 September, 2018.

2.3 Vide its letter dated 15 November, 2016, the Commission communicated the excel formats for filing of FAC submissions to all Distribution Licensees. The Commission also directed all Distribution Licensees to submit FAC computations, including details pertaining to variation in fuel cost of generators for the approval of the Commission.

2.4 Vide FAC vetting Report dated 13 January, 2017, the Commission accorded prior approval to the FAC for the month of October, 2016.



2.5 In terms of MERC (MYT) Regulations, 2015 a Distribution Licensee is required to obtain post facto approval of the Commission on a quarterly basis for FAC charges. Accordingly, vide its letter dated 26 November, 2018, AEML-D has filed FAC submissions for the months of July, 2018 to September, 2018 for post facto approval. The Commission has scrutinized the submissions provided by AEML-D and has also verified the fuel and power purchase bills provided along with its submissions.

3. Energy Sales of the Licensee

3.1 The net energy sales within licence area as submitted by AEML-D in the FAC submission and as approved by the Commission are as shown in the Table below.

Consumer Category	Approved* by the Commission (MU)	Monthly Approved (MU)	Actual Sales		
			Jul-18	Aug-18	Sep-18
			MU	MU	MU
	(I)	(II=I/12)	(III)	(IV)	(III)
LT Category					
BPL	0.02	0.00	0.00	0.00	0.00
LT -I Residential	4216.72	351.39	333.45	353.66	349.84
LT II Commercial	2643.15	220.26	204.75	216.42	214.05
LT III(A) - LT Industrial upto 20 kW TOD Option	180.93	15.08	13.80	14.77	15.30
LT III(B) - LT Industrial above 20 kW	398.79	33.23	33.71	34.74	33.01
LT-V : LT- Advertisements and Hoardings	3.56	0.30	0.23	0.25	0.26
LT VI: LT -Street Lights	58.96	4.91	4.11	4.30	4.80
LT-VII : LT -Temporary Supply	13.42	1.12	0.78	0.70	1.23
LT VIII: LT - Crematorium & Burial Grounds	1.31	0.11	0.10	0.09	0.10
LT X: LT -Public Service (A)	23.78	1.98	2.12	2.11	2.10
LT X: LT -Public Service (B)	126.32	10.53	10.84	9.93	9.61
LT X (A) : LT - Agriculture Pumpsets	0.05	0.00	0.00	0.00	0.00
LT X (B) : LT - Agriculture Others	0.13	0.01	0.01	0.02	0.01
LTIV - Public Water Works	13.44	1.12	1.17	1.10	1.05
HT Category					
HT 1 (Industrial)	369.18	30.77	28.34	29.41	28.67
HT 2 (Commercial.)	348.98	29.08	39.19	38.90	37.32
HT 3 (Group Housing Soc.)	38.97	3.25	3.27	3.17	3.15
HT 4 (Temporary Supply)	2.84	0.24	1.13	1.10	1.14
HT – Railways	31.24	2.60	2.67	2.66	2.52
HT - Public Services (A)	7.86	0.66	0.64	0.62	0.60
HT - Public Services (B)	92.58	7.72	8.11	8.50	7.71
HT - Public Water Works	6.99	0.58	0.86	0.77	0.71



Total	8579.21	714.94	689.29	723.22	713.19
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*As per MTR Order dt. 12 September, 2018

3.2 It was observed that the total sale for July, August and September is 689.29 MUs, 723.22 MUs and 713.19 MUs which is lower as compared to MTR approved monthly sales of 714.94 MUs. The major variation was observed in the LT-I Residential, LT-II Commercial and in HT-1 Industrial and HT-2 Commercial as shown in Table above.

4. Cost of Power Purchase

4.1 The following are the list of sources from which AEML-D procures power to meet its demand:

- Purchases from ADTPS (Formerly RInfra-G)
- Purchase from other generating stations such as VIPL-G
- Renewable energy procurement (RPS)
- Bilateral contracts and decrements to the imbalance pool.

4.2 The following Tables show the variation in average power purchase cost (Rs/kWh) for the months of July, 2018 to September, 2018 as compared to average power purchase cost approved in Tariff Orders dated 12 September, 2018:

Particulars	Tariff Order Dated 12.09.2018			Actual for Jul, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
ADTPS	3764.17	1453.35	3.86	272.25	117.83	4.33
RE Sources	1370.58	557.27	4.07	56.74	31.64	5.58
VIPL-G	3896.43	1743.65	4.47	210.57	100.91	4.79
Bilateral/Traders	968.27	338.89	3.50	110.99	45.10	4.06
Others	-	-	-	110.99	42.72	3.85
Surplus Sale	(31.64)	(11.35)	3.59	(0.36)	(0.11)	3.04
Total	9967.81	4081.81	4.09	761.18	338.09	4.44



Particulars	Tariff Order Dated 12.09.2018			Actual for Aug, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
ADTPS	3764.17	1453.35	3.86	267.97	113.20	4.22
RE Sources	1370.58	557.27	4.07	53.73	30.55	5.69
VIPL-G	3896.43	1743.65	4.47	149.71	65.66	4.39
Bilateral/Traders	968.27	338.89	3.50	208.08	80.93	3.89
Others	-	-	-	90.58	34.35	3.79
Surplus Sale	(31.64)	(11.35)	3.59	-	-	-
Total	9967.81	4081.81	4.09	770.08	324.69	4.22

Particulars	Tariff Order Dated 12.09.2018			Actual for Sept, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
ADTPS	3764.17	1453.35	3.86	306.96	130.00	4.23
RE Sources	1370.58	557.27	4.07	20.55	13.58	6.61
VIPL-G	3896.43	1743.65	4.47	380.07	168.72	4.44
Bilateral/Traders	968.27	338.89	3.50	76.64	48.36	6.31
Others	-	-	-	-	-	-
Surplus Sale	(31.64)	(11.35)	3.59	(10.47)	(4.59)	4.39
Total	9967.81	4081.81	4.09	773.76	356.07	4.60

4.3 AEML-D has procured power under its long-term arrangement (Order dated 8 February, 2018 in Case No. 5 of 2017) with AEML-G (ADTPS) and with Vidarbha Industries Power Ltd.-Generation (VIPL-G). After accounting for the availability from long-term sources, the shortfall against power requirement was met by purchase from contracted short-term sources and from the Power Exchanges. AEML-D has also contracted Renewable Energy (RE) power from different sources for meeting the Renewable Purchase Obligation (RPO) specified by the Commission. The shortfall in requirement due to backing down of ADTPS and VIPL-G is met through off-take (decrement) from the Imbalance Pool.



- 4.4 The Commission has sought detailed bills/invoices for all of the power purchase sources in order to verify the claim of AEML-D with respect to average power purchase cost for the months of July to September, 2018. The Commission has verified the Net Purchase, Variable Cost, Fixed Charge and the Power Purchase Cost from the relevant bills/invoices received for all purchasing sources.
- 4.5 It is to be noted that the Commission in its MYT Order (Case No. 34 of 2016) dt. 21 October, 2018 had approved the power purchase cost, power quantum as well as average power purchase cost for the FY 2018-19. Thereafter, on 12 September, 2018 the Commission has issued MTR Order (Case No. 200 of 2017) 2018 in which it has revised the power purchase cost, power quantum and also average power purchase cost and accordingly approved the same for FY 2018-19. The applicability of the revised Tariff was also defined by the Commission under section 8.1 of MTR Order which is from 1 September, 2018. However, it was observed that for all the months of Q2, of FY 2018-19 AEML-D has considered the approved power purchase cost, quantum and APPC as per MTR Order. The Commission has considered the approach undertaken by AEML-D as the same is in line with the approach adopted by the Commission in its previous vetting report dated 26 December, 2016 in order to minimise the variation in gap/(surplus) at the time of truing up.
- 4.6 With regards to ADTPS (own generation), it was observed that AEML-D has purchased 272.25 MUs, 267.97 MUs and 306.96 MUs respectively during the months of July, August and September, 2018. The quantum of energy purchase during the month of September was relatively higher as compared to the other months mainly on account of higher PLF of 94.24% during the aforesaid month. Further, the monthly availability of Plant was 99.71%, 98.85% and 100% during the month of July, August and September respectively. Accordingly, the cumulative availability of plant was observed higher than the normative Target availability of 85% for all the months. Hence, the Commission allows the full recovery of monthly fixed cost in line with the Regulation 48.3 of MYT Regulations, 2015. ADTPS has also claimed thermal PLF incentives during the respective months for Q2 of FY 2018-19. The Commission has sought for detailed computation against the same. ADTPS has submitted the detailed computation; accordingly, the Commission after verifying the details submitted has considered the PLF incentives as claimed by ADTPS.
- 4.7 The average power purchase cost from ADTPS during the month of July, August and September 2018 is Rs. 4.33/kWh, Rs. 4.22/kWh and Rs. 4.23/kWh respectively as compared to MTR approved rate of Rs. 3.86/kWh. **The variation in APPC from MTR approved value is mainly on account of increase in the variable cost primarily attributed due to the increase in the price of fuel. DTPS uses both Domestic (washed) and Imported coal for its generation. Although, ADTPS has not purchased any imported coal during the respective months of Q2 of FY 2018-19, but it has actually consumed imported coal inventory available at ADTPS. This inventory of imported coal pertains to previous month's purchase during which the price of coal were abnormally high. This has led**



to an increase in fuel cost and subsequently an increase in energy charge which thus impacted APPC. The Commission has verified the opening and closing inventory from details submitted by AEML-D and found to be in order. Further, the landed cost of imported coal considered by ADTPS for the month of July, August and September 2018 is Rs.6262/MT, Rs. 6049/MT and Rs.5700/MT respectively which are found around 12.4% to 23.5% higher than that of MTR approved cost of Rs. 5070/MT.

- 4.8 With regards to the washed coal, the landed cost considered by ADTPS for the month of July, August and September 2018 is Rs. 5204/MT, Rs. 5114/MT and Rs. 5157/MT respectively which are in the range of 9% to 10% higher as compared to MTR approved value of Rs. 4740/MT. The Commission has sought for actual bills and invoices against the purchase during the respective period. ADTPS has submitted the detailed invoice summary of all the raw coal purchase from South Eastern Coalfields Limited (SECL). ADTPS has also submitted two detailed sample bills for each of the months of Q2 of FY 2018-19. The Commission has scrutinised the sample bills submitted by ADTPS and observed that there is a variation in the total cost as per actual bills and as claimed in the FAC approval. Further, the Commission in its previous post facto FAC approval for Q1 of FY 2018-19 has also observed similar kind of variation. Being on clarification sought against the same in previous FAC approval, ADTPS had stated that such a variation is mainly on account of the method of booking the cost of domestic coal. ADTPS in its previous response had also submitted the detailed methodology along with the reconciliation of cost being claimed.
- 4.9 Further, the method of booking the cost of coal is again explained as, that ADTPS procures the raw coal from SECL, which is transported to Coal washery located within 4-5 km area. The raw coal is being washed at washery and thereafter despatched for ADTPS by first transporting coal from washery to Railway Siding and thereafter transporting the clean coal through Rail to ADTPS. In the entire process, there is always inventory of clean coal available at the washery. Therefore, to book the cost of coal purchased during the month, the cost of despatch of clean coal from washery is booked. Balance value of raw coal is still in inventory at the washery, which will be booked as and when it is despatched in subsequent month(s). In accordance with the same philosophy, other costs have also been booked. Therefore, there is a variation in the total cost as per bills and as claimed in the FAC approval. ADTPS has adopted the same methodology in the present quarter too. Therefore, similar kind of variations were there in the present quarter.
- 4.10 Further, ADTPS has considered Rs. 0.25 Crore, Rs. 0.32 Crore and Rs. 0.22 Crore as a washed coal expenses during the months of July to September, 2018 respectively. The washed coal expenses are the expenses towards ARC coal rake handling and rail maintenance charges, coal sample analysis charges, bank charges, railway staff salaries, etc. The Commission has sought the supporting documents against the same. ADTPS has submitted the breakup of the respective amount claimed during the aforesaid period. The



Commission has verified the details submitted and accordingly, considered the amount as submitted by ADTPS.

- 4.11 With regards to GCV of fuel, ADTPS has considered GCV “as fired” based on the weighted average GCV of fuel received and the Commission has considered the same in line with the MYT Regulation, 2015. Further, the ongoing disputes with SECL related to Grade Slippage are not settled yet and accordingly, ADTPS has not included any credit/ debit note against the same in this FAC approval. Therefore, the Commission has also not considered any such adjustment in this FAC approval. Further, the Commission in MTR Order has directed AEML to conduct third party sampling and submit the compliance against the same. AEML hereby directed to submit the compliance and expedite the settlement of disputes with SECL and also submit the impact of the settlement in next FAC submission.
- 4.12 As regards VIPL-G, the Commission observed that the availability and the PLF of the plant were very low during July to August, 2018. In response to clarification sought, AEML-D submitted that the declared capacity by VIPL-G in the months from July to August, 2018 is low primarily due to the shortage of coal. PLF during the respective period was further lower due to backing down instruction given by MSLDC. Further, as the availability of plant was low, the Commission has verified that the payment of monthly fixed charge has been done in accordance with Regulation 48.3 of MYT Regulations, 2015.
- 4.13 The APPC from VIPL-G for July, August and September 2018 is Rs. 4.79/ kWh, Rs. 4.39/ kWh and Rs. 4.44 /kWh respectively as compared to MTR approved rate of Rs. 4.47/kWh. The variation is mainly due to lower power purchase quantum (MUs) from VIPL-G during the above mentioned months from the approved value due to low availability and low PLF. Although there is a reduction in fixed cost payment due to such low availability, but the spread of total power purchase cost on lower generation has contributed to the increase in the average power purchase cost mainly in the month of July, 2018 and thus impacting the APPC. As far as Grade Slippage is concerned, AEML-D submits that at present it is not paying FAC to VIPL-G and is only paying the variable charge of Rs. 2.19/ kWh as approved by the Commission. Hence, FAC computation of AEML-D is not impacted by grade slippage, if any, encountered by VIPL-G.
- 4.14 The sources of R.E. for AEML-D are DSPPL, Reliance Innoventure, AAA Sons Enterprise, Jindal Steel and Power Ltd., Tembhu Power Pvt. Ltd. and Reliance Clean Power Pvt. Ltd. The Commission has scrutinised the bills/invoices from R.E. source and found that, with regards to AAA Sons the power purchase cost and quantum considered by AEML-D in its FAC computation were not matching with respective cost and quantum as per the bills submitted mainly during the months of July and August, 2018. On response to clarification sought, AEML-D submitted that in the absence of actual bills at the time of charging FAC for the above mentioned period, the power purchase cost were considered on provisional basis. AEML-D further stated that, AAA Sons submitted the bills for the period of March



to July, 2018 in August, 2018. Therefore, the difference between the provisional and actual has been taken by AEML-D in FAC computation. Similarly, the bills of August and September, 2018 were submitted by AAA Sons in October and November, 2018 respectively and accordingly the adjustment between the provisional and actual has been considered by AEML-D in the FAC computation. Although, AEML-D in the present quarter as well as in the previous quarter has considered the cost on provisional basis and accordingly adjusted the same upon receiving the actual bills, the Commission has considered the respective cost as per actual bills in the present FAC approval as well as in the previous FAC approval as the actual bills were available at that time.

- 4.15 Further, the actual power purchase cost from DSPPL is Rs 17.91/kWh, which was restricted to Rs. 10.31/kWh by the Commission in its MYT Order as well as in MTR Order. The Commission has verified that the restricted rate has been considered by AEML-D in this FAC approval. The power purchase from other R.E. sources has been considered as per rate approved by the Commission in its Tariff Order.
- 4.16 Further, the Commission in its MYT Order had approved the average power purchase cost for R.E. sources as Rs. 14.10/kWh which was inclusive of REC (Solar and Non-Solar) purchase cost in order to fulfil RPO obligation. However, the Commission in its MTR Order has not considered any REC purchase stating that “*since RE power is available cheaply in the market, it would be beneficial to buy RE power rather than RECs plus the shortfall in energy at the short-term power purchase rates*”. Accordingly, while approving the total power purchase from RE sources for FY 2018-19, the Commission has considered RE power from the existing tied up sources (solar and non-solar) and the remaining RE power from new RE sources as such new solar, new non-solar and hydro. The power purchase price from these sources as considered in MTR Order are; RE solar existing (DSPPL) as Rs.10.31/kWh, RE new solar as Rs.3.53/kWh, RE non solar existing as Rs.5.18/kWh, RE new non solar as Rs.3.40/kWh and mini/micro purchase Rs.5.71/kWh. Considering these prices the weighted average power purchase cost from overall RE sources has been worked out as Rs. 4.07/kWh for FY 2018-19.
- 4.17 As compared this MTR approved rate of Rs.4.07/kWh, the average power purchase cost for R.E. sources during the months of July, August and September, 2018 stands at Rs. 5.58/kWh, Rs. 5.69/kWh and Rs. 6.61/kWh respectively. Although AEML has not purchased any REC during the respective months, it has also not purchase any RE power from the new sources at a rate as considered in MTR Order. In this context, AEML-D stated that as the MTR Order was issued on 12 September, 2018, it is very difficult for them to purchase any new RE power within such a short span of time. Further, all the RE power during the aforesaid period has been procured at a rate approved by the Commission. However the proportion of power purchase from different approved RE sources varies, which resulted into the variation in overall purchase cost. Therefore, the absence of power from cheaper new sources in actual RE portfolio, has driven the actual power purchase cost



towards existing approved sources. Thus, the actual APPC from RE sources is reflecting higher than the MTR approved rate.

- 4.18 With regards to bilateral power, AEML-D has purchased it mainly from IEX, Dhariwal Infrastructure Limited and NTPC Vidyut Vyapar Nigam Limited, GMRETL, LMEL, MPL and JSW. AEML-D has purchased 110.99 MUs, 208.08 MUs and 80.93 MUs during the months of July, August and September, 2018 respectively. The Commission has asked whether the power from traders/IEX has been purchased through competitive bidding. In response to this AEML-D stated that it has purchased power either through power exchange or through day-ahead power at exchanged linked rate. Therefore, all the power has been purchased at market determined rate only. AEML-D has submitted the details summary of month wise purchase of bilateral power during the Q2 of FY 2018-19. AEML-D has also submitted sample exchange linked contracts with traders for purchase of power through short term.
- 4.19 Upon scrutiny of details submitted it was observed that total bilateral power purchase cost during the month of July, 2018 was considered as Rs. 45.10 Crore whereas the same was computed in the details summary as Rs. 44.59 Crore. The Commission has sought for reconciliation against the same. In response to which AEML-D stated that the difference between Rs. 45.10 Crore and Rs. 44.59 Crore i.e. Rs. 0.51 Crore is the purchase from OA consumers which was inadvertently not considered in the summary of short term power purchase details. Accordingly, AEML-D has submitted the revised summary details of short term power purchase. The average power purchase cost during the month of July, August and September, 2018 is Rs. 4.06/kWh, Rs.3.89/kWh and Rs. 6.31/kWh respectively as compared to MTR approved rate of Rs. 3.50/kWh.
- 4.20 The average power purchase cost from bilateral sources was observed higher as compared to the corresponding rate approved by the Commission in MTR Order. Further, during the month of September the APPC from bilateral is Rs. 6.31/kWh as mentioned above, which was also seen higher as compared to other months of Q2 of FY 2018-19. This rate was also observed to be higher when compared with the average Market Clearing Price (MCP) i.e., Rs. 4.69/kWh at exchange, prevailing during the month of September, 2018 as per IEX monthly report. The Commission has sought for clarification for such a high cost of purchase. In response to which AEML-D stated that it has purchased bilateral power which corresponds to specific time period as per the demand pattern, resulting in major purchase during the day and peak hours where exchange rates are higher. AEML-D further submitted that MCP discovered on exchange is for power purchased at Regional Periphery at WR. In addition to that AEML-D has to bear withdrawal losses and charges of WR in kind as well and hence landed rate increases accordingly. Furthermore, other charges such as scheduling fees, exchange fees and taxes gets loaded which again increases the landed cost. AEML-D has submitted the detailed computation of power purchase cost and quantum during aforesaid period.



- 4.21 Further, it is to be noted that the Commission in its Order on Case no. 335 of 2018 dated 1 January, 2019 has revised the ceiling rate for short term power as Rs. 5/kWh as against Rs.3.50/kWh as in MTR Order for FY 2018-19. As compared to this revised ceiling rate of Rs.5/kWh, the actual APPC considering the total bilateral purchase during Q2 of FY 2018-19 is around Rs.4.32/kWh. As this actual APPC is within the ceiling approved by the Commission, therefore the same has been considered in this FAC approval.
- 4.22 Further, AEML-D has done sale of surplus bilateral power during the month of July and September, 2018. The Commission observed that the rate of sale of such bilateral power was lower as compared to that of purchase of bilateral power during the respective period. In response to clarification sought, AEML-D stated that it undertakes demand forecast on day ahead basis at 15 min time block level as per Scheduling & Despatch Code and generation availability from its contracted sources is mapped to arrive at the time block wise surplus /shortfall for the next day. As per the load pattern generally AEML-D is surplus during the night period and same power is bid on the exchange such that the net realization is higher than the amount that would have been received from the Pool. However, exchange rates for night power are lower due to lower demand as compared to day power rates, where purchase is made by AEML-D. AEML-D has submitted the detailed summary of invoices of such a sale showing the energy charges, energy quantum, misc. charges and the net revenue. The Commission has scrutinised the same and found to be in order.
- 4.23 AEML-D has also purchased standby power during the month of July and August, 2018. The Commission has sought for reasoning for standby purchase. In response to which AEML-D stated that it undertakes standby purchase from MSEDCL during the contingencies/ outages of the contracted sources. Further, in the month of July and August, 2018 standby power was scheduled due to tripping/ reduction of power from VIPL-G as well as from ADTPS. As the Commission has approved the standby charges in its MYT as well as in MTR Order, therefore, the Commission has considered the amount and quantum of standby power as submitted by AEML-D.
- 4.24 The Commission observed that quantum of energy and associated charges with regards to imbalance pool for the month of July and August, 2018 was considered on provisional basis. The Commission has sought for actual bills/invoices, in response which AEML-D stated that provisional FBSM bills are received till December, 2016 only. In the absence of provisional FBSM bills for the months of July and August, 2018 power purchase cost for these months has been considered on provisional basis at the variable cost of Dahanu Thermal Power Station (DTPS). The Commission in its previous post facto FAC approval of Q1 of FY 2018-19 has not considered any such amount and cost being on provisional. Further, it was observed that AEML-D has not claimed any quantum and cost with regards to imbalance pool for the month of September stating that the previous approved report was available with AEML-D at the time of computation of FAC for September month. Hence, in line with the methodology adopted by the Commission in its previous post facto FAC



approval, AEML-D has also not claimed any provisional FBSM cost and quantum. However, AEML-D has requested that while the cost being on provisional basis, the same may not be considered but the quantum of energy ought to be taken into account for FAC purpose as that represent actual energy flow to consumers in order to meet the demand of consumers. Accordingly, AEML-D requested the Commission to revise its approach and consider the FBSM entries in FAC.

- 4.25 With regards to above, the Commission observes that purchase cost with respect to FBSM has been considered by AEML-D at a variable price of ADTPS which is generally cheaper as compared to the APPC of other different sources. Therefore, the consideration of cheaper FBSM power reduces the total power purchase cost and accordingly, reduce the FAC burden to the consumers. Therefore, the Commission has considered the request of AEML-D and from this FAC approval it has considered the provisional quantum as well as amount associated with FBSM.
- 4.26 Further, it was observed that the AEML-D has made adjustment with regards to previous period pool during the months of August, 2018. The Commission has sought for the actual bills against the same. After scrutinising the bills submitted it was found that the AEML-D in past period, i.e., June, 2016 had considered the pool cost (FBSM) on provisional basis. However, the actual FBSM bills against the same were received in August, 2018. Therefore the differential between the provisional and actual has been adjusted in the aforesaid period. AEML-D has submitted the computation of such adjustment along with the FBSM bills received. The Commission has verified the same and found to be in order.
- 4.27 Therefore, the key reasons for variation in average power purchase cost is due to correction in net purchase and quantum with regards to AAA Sons, variation in price of fuel during the respective period, low availability and PLF of VIPL-G, absence of new cheaper RE sources and variation in bilateral purchase prices.
- 4.28 Accordingly, the Commission allows the APPC of **Rs. 4.44/kWh** for the month of July, 2018 **Rs. 4.22/kWh** for the month of August, 2018 and **Rs. 4.60/kWh** for the month of September, 2018 as shown in the Tables above.

5. FAC on account of fuel and power purchase cost (F)

- 5.1 The Commission has worked out the average power purchase costs for the months as shown in above Tables. The same has been compared with the average power purchase cost approved by the Commission in Tariff Order (MTR) dated 12 September, 2018 for the months of July to September, 2018 and arrived at differential per unit rate at which Z_{FAC} is to be passed on to the consumers.
- 5.2 The following Table shows the Z_{FAC} worked out by the Commission on account of difference in fuel and power purchase cost for the months of July, 2018 to September, 2018.



S. No.	Particulars	Units	Jul 2018	Aug 2018	Sept 2018
1	Average power purchase cost approved by the Commission*	Rs./kWh	4.09	4.09	4.09
2	Actual average power purchase cost	Rs./kWh	4.44	4.22	4.60
3	Change in average power purchase cost (=2 -1)	Rs./kWh	0.35	0.13	0.51
4	Net Power Purchase	MU	761.18	770.08	773.76
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	26.77	9.73	39.60

*As per MTR Order dt. 12 September, 2018

6. Adjustment for over recovery/under recovery (B)

6.1 After adjustment for over-recovery/under recovery (B), the adjustment factor to be added / reduced is as below:

S. No.	Particulars	Units	Jul 2018	Aug 2018	Sept 2018
1.1	Incremental cost allowed to be recovered in Month n-4	Rs. Crore	47.05	38.11	43.15
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	30.93	15.28	39.55
1.3	Over-recovery/under-recovery (1.2 - 1.1)	Rs. Crore	16.12	22.83	3.60
1.4	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit	Rs. Crore	-	-	-
1.5	Adjustment factor for over-recovery/under-recovery (1.3+1.4)	Rs. Crore	16.12	22.83	3.60

7. Carrying Cost for over recovery/under recovery (B)

7.1 Carrying/ Holding cost for under/ over recovery has been granted at approved interest rate for the eligible amount. The following Table shows the month wise interest rate and amount worked out as Carrying/ Holding cost for under/ over recovery for the months of July, 2018 to September, 2018.

Month	Jul 2018	Aug 2018	Sept 2018
Adjustment Factor (Rs. Crore)	16.12	22.83	3.60
Applicable Interest Rate	9.75%	9.75%	9.95%
Carrying/ Holding cost for under/ over recovery (Rs. Crore)	0.26	0.37	0.06

8. Disallowance due to excess Distribution Loss



8.1 Regulation 10.8 of MYT Regulations, 2015 provides for FAC amount to be reduced in case the actual distribution loss for the month exceeds the approved distribution loss. The relevant extract is reproduced as follows.

“10.8 The total ZFAC recoverable as per the formula specified above shall be recovered from the actual sales in terms of “Rupees per kilowatt-hour”:

Provided that, in case of unmetered consumers, the ZFAC shall be recoverable based on estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission:

Provided further that, where the actual distribution losses of the Distribution Licensee exceed the level approved by the Commission, the amount of ZFAC corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total ZFAC recoverable”

8.2 The following Table provides the comparison of approved and actual distribution loss and disallowance due to excess distribution loss if any.

S. No.	Particulars	Units	Approved in MTR Tariff Order	Actual up to		
				Jul-18	Aug-18	Sept-18
1	Net Energy Input at Distribution Voltages for own sales*	MU	9,638.87	3,409.58	4,190.78	4,976.69
2	Own Energy sales at Distribution voltages	MU	8,579.21	3,089.07	3,812.29	4,525.48
3	Distribution Loss (1 - 2)	MU	1,059.66	320.51	378.48	451.20
4	Distribution Loss as % of net energy input (3/1)	%	10.99%	9.40%	9.03%	9.07%
5	Excess Distribution Loss =[Actual Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	0	0	0
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	0	0	0

**Net energy input at Distribution Voltage for own sales as approved by the Commission is obtained by reducing the approved “energy injected by TPC-D for change-over consumers (1817.74 MU)” from the approved “total energy input at T<>D (11456.61 MU)”*

8.3 As seen from the above Table, cumulative distribution loss for the months of July, 2018 to September, 2018 is lower than the approved distribution losses of 10.99%. Accordingly, no



deductions have been made on account of excess distribution loss for the month of July, 2018 to September, 2018.

9. Summary of Allowable Z_{FAC}

9.1 The summary of the FAC amount as approved by the Commission for the month of July, 2018 to September, 2018 which is allowed to be recovered in the billing month of September, 2018 to November, 2018 is as shown in the Table below.

S. No.	Particulars	Units	Jul 2018	Aug 2018	Sept 2018
1.0	Calculation of ZFAC				
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	26.77	9.73	39.60
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	0.26	0.37	0.06
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	16.12	22.83	3.60
1.4	ZFAC = F+C+B	Rs. Crore	43.15	32.93	43.26
1.5	Amount of instalment as per previous vetting report	Rs. Crore	0.00	0.00	9.45
2.0	Calculation of FAC Charge				
2.1	Energy Sales within the License Area	MU	689.29	723.22	713.19
2.2	Excess Distribution Loss	MU	0.00	0.00	0.00
2.3	ZFAC per kWh	Rs./kWh	0.63	0.46	0.74
2.4	Cap at 20% of variable component of tariff	Rs./kWh	1.27	1.27	1.27
2.5	FAC Charge allowable (Minimum of 2.3 and 2.4)	Rs./kWh	0.63	0.46	0.74
3.0	Recovery of FAC				
3.1	Allowable FAC [(2.1 x 2.5)/10]	Rs. Crore	43.15	32.93	52.71
3.2	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.5)/10]	Rs. Crore	-	-	-
4.0	Total FAC based on category wise and slab wise allowed to be recovered	Rs. Crore	43.15	32.93	52.71
4.1	Carried forward FAC for recovery during future period (3.1-3.2-4.0)	Rs. Crore	-	-	-

9.2 It can be seen from the above Table that standalone FAC for the months of July to September, 2018 is Rs. 43.15 Crore, Rs. 32.93 Crore and Rs. 52.71 Crore respectively. Based on total energy sales, FAC per unit has been work out as Rs. 0.63/ kWh, Rs. 0.46/



kWh and Rs. 0.74/ kWh for the months of July to September, 2018 respectively. Further, the Regulation 10.9 of MYT Regulations, 2015 specifies as:

Provided that the monthly ZFAC shall not exceed 20% of the variable component of Tariff or such other ceiling as may be stipulated by the Commission from time to time:

- 9.3 As the FAC per unit computed is already lower than the 20% cap specified in MYT Regulations as shown in Table above, hence, there is no restriction triggered with regards to such ceiling for all the months of Q2 of FY 2018-19.

10. Recovery from Consumers:

- 10.1 Regulation 10.9 of MERC MYT Regulations, 2015 provides for methodology of recovery of FAC charge from each category of consumers. The relevant extract is reproduced as below.

“10.9 The ZFAC per kWh for a particular Tariff category/sub-category/consumption slab shall be computed as per the following formula:—

*ZFAC Cat (Rs/kWh) = [ZFAC / (Metered sales + Unmetered consumption estimates + Excess distribution losses)] * k * 10,*

Where:

ZFAC Cat = ZFAC component for a particular Tariff category/sub-category/consumption slab in ‘Rupees per kWh’ terms;

k = Average Billing Rate / ACOS;

Average Billing Rate = Average Billing Rate for a particular Tariff category/sub-category/consumption slab under consideration in ‘Rupees per kWh’ as approved by the Commission in the Tariff Order:

Provided that the Average Billing Rate for the unmetered consumers shall be based on the estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission:

ACOS = Average Cost of Supply in ‘Rupees per kWh’ as approved for recovery by the Commission in the Tariff Order:

Provided that the monthly ZFAC shall not exceed 20% of the variable component of Tariff or such other ceiling as may be stipulated by the Commission from time to time:



Provided further that any under-recovery in the ZFAC on account of such ceiling shall be carried forward and shall be recovered by the Distribution Licensee over such future period as may be directed by the Commission....”

10.2 The Commission has worked out FAC per unit for each category of consumer based on the formula provided in the above Regulations. The Commission observed that there is a variation of Z_{FAC} in absolute terms on considering category wise per unit FAC worked out and category wise actual sales for the months of July, 2018 to September, 2018.

10.3 The variation in FAC in absolute terms is due to formula error of Z_{FAC} computed on per unit basis. The variation however is taken care in the adjustment factor of subsequent months.

10.4 The following Table shows per unit Z_{FAC} to be charged to the consumers of AEML-D for the billing month of September, 2018 to November, 2018.

FAC for Billing Month of September, 2018 to November, 2018

S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			Sept'18	Oct'18	Nov'18
			Rs./kWh	Rs./kWh	Rs./kWh
(A)	LT Category				
1	LT I - Below Poverty Line	0-30	0.3221	0.1035	0.3870
2	LT -I Residential (Single Phase)				
		0-100	0.3140	0.1009	0.3774
		101-300	0.5637	0.1812	0.6774
		301-500	0.6655	0.2139	0.7998
		500 and above	0.7772	0.2498	0.9340
3	LT -I Residential (Three Phase)				
		0-100	0.3120	0.1003	0.3750
		101-300	0.5210	0.1675	0.6261
		301-500	0.6366	0.2046	0.7650
		500 and above	0.7450	0.2395	0.8953
4	LT II : LT - Non - Residential or Commercial				
		0-20 kW	0.6611	0.2125	0.7944
		20-50 kW	0.7119	0.2288	0.8555
		above 50 kW	0.7458	0.2397	0.8963



S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			Sept'18	Oct'18	Nov'18
			Rs./kWh	Rs./kWh	Rs./kWh
5	LT III (A) - LT Industrial	upto 20 kW	0.5933	0.1907	0.7130
6	LT III (B) - LT Industrial	above 20 kW	0.6441	0.2070	0.7741
7	LT IV : LT- Public Water Works	all units	0.5876	0.1889	0.7062
8	LT V : LT- Advertisements and Hoardings	all units	0.7628	0.2452	0.9167
9	LT VI: LT -Street Lights	all units	0.5933	0.1907	0.7130
10	LT VII (A): LT -Temporary Supply Religious	all units	0.5255	0.1689	0.6315
11	LT VII (B): LT -Temporary Supply Others	all units	0.7515	0.2415	0.9031
12	LT VIII: LT - Crematorium & Burial Grounds	all units	0.4690	0.1507	0.5636
13	LT IX (A) : LT -PS - Govt. Hospitals & EI	all units	0.5537	0.1780	0.6654
14	LT IX (B) : LT -PS – Others	all units	0.5763	0.1852	0.6926
15	LT X (A) : LT - Agriculture Pumpsets	all units	0.3899	0.1253	0.4685
16	LT X (B) : LT - Agriculture Others	all units	0.4972	0.1598	0.5975
17	LT IX : LT – EVCS	all units	0.3997	0.1285	0.4801
(B)	High Tension – HT				
18	HT I: HT-Industry	all units	0.6272	0.2016	0.7537
19	HT II : HT- Commercial	all units	0.6724	0.2161	0.8080
20	HT III: HT-Group Housing Society	all units	0.5989	0.1925	0.7197
21	HT IV : HT - Public Water Works	all units	0.5537	0.1780	0.6654
22	HT V (A) - HT Metro & Monorail	all units	0.4802	0.1543	0.5772
23	HT V (B) - HT Metro & Monorail	all units	0.5368	0.1725	0.6451
24	HT VI (A) : HT - PS - Govt. Hospitals & EI	all units	0.5820	0.1870	0.6994
25	HT VI (B) : HT - PS – Others	all units	0.6385	0.2052	0.7673
26	HT VII - Temporary Supply	all units	0.6328	0.2034	0.7605
27	HT VIII - HT – EVCS	all units	0.4027	0.1294	0.4840



**POST FACTO APPROVAL FOR FAC CHARGES FOR THE MONTHS OF OCTOBER,
2018 TO DECEMBER, 2018**

Subject: Post facto approval of AEML's Fuel Adjustment Charges (FAC) for the period of October, 2018 to December, 2018.

Reference: AEML's FAC submission for post-facto approval of FAC for the period from October, 2018 to December, 2018.

1. FAC submission by AEML-D:

1.1 AEML-D (formerly RInfra-D) has submitted FAC submissions for the months of October, 2018 to December, 2018 as referred above. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by RInfra-D, the Commission has accorded post facto approval for the FAC amount to be charged in the billing months of December, 2018 to February, 2019.

2. Background

2.1 On 21 October, 2016, the Commission has issued Tariff Order for RInfra-D, (Case No.34 of 2016) for True-up of FY 2014-15, provisional Truing-up for FY 2015-16, and Aggregate Revenue Requirement and Tariff for FY 2016-17 to FY 2019-20. Revised Tariff has been made applicable from 1 October, 2016

2.2 On 12 September, 2018, the Commission has issued Tariff Order for RInfra-D (now AEML-D), (Case No.200 of 2017) for Mid-Term Review, including Truing-up of FY 2015-16 and FY 2016-17, provisional Truing-up for FY 2017-18, and revised Aggregate Revenue Requirement and Tariff for FY 2018-19 to FY 2019-20. Revised Tariff has been made applicable from 1 September, 2018.

2.3 Vide its letter dated 15 November, 2016, the Commission communicated the excel formats for filing of FAC submissions to all Distribution Licensees. The Commission also directed all Distribution Licensees to submit FAC computations, including details pertaining to variation in fuel cost of generators for the approval of the Commission.

2.4 Vide FAC vetting Report dated 13 January, 2017, the Commission accorded prior approval to the FAC for the month of October, 2016.

2.5 In terms of MERC (MYT) Regulations, 2015 a Distribution Licensee is required to obtain post facto approval of the Commission on a quarterly basis for FAC charges. Accordingly,



AEML-D has filed FAC submissions for the months of October, 2018 to December, 2018 for post facto approval. The Commission has scrutinized the submissions provided by AEML-D and has also verified the fuel and power purchase bills provided along with its submissions.

3. Energy Sales of the Licensee

3.1 The net energy sales within licence area as submitted by AEML-D in the FAC submission and as approved by the Commission are as shown in the Table below.

Consumer Category	Approved* by the Commission (MU)	Monthly Approved (MU)	Actual Sales		
			Oct-18	Nov-18	Dec-18
	(I)	(II=I/12)	MU	MU	MU
LT Category					
BPL	0.02	0.00	0.00	0.00	0.00
LT -I Residential	4216.72	351.39	414.30	366.95	286.86
LT II Commercial	2643.15	220.26	239.86	217.60	196.26
LT III(A) - LT Industrial upto 20 kW TOD Option	180.93	15.08	15.98	13.40	14.05
LT III(B) - LT Industrial above 20 kW	398.79	33.23	36.85	30.99	31.06
LT-V : LT- Advertisements and Hoardings	3.56	0.30	0.28	0.27	0.28
LT VI: LT -Street Lights	58.96	4.91	4.93	4.90	5.18
LT-VII : LT -Temporary Supply	13.42	1.12	1.24	0.75	1.08
LT VIII: LT - Crematorium & Burial Grounds	1.31	0.11	0.11	0.11	0.11
LT X: LT -Public Service (A)	23.78	1.98	2.38	1.92	1.82
LT X: LT -Public Service (B)	126.32	10.53	11.72	8.85	8.44
LT X (A) : LT - Agriculture Pumpssets	0.05	0.00	0.01	0.00	0.01
LT X (B) : LT - Agriculture Others	0.13	0.01	0.02	0.02	0.02
LTIV - Public Water Works	13.44	1.12	1.11	1.03	1.02
HT Category					
HT 1 (Industrial)	369.18	30.77	30.79	27.93	26.21
HT 2 (Commercial.)	348.98	29.08	42.08	38.65	36.06
HT 3 (Group Housing Soc.)	38.97	3.25	3.67	3.05	2.72
HT 4 (Temporary Supply)	2.84	0.24	1.16	1.18	1.40
HT – Railways	31.24	2.60	2.82	2.52	2.33
HT - Public Services (A)	7.86	0.66	0.67	0.58	0.48
HT - Public Services (B)	92.58	7.72	8.84	8.10	7.49
HT - Public Water Works	6.99	0.58	0.67	0.62	0.63
Total	8579.21	714.94	819.46	729.44	623.50

*As per MTR Order dt. 12 September, 2018



3.2 It was observed that the total sale for October, November and December, 2018 is 819.46 MUs, 729.44 MUs and 623.50 MUs. The sales in the month of October was observed higher as compared to other months. On response to clarification sought AEML-D stated that the sale in the month of October, 2018 was higher than sales in November, 2018 and December, 2018 mainly due to hot weather conditions prevailing during October, 2018. AEML-D further stated that the Fact Finding Committee in its recently submitted report on up-surge in electricity bills in Mumbai in June 2019, has concluded that there had been an unusual rise in temperature in the month of October. AEML-D further stated that in every year the sales in the November month is higher as compared to November and December due to variation in weather.

4. Cost of Power Purchase

4.1 The following are the list of sources from which AEML-D procures power to meet its demand:

- e) Purchases from ADTPS (Formerly RInfra-G)
- f) Purchase from other generating stations such as VIPL-G
- g) Renewable energy procurement (RPS)
- h) Bilateral contracts and decrements to the imbalance pool.

4.2 The following Tables show the variation in average power purchase cost (Rs/kWh) for the months of October, 2018 to December, 2018 as compared to average power purchase cost approved in Tariff Orders dated 12 September, 2018:

Particulars	Tariff Order Dated 12.09.2018			Actual for Oct, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
ADTPS	3764.17	1453.35	3.86	320.68	132.74	4.14
RE Sources	1370.58	557.27	4.07	13.70	10.08	7.36
VIPL-G	3896.43	1743.65	4.47	202.51	88.59	4.37
Bilateral/Traders	968.27	338.89	3.50	264.92	175.18	6.61
Others	-	-	-	25.76	-11.09	4.31
Surplus Sale	(31.64)	(11.35)	3.59	(0.11)	(0.05)	4.64
Total	9967.81	4081.81	4.09	827.46	395.44	4.78



Particulars	Tariff Order Dated 12.09.2018			Actual for Nov, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
ADTPS	3764.17	1453.35	3.86	261.08	114.44	4.38
RE Sources	1370.58	557.27	4.07	11.54	8.63	7.48
VIPL-G	3896.43	1743.65	4.47	211.43	107.90	5.10
Bilateral/Traders	968.27	338.89	3.50	73.74	36.83	4.99
Others	-	-	-	80.07	26.02	3.25
Surplus Sale	(31.64)	(11.35)	3.59	(3.23)	(0.94)	2.90
Total	9967.81	4081.81	4.09	634.63	292.89	4.62

Particulars	Tariff Order Dated 12.09.2018			Actual for Dec, 2018		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
ADTPS	3764.17	1453.35	3.86	206.63	90.40	4.37
RE Sources	1370.58	557.27	4.07	11.41	8.62	7.55
VIPL-G	3896.43	1743.65	4.47	256.03	119.35	4.66
Bilateral/Traders	968.27	338.89	3.50	53.63	26.53	4.95
Others	-	-	-	52.43	45.76	8.73
Surplus Sale	(31.64)	(11.35)	3.59	(18.76)	(4.90)	2.61
Total	9967.81	4081.81	4.09	561.36	285.75	5.09

4.3 AEML-D has procured power under its long-term arrangement (Order dated 8 February, 2018 in Case No. 5 of 2017) with AEML-G (ADTPS) and with Vidarbha Industries Power Ltd.-Generation (VIPL-G). After accounting for the availability from long-term sources, the shortfall against power requirement was met by purchase from contracted short-term sources and from the Power Exchanges. AEML-D has also contracted Renewable Energy (RE) power from different sources for meeting the Renewable Purchase Obligation (RPO) specified by the Commission. The shortfall in requirement due to backing down of ADTPS and VIPL-G is met through off-take (decrement) from the Imbalance Pool.



- 4.4 The Commission has sought detailed bills/invoices for all of the power purchase sources in order to verify the claim of AEML-D with respect to average power purchase cost for the months of October to December, 2018. The Commission has verified the Net Purchase, Variable Cost, Fixed Charge and the Power Purchase Cost from the relevant bills/invoices received for all purchasing sources.
- 4.5 With regards to ADTPS (own generation), it was observed that AEML-D has purchased 320.68 MUs, 261.08 MUs and 206.63 MUs respectively during the months of October, November and December, 2018. The quantum of energy purchase during the month of December was relatively lower as compared to the other months mainly on account of Lower PLF and availability of ADPTS. The Table below shows the month wise availability and PLF of ADTP during Q3 of FY 2018-19.

Particular	Oct 2018	Nov 2018	Dec 2018
Availability	100.00%	97.39%	78.04%
PLF	95.27%	80.42%	61.98%

- 4.6 On response to clarification sought for low availability and PLF during the month of December, AEML has provided the following reasons:
- Scheduled Planned shut-down of 27.82 days (i.e., from 23.12.2018 06.06 hrs to 20.01.2019 02:00 hrs) for Unit-1 for overhauling
 - Outages to attend problem in primary air system, feed water header drain line leakage & boiler tube leakage
 - Backing down of generation - 58.93 MU
- 4.7 Even though the monthly availability of Plant was lower (78.04%) during the month of December, the cumulative availability of plant was higher than the normative Target availability of 85%. Hence, ADTPS was intitled to recover full monthly fixed cost in line with the Regulation 48.3 of MYT Regulations, 2015. The spread of lower generation over full fixed cost has affected the average power purchase cost from ADTPS.
- 4.8 ADTPS has also claimed thermal PLF incentives during the above period as the cumulative PLF was above the Target PLF of 85%. The Commission has sought for detailed computation against the same. ADTPS has submitted the detailed computation; accordingly, the Commission after verifying the details submitted has considered the PLF incentives as claimed by ADTPS.
- 4.9 The average power purchase cost from ADTPS during the month of October, November and December 2018 is Rs. 4.14/kWh, Rs. 4.38/kWh and Rs. 4.37/kWh respectively as compared to MTR approved rate of Rs. 3.86/kWh. The variation in APPC from MTR



approved value is mainly on account of fixed cost spread and due to increase in the variable cost primarily attributed due to the increase in the price of fuel.

- 4.10 DTSPS uses both Domestic (washed) and Imported coal for its generation. With regards to washed coal price during the Q3 period, the landed cost considered by ADTSPS for the month of October, November and December 2018 is Rs. 5180/MT, Rs. 5380/MT and Rs. 5298/MT respectively which are in the range of 9% to 14% higher as compared to MTR approved value of Rs. 4740/MT. It was observed that the coal freight charge was relatively higher in November and December as compared to October. On response to clarification against the same, ADTSPS has stated that this is mainly due to revision in the base freight rate by Railway Board (Ministry of Railways) vide its Circular No. 19 of 2018 w.e.f. 01 November, 2018. The base railway freight was increased by almost Rs. 217/MT as shown in the Table below:

Particular	Circular No. 01 OF 2018 w.e.f. 15/01/2018	Circular No. 19 OF 2018 w.e.f. 01/11/2018	Increment
Base Freight (Rs./MT)	2,361.00	2,567.60	206.60
+ IGST 5% (Rs./MT)	118.05	128.38	10.33
Total Rly. Frt. Charge (Rs./MT)	2,479.05	2,695.98	216.93

- 4.11 The Commission has sought for actual bills and invoices against the purchase during the respective period. ADTSPS has submitted the detailed invoice summary of all the raw coal purchase from South Eastern Coalfields Limited (SECL). ADTSPS has also submitted the sample invoices for other handling charges such as washing charges, liaisoning and loading supervision charges, local transportation charges, beneficiation charges, third party sampling charges etc.
- 4.12 ADTSPS procure domestic raw coal from SECL having a GCV range band (G-10 & G-11) exceeding 4000 but not exceeding 4600. The raw coal is then transported to Coal washery located within 4-5 km area. The raw coal is being washed at washery and thereafter despatched for ADTSPS by first transporting coal from washery to Railway Siding and thereafter transporting the clean coal through Rail to ADTSPS station. The cost of clean coal dispatched from washery is booked as the cost of coal purchased during the respective month as against the raw coal purchased bills from SECL. Further, with regards to energy charge computation, the cost of coal pertaining to coal inventory of ADTSPS coal station is considered. The cost of inventory belongs to previously purchased cost of coal and newly added cost of washed coal. Because of this, the landed coal cost as per the bills and as considered in energy charge computation generally varies. However, in order to ascertain the range of variability, the Commission has worked out the landed cost of domestic coal on the basis of price notification by CIL (M&S:GM(F)/Pricing 2018/07) and the standard rate of coal handling as per sample bills submitted by ADTSPS. The Table below shows the



computation for basic raw price of coal (Grade G-11) from SECL mines based on standard charges notified by CIL (Coal India Limited):

Particular	Cost (Rs./MT)
Basic Amount (Run of Mine)	955.00
Royalty @ 14% of Base price	133.70
DMFT @ 30% of Royalty	40.11
NMET @ 2% of Royalty	2.67
Sizing Charges	87.00
CG Vikas Upkar and Pryavaran Upkar	15.00
Surface Transportation charges	57.00
Evacuation facility charges	50.00
Total Taxable Value	1,340.48
GST @ 5%	67.02
Total Cost including GST	1,407.51
GST Compensation Cess	400.00
Total Cost including GST Cess	1,807.51
TCS @ 1%	18.08
Grand Total	1,825.58

4.13 From above the basic raw cost of domestic coal worked out as Rs.1825.58/MT. Further, as already explained in para above, the raw coal is then sent for washing at washery and then to ADTPS through railways. Hence, washery charges and railways freight charges are added to above basic cost of coal. ADTPS has submitted the invoice for washing charges and railway freight from which the standard charges has been considered. Based on standard rates per MT as specified in sample bills the Commission has worked out the landed cost of washed coal as shown in Table below:

Particular	Cost (Rs./MT)	GST (Rs./MT)
Basic raw coal cost	1,825.58	
#Railway Freight charges	2,567.60	128.38
*Coal Handling Charges:		
i. Local transportation charges	71.12	12.80
ii. Beneficiation charges	170.00	30.60
iii. Other handling charges	7.75	1.40
*Other Charges:		
i. Liaisoning and loading supervision, Weighment, Maintenance of GCV & Transit loss, Placement of rakes etc.	176.62	31.79
*Third party sampling charges	4.40	0.79
Total Charges	4,823.07	205.76



Grand Total Landed Cost	5,028.83
Grand Total Including normative Transit Loss	5,069.39

*#As per Ministry of Railways notification; *As per standard rate specified in sample bills*

- 4.14 From the above, the landed cost of domestic coal from the sample bills has been worked out as around Rs.5069/MT. Further, as already explained in para above, for energy charge computation ADTPS considers the cost of coal pertaining to inventory cost, therefore the landed cost as per bills and as considered in FAC computation do not exactly match. The landed cost as claimed by ADTPS varies between 2% to 6% of above computed value.
- 4.15 Further, ADTPS has considered Rs. 0.21 Crore, Rs. 0.32 Crore and Rs. 0.23 Crore as a washed coal expenses during the months of October to December, 2018 respectively. The washed coal expenses are the expenses towards ARC coal rake handling and rail maintenance charges, bank charges, railway staff salaries, etc. The Commission has sought the supporting documents against the same. ADTPS has submitted the breakup of the respective amount claimed during the aforesaid period. The Commission has verified the details submitted and accordingly, considered the amount as submitted by ADTPS.
- 4.16 With regards to GCV of washed coal, the Commission has sought for third party sampling report. ADTPS has submitted the coal sampling report issued by Mitra S. K. Pvt Ltd and Inspectorate Griffith India Pvt Ltd (Bureau Veritas). The Commission has verified the GCV from the report and found to be in Order. Further, with regards to ongoing disputes with SECL related to Grade Slippage, ADTPS stated that these disputes are ongoing and accordingly final debit / credit for this period is not raised by SECL. ADTPS submits that whenever the disputes are settled and final debit / credit invoice is raised, the same shall be included in FAC.
- 4.17 With regards to imported coal, it was observed that ADTPS has purchased 55000 MT and 56200 MT during the month of October and December respectively. The landed cost claimed was Rs.6579/MT, Rs. 7464/MT and Rs. 6755/MT for the month of October, November and December 2018 as against MTR approved cost of Rs.5070/MT. It was observed that these prices were substantially higher as compared to previous month and also when comparing with MTR approved cost. The Commission has sought reasoning for such an increase in coal prices and also to confirm whether the coal has been procured through competitive bidding.
- 4.18 In response to this ADTPS stated that it has floated a tender on 20th September, 2018 for procurement of imported coal requirement of ADTPS (vide Bid Documents no. DTSP/Imp Coal/2018-19/001), however, due to no participation on Bid submission date i.e., 5th October, 2018, AEML solicited offers for supply of imported coal (4400 GAR variety) on spot basis from various suppliers. The summary of offers received from Suppliers is as under:



Sr No.	Supplier	Quoted Price (Rs./MT)
1.	Pan Asia Coal Trading Pte Ltd	77.75
2.	PT Limas Tunggal	82.50
3.	PT Prima Multi Artha	83.65
4.	Ghommaz General Trading LLC	85.50
5.	Borneo Indobara	Expressed inability of supply coal at short notice
6.	PT Kaltim Prima Coal Bayan	

4.19 ADTPS further stated that due to the urgent requirement of imported coal at ADTPS, the lowest bidder was selected for procurement of one vessel of imported coal on spot basis at the supplier's quoted price at 4200 kCal/kg of GCV of coal. Further, actual GCV received was 4396 kCal/kg as against contract of 4200 kCal/kg, which has also led to increase in price of coal due adjustment pertaining to GCV as shown in the Table below.

Sr No.	Invoice Rate Calculation	Quoted Price (\$)
1	Unit Price \$ (Contract)	62.75
2	Fixed Ocean Freight	15.00
3	Total	77.75
4	Actual GCV-Kcal/kg-ARB (Load Port)	4,396
5	GCV-Kcal/kg-ARB (Contract)	4,200
6	Invoice Rate \$	81.38

4.20 In addition to above the primary reason for increase in coal price is the impact of Dollar (\$) to Rupee exchange rate variation. The exchange rate from "\$" to "Rs." was as high as Rs. 74.60/\$ as compared to weighted average exchange rate of Rs. 66.24/\$ in Q1. ADTPS stated that due to this the price of coal appears to be higher by 17% in Q3 as compared to Q1. ADTPS further stated that if exchange rate of Q1 is considered, a nominal increase of 5% is observed. The Table below shows the comparative computation of imported coal price between Q1 and Q3 with impact of higher exchange rate:

Particular	Q1 of FY19	Q3 of FY20	Q3 (revised with Q1 exchange rate)
Wt. Avg Price including Ocean Freight	\$ 72.87	\$ 69.93	\$ 69.93
Price adjustment due to actual GCV received	\$ 73.85	\$ 77.23	\$ 77.23
Quarterly Billed quantity (MT)	1,20,349	1,11,200	1,11,200



Particular	Q1 of FY19	Q3 of FY20	Q3 (revised with Q1 exchange rate)
Invoice Value	\$ 88,87,370	\$ 85,88,054	\$ 85,88,054
Exchange Rate (Rs./\$)	66.24	73.81	66.24
Basic coal cost* (Rs. /MT)	4,891	5,700	5,115.52
% Increase		17%	5%

**Excluding other handling charges, taxes & duties*

- 4.21 Therefore, the primary reason for such an increase in landed cost of imported coal can be contributed to the abnormal increase in exchange rate. The Commission has verified the coal purchase bills, other coal handling charges and taxes & duties paid during the above period and found to be in order.
- 4.22 As regards VIPL-G, it was observed that the availability and the PLF of the plant were very low during October to December, 2018. In response to clarification sought, AEML-D submitted that the declared capacity by VIPL-G during the foresaid period was lower primarily due to the shortage of coal. PLF during the respective period was further lower due to backing down instruction given by MSLDC. Further, as the availability of plant was low, the Commission has verified that the payment of monthly fixed charge has been done in accordance with Regulation 48.3 of MYT Regulations, 2015.
- 4.23 AEML-D has purchased 202.51 MUs, 211.43 MUs & 256.03 MUs during the Q3 months. The above-mentioned energy has been procured at a variable charge of Rs. 2.19/kWh as approved by the Commission. The average power purchase cost including variable charge and fixed charge from VIPL-G for the month of October, November and December 2018 is Rs. 4.37/ kWh, Rs. 5.10/ kWh and Rs. 4.66 /kWh respectively as compared to MTR approved rate of Rs. 4.47/kWh. The variation is mainly due to lower power purchase quantum (MUs) from VIPL-G during the above-mentioned months as compared to the approved quantum which is due to low availability and low PLF. Although there is a reduction in fixed cost payment in line with low availability, but the spread of total power purchase cost on lower generation has resulted into the increase in the average power purchase cost mainly in the month of November, 2018 and thus impacting the APPC. As far as Grade Slippage is concerned, AEML-D submits that at present it is not paying FAC to VIPL-G and is only paying the variable charge of Rs. 2.19/ kWh as approved by the Commission. Hence, FAC computation of AEML-D is not impacted by grade slippage, if any, encountered by VIPL-G.
- 4.24 The sources of R.E. for AEML-D are DSPPL, Reliance Innoventure, AAA Sons Enterprise, Jindal Steel and Power Ltd., Tembhu Power Pvt. Ltd. and Reliance Clean Power Pvt. Ltd. The Commission has scrutinised the bills/invoices from R.E. source and found that, with regards to AAA Sons the power purchase cost and quantum considered by AEML-D in its FAC computation were not matching with respective cost and quantum as per the bills



submitted mainly during the months of October and November, 2018. On response to clarification sought, AEML-D submitted that in absence of actual bills at the time of charging FAC for the above mentioned period, the power purchase cost were considered on provisional basis. AEML-D further stated that, bills for October and November, 2018 have recently been received, however the bill for December has not yet received. AEML stated that the adjustments upon receipt of actual bills will be made in subsequent months.

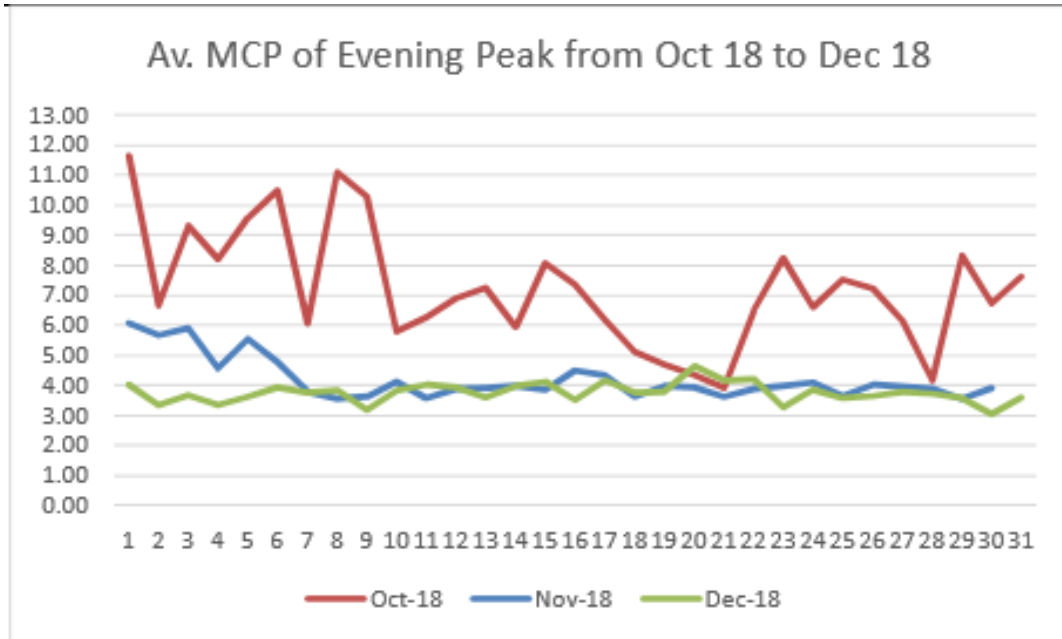
- 4.25 Although, AEML-D in the present quarter as well as in the previous quarter has considered the cost on provisional basis and accordingly adjusted the same upon receiving the actual bills, but the Commission in previous quarter has considered the respective cost as per actual bills as the same were available at that time. Accordingly, in the present FAC approval too, as the actual bills for October and November are available, the actual values against the same has been considered as against provisional. For the month of December, the Commission has not considered any values on provisional basis and would consider the values when the actual bills were made available.
- 4.26 AEML-D has purchased 13.70 MUs, 11.54 MUs and 11.41 MUs of RE power during the month of October, November and December 2018. The APPC from RE sources were Rs. 7.36/kWh, Rs. 7.48/kWh and Rs. 7.55/kWh during the aforesaid period as compared to MTR approved rate of Rs.4.07/kWh. The reason for deviation from approved cost is explained in the para below.
- 4.27 Even though all the aforesaid RE power have been procured at a rate approved by the Commission, it was observed that in the overall RE portfolio, the share of RE power from DSPPL having approved rate of Rs. 10.31/kWh was higher as compared to other sources having approved rate in the range of Rs. 4.26/kWh to Rs. 5.81/kWh. In the month of October, out of the total RE power, almost 43% was from DSPPL and in the month of November and December the % share from DSPPL were around 62% and 63% respectively. Therefore, the higher share of costlier approved power in the total RE portfolio has driven the APPC towards the costlier source i.e., DSPPL.
- 4.28 Further, with regards to the MTR approved average power purchase cost from RE sources, it can be seen that the Commission has determined cost as Rs. 4.07/kWh for FY 2018-19 which was excluding of any REC purchase. However, the same in the MYT Order was approved as Rs. 14.10/kWh which was inclusive of REC (Solar and Non-Solar) purchase. Further, while approving the total power purchase from RE sources for FY 2018-19, the Commission has considered RE power from the existing tied up sources (solar and non-solar) and the remaining RE power from new RE sources as such new solar, new non-solar and hydro. The power purchase price these sources as considered in MTR Order are; RE solar existing (DSPPL) as Rs.10.31/kWh, RE new solar as Rs.3.53/kWh, RE non solar existing as Rs.5.18/kWh, RE new non solar as Rs.3.40/kWh and mini/micro purchase



Rs.5.71/kWh. Considering these prices the weighted average power purchase cost from overall RE sources has been worked out as Rs. 4.07/kWh for FY 2018-19.

- 4.29 However, as against the above, AEML-D has purchased RE power from existing tied up sources only, it has not purchase any RE power from the new sources as envisaged in the MTR Order stating difficulties in sourcing new power within the short span of time. Therefore, due to the absence of power from cheaper new sources in actual RE portfolio, the APPC from RE sources is reflecting higher than the MTR approved rate.
- 4.30 With regards to bilateral power, AEML-D has purchased it mainly form IEX, Dhariwal Infrastructure Limited and LMEL and MPL. AEML-D has purchased 264.92 MUs, 73.74 MUs and 53.63 MUs during the months of October, November and December, 2018 respectively. The APPC from bilateral sources were Rs. 6.49/kWh, Rs.4.32/kWh and Rs. 4.18/kWh during the above period as compared to MTR approved rate of Rs. 3.50/kWh. The Commission has sought reasoning for such an increase in purchase cost and also to confirm whether the power from traders/IEX has been purchased through competitive bidding. In response to this AEML-D stated that it has purchased power either through power exchange or through day-ahead power at exchanged linked rate. Therefore, all the power has been purchased at market determine rate only. AEML-D has submitted the details summary of month wise purchase of bilateral power during the Q3 of FY 2018-19. AEML-D had also submitted sample exchange linked contracts with traders for purchase of power through short term. The reason for increase in bilateral purchase cost is as explained below:
- 4.31 During the month of October, 2018 the power prices on IEX were observed on the higher side mainly due to supply side constraints such as coal shortages, reduced hydro and wind generation affecting the market. Further, AEML-D has purchased most of the power from power exchange for meeting the day peak and evening peak power requirement. The rates of peak power during October, 2018 were more than the rates of peak power during November and December 2018. Therefore, the short term purchase rates for October 2018 was more than the rates for November 2018 and December 2018. A comparative graph of average MCP of evening peak at IEX for three months from October 2018 to December 2018 is shown below. This graph indicates that eveningloss peak power rates of in October 2018 were higher than the rates in November 2018 and December 2018.





- 4.32 Further, the MCP discovered on exchange is for power purchased at Regional Periphery at WR. In addition to that AEML-D has to bear withdrawal losses and charges of WR in kind as well and hence landed rate increases accordingly. Furthermore, other charges such as scheduling fees, exchange fees and taxes gets loaded which again increases the landed cost. AEML-D has submitted the detailed computation of bilateral power purchase showing the purchase quantum, cost and other miscellaneous charges. The Commission has verified the same and found to be in order.
- 4.33 Further, it is to be noted that the Commission in its Order on Case no. 335 of 2018 dated 1 January, 2019 has revised the ceiling rate for short term power as Rs. 5/kWh as against Rs.3.50/kWh as in MTR Order for FY 2018-19. As against the revised ceiling rate of Rs.5/kWh the actual APPC considering the total bilateral purchase upto Q3 of FY 2018-19 is around Rs.4.83/kWh. As the rate is within the ceiling approved by the Commission, therefore the same has been considered in this FAC approval.
- 4.34 Further, it was observed that AEML-D has considered banking OA charges during the month of October to December, 2018. On response to clarification sought against the same, AEML-D stated that it has entered into a banking contract from October, 2018 onwards. As per the transaction, there shall be receipt of energy with AEML in the months of October 2018 to March 2019, which will be returned in the period July 2019 to September 2019. Therefore, for this transaction, there shall be actual payment or incurrence of cost in the period when the energy is returned by AEML-D to the banking partner. Correspondingly, this is similar to FBSM transaction, where the energy is drawn from the pool is consumed by the consumers, without a corresponding cost implication in the same month due to unavailability of bills. AEML-D further stated that, similar to the approach adopted by the



Commission for FBSM transactions, both quantum and cost of banked energy has not been considered while calculating the FAC from October 2018 to December 2018. However, Banking Charges (OA charges) are paid for which actual bills are available. Hence, the same have been considered. AEML-D has submitted the bills and a summary of banking OA charges. The Commission has verified the same and found to be in order.

- 4.35 AEML-D has done sale of surplus bilateral power during the month of October to December, 2018. The Commission observed that the rate of sale of such bilateral power was lower as compared to that of purchase of bilateral power during the respective period. In response to clarification sought, AEML-D stated that it undertakes demand forecast on day ahead basis at 15 min time block level as per Scheduling & Despatch Code and generation availability from its contracted sources is mapped to arrive at the time block wise surplus /shortfall for the next day. As per the load pattern generally AEML-D is surplus during the night period and same power is bid on the exchange such that the net realization is higher than the amount that would have been received from the Pool. However, exchange rates for night power are lower due to lower demand as compared to day power rates, where purchase is made by AEML-D. AEML-D has submitted the detailed summary of invoices of such a sale showing the energy charges, energy quantum, misc. charges and the net revenue. The Commission has scrutinised the same and found to be in order.
- 4.36 AEML-D has also purchased standby power during the month of October to December 2018. The Commission has sought for reasoning for standby purchase. In response to which AEML-D stated that it undertakes standby purchase from MSEDCL during the contingencies/ outages of the contracted sources. Further, in the month of October to December, 2018 standby power was scheduled due to tripping/ reduction of power from VIPL-G as well as from ADTPS. As the Commission has approved the standby charges in its MYT as well as in MTR Order, therefore, the Commission has considered the amount and quantum of standby power as submitted by AEML-D.
- 4.37 The Commission observed that AEML-D has not considered any pool quantum and cost in FAC computation since it was provisional in line with the approach adopted by the Commission in its post facto approval of Q1 of FY 2018-19. However, the Commission on request of AEML-D made during the previous submissions, has revised its approach and has allowed the pool cost and quantum in order to reduce the FAC burned on consumers. Accordingly, the Commission has sought for present quarter pool cost and quantum. AEML-D has provided the required data and the Commission has considered the same in its present FAC computation.
- 4.38 Further, it was observed that the AEML-D has made adjustment with regards to previous period pool during the months of October and November, 2018. The Commission has sought for the actual bills against the same. After scrutinising the bills submitted it was found that the AEML-D in past period, i.e., July, 2016 to November, 2016 had considered the pool



cost (FBSM) on provisional basis. However, the actual FBSM bills against the same were received in October and November, 2018. Therefore the differential between the provisional and actual has been adjusted in the aforesaid period. AEML-D has submitted the computation of such adjustment along with the FBSM bills received. The Commission has verified the same and found to be in order.

- 4.39 Further, it was observed that AEML-D has considered SLDC charges of Rs.24.92 Crore mainly in the month of December, 2018 which has resulted into an increase in APPC in the December month as compared to other months. On response to clarification sought against the same, AEML-D stated the Commission in its Daily Order dated 6th February 2019 in Case No. 25 of 2019 and 28 of 2019 had directed AEML-D to deposit 20% of the provisional fixed charge bill under Intra State ABT for FY 2011-2012 to FY 2017-2018, raised by MSEDCL on 25 January, 2019. AEML-D has paid the amount of Rs. 24.92 Crore and has accordingly been considered in the billing month of February, 2019 i.e., FAC costing month of December, 2018.
- 4.40 Therefore, the key reasons for variation in average power purchase cost is due to increase in washed and imported coal prices, impact of fixed charge payment over lower net generation due to lower availability and PLF, correction in net purchase and quantum with regards to AAA Sons, absence of cheaper new sources of RE power, increase bilateral power prices and additional SLDC charges as per the Commission daily Order.
- 4.41 The Commission thus allows the APPC of **Rs. 4.78/kWh** for the month of October, 2018 **Rs. 4.62/kWh** for the month of November, 2018 and **Rs. 5.09/kWh** for the month of December, 2018 as shown in the Tables above.



5. FAC on account of fuel and power purchase cost (F)

5.1 The Commission has worked out the average power purchase costs for the months as shown in above Tables. The same has been compared with the average power purchase cost approved by the Commission in Tariff Order (MTR) dated 12 September, 2018 for the months of October to December, 2018 and arrived at differential per unit rate at which Z_{FAC} is to be passed on to the consumers.

5.2 The following Table shows the Z_{FAC} worked out by the Commission on account of difference in fuel and power purchase cost for the months of October, 2018 to December, 2018.

S. No.	Particulars	Units	Oct 2018	Nov 2018	Dec 2018
1	Average power purchase cost approved by the Commission*	Rs./kWh	4.09	4.09	4.09
2	Actual average power purchase cost	Rs./kWh	4.78	4.62	5.09
3	Change in average power purchase cost (=2 -1)	Rs./kWh	0.69	0.53	1.00
4	Net Power Purchase	MU	827.46	634.63	561.36
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	57.01	33.33	56.16

*As per MTR Order dt. 12 September, 2018

5.3 Further, due to the consideration of FBSM on provisional basis and correction in the power purchase quantum and cost with regards to AAA Sons as considered by AEML-D mainly for the month of October to December, 2018 as explained in para above, the power purchase cost has been revised, due to this there is an over recovery as shown in Table below:

Month	Basis	Oct 2018	Nov 2018	Dec 2018	Total
Change in fuel and power purchase cost as claimed by AEML-D (Rs. Crore)	A	57.24	34.20	56.69	148.14
Change in fuel and power purchase cost as approved by the Commission (Rs. Crore)	B	57.01	33.33	56.16	146.50
under-recovery/over recovery (Rs. Crore)	c = (b-a)	(0.23)	(0.87)	(0.54)	(1.64)

6. Adjustment for over recovery/under recovery (B)



6.1 After adjustment for over-recovery/under recovery (B), the adjustment factor to be added / reduced is as below:

S. No.	Particulars	Units	Oct 2018	Nov 2018	Dec 2018
1.1	Incremental cost allowed to be recovered in Month n-4	Rs. Crore	32.93	52.71	40.68
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	14.43	49.71	30.58
1.3	Over-recovery/under-recovery (1.2 - 1.1)	Rs. Crore	18.50	3.00	10.10
1.4	Incremental over-recovery/under recovery (1.3-1.4)	Rs. Crore	18.50	3.00	10.10
1.5	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit	Rs. Crore	0.00	0.00	53.22
2.0	Net Adjustment factor for over-recovery/under-recovery	Rs. Crore	18.50	3.00	63.32

7. Carrying Cost for over recovery/under recovery (B)

7.1 Carrying/ Holding cost for under/ over recovery has been granted at approved interest rate for the eligible amount. The following Table shows the month wise interest rate and amount worked out as Carrying/ Holding cost for under/ over recovery for the months of October, 2018 to December, 2018.

Month	Oct 2018	Nov 2018	Dec 2018
Adjustment Factor (Rs. Crore)	18.50	3.00	10.10
Applicable Interest Rate	10.00%	10.00%	10.05%
Carrying/ Holding cost for under/ over recovery (Rs. Crore)	0.31	0.05	0.17

8. Disallowance due to excess Distribution Loss

8.1 Regulation 10.8 of MYT Regulations, 2015 provides for FAC amount to be reduced in case the actual distribution loss for the month exceeds the approved distribution loss. The relevant extract is reproduced as follows.

“10.8 The total ZFAC recoverable as per the formula specified above shall be recovered from the actual sales in terms of “Rupees per kilowatt-hour”:



Provided that, in case of unmetered consumers, the ZFAC shall be recoverable based on estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission:

Provided further that, where the actual distribution losses of the Distribution Licensee exceed the level approved by the Commission, the amount of ZFAC corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total ZFAC recoverable”

8.2 The following Table provides the comparison of approved and actual distribution loss and disallowance due to excess distribution loss if any.

S. No.	Particulars	Units	Approved in MTR Tariff Order	Actual up to		
				Oct-18	Nov-18	Dec-18
1	Net Energy Input at Distribution Voltages for own sales	MU	9,638.87	5,901.81	6,688.88	7,352.42
2	Own Energy sales at Distribution voltages	MU	8,579.21	5,344.94	6,074.38	6,697.88
3	Distribution Loss (1 - 2)	MU	1,059.66	556.88	614.50	654.55
4	Distribution Loss as % of net energy input (3/1)	%	10.99%	9.44%	9.19%	8.90%
5	Excess Distribution Loss = [Actual Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	0	0	0
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	0	0	0

8.3 As seen from the above Table, cumulative distribution loss for the months of October, 2018 to December, 2018 is lower than the approved distribution losses of 10.99%. Accordingly, no deductions have been made on account of excess distribution loss for the month of October, 2018 to December, 2018.

9. Summary of Allowable Z_{FAC}

9.1 The summary of the FAC amount as approved by the Commission for the month of October, 2018 to December, 2018 which is allowed to be recovered in the billing month of December, 2018 to February, 2019 is as shown in the Table below.



S. No.	Particulars	Units	Oct 2018	Nov 2018	Dec 2018
1.0	Calculation of ZFAC				
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	57.01	33.33	109.38*
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	0.31	0.05	0.17
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	18.50	3.00	10.10
1.4	ZFAC = F+C+B	Rs. Crore	75.82	36.37	119.65
1.5	Amount of instalment as per previous vetting report	Rs. Crore	18.08	18.08	8.64
2.0	Calculation of FAC Charge				
2.1	Energy Sales within the License Area	MU	819.46	729.44	623.50
2.2	Excess Distribution Loss	MU	0.00	0.00	0.00
2.3	ZFAC per kWh	Rs./kWh	1.15	0.75	2.06
2.4	ZFAC charged per kWh	Rs./kWh	0.50	0.50	0.50
2.5	Cap at 20% of variable component of tariff	Rs./kWh	1.27	1.27	1.27
2.6	FAC Charge allowable (Minimum of 2.4 and 2.5)	Rs./kWh	0.50	0.50	0.50
3.0	Recovery of FAC				
3.1	Allowable FAC [(2.1 x 2.6)/10]	Rs. Crore	40.68	36.31	31.04
3.2	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.6)/10]	Rs. Crore	0.00	0.00	0.00
4.0	Total FAC based on category wise and slab wise allowed to be recovered	Rs. Crore	40.68	36.31	31.04
4.1	Carried forward FAC for recovery during future period (1.4+1.5-3.2-4.0)	Rs. Crore	53.22	18.14	97.25

*Carry forward of October month added

9.2 It can be seen from the above Table that standalone FAC for the months of October to December, 2018 is Rs. 75.82 Crore, Rs. 36.37 Crore and Rs. 119.65 Crore respectively. Further, AEML-D has also added the instalment to recover as approved in the previous post facto approval of FAC. This has substantially increased the FAC per unit chargeable to the consumers. Based on total energy sales, FAC per unit has been work out as Rs. 1.15/ kWh, Rs. 0.75/ kWh and Rs. 2.06/ kWh for the months of October to December, 2018 respectively. Further, the Regulation 10.9 of MYT Regulations, 2015 specifies as:

Provided that the monthly ZFAC shall not exceed 20% of the variable component of Tariff or such other ceiling as may be stipulated by the Commission from time to time:



9.3 Although, FAC chargeable has been worked out as Rs. 1.15/ kWh, Rs. 0.75/ kWh and Rs. 2.06/ kWh for Q3 period, it was observed that AEML-D has charged only Rs 0.50 /kWh (approx.) in the months from October 2018 to December 2018. In response to clarification sought AEML-D stated that as FAC per unit has been worked out as substantially high, charging such high level of FAC, would have subjected the consumers to significantly high electricity bills. Therefore, AEML has charged 50 Paisa/kWh (approx.) in the months from October 2018 to December 2018, to keep the FAC at moderate level. The difference between FAC chargeable and FAC charged is thus appearing as FAC carried forward in the months from October 2018 to December 2018. The Commission has considered the approach adopted by AEML-D in order to reduce the FAC burden to the Consumers

10. Recovery from Consumers:

10.1 Regulation 10.9 of MERC MYT Regulations, 2015 provides for methodology of recovery of FAC charge from each category of consumers. The relevant extract is reproduced as below.

“10.9 The ZFAC per kWh for a particular Tariff category/sub-category/consumption slab shall be computed as per the following formula:—

$$\text{ZFAC Cat (Rs/kWh)} = [\text{ZFAC} / (\text{Metered sales} + \text{Unmetered consumption estimates} + \text{Excess distribution losses})] * k * 10,$$

Where:

ZFAC Cat = ZFAC component for a particular Tariff category/sub-category/consumption slab in ‘Rupees per kWh’ terms;

k = Average Billing Rate / ACOS;

Average Billing Rate = Average Billing Rate for a particular Tariff category/sub-category/consumption slab under consideration in ‘Rupees per kWh’ as approved by the Commission in the Tariff Order;

Provided that the Average Billing Rate for the unmetered consumers shall be based on the estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission;

ACOS = Average Cost of Supply in ‘Rupees per kWh’ as approved for recovery by the Commission in the Tariff Order;

Provided that the monthly ZFAC shall not exceed 20% of the variable component of Tariff or such other ceiling as may be stipulated by the Commission from time to time;



Provided further that any under-recovery in the ZFAC on account of such ceiling shall be carried forward and shall be recovered by the Distribution Licensee over such future period as may be directed by the Commission....”

10.2 The Commission has worked out FAC per unit for each category of consumer based on the formula provided in the above Regulations. The Commission observed that there is a variation of Z_{FAC} in absolute terms on considering category wise per unit FAC worked out and category wise actual sales for the months of October, 2018 to December, 2018.

10.3 The variation in FAC in absolute terms is due to formula error of Z_{FAC} computed on per unit basis. The variation however is taken care in the adjustment factor of subsequent months.

10.4 The following Table shows per unit Z_{FAC} to be charged to the consumers of AEML-D for the billing month of December, 2018 to February, 2019.

FAC for Billing Month of December, 2018 to February, 2019

S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			Dec'18	Jan'19	Feb'19
			Rs./kWh	Rs./kWh	Rs./kWh
(A)	LT Category				
1	LT I - Below Poverty Line	0-30	0.1035	0.3870	0.2829
2	LT -I Residential (Single Phase)				
		0-100	0.1009	0.3774	0.2759
		101-300	0.1812	0.6774	0.4953
		301-500	0.2139	0.7998	0.5847
		500 and above	0.2498	0.9340	0.6828
3	LT -I Residential (Three Phase)				
		0-100	0.1003	0.3750	0.2742
		101-300	0.1675	0.6261	0.4577
		301-500	0.2046	0.7650	0.5593
		500 and above	0.2395	0.8953	0.6546
4	LT II : LT - Non - Residential or Commercial				
		0-20 kW	0.2125	0.7944	0.5808
		20-50 kW	0.2288	0.8555	0.6255
		above 50 kW	0.2397	0.8963	0.6552



S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			Dec'18	Jan'19	Feb'19
			Rs./kWh	Rs./kWh	Rs./kWh
5	LT III (A) - LT Industrial	upto 20 kW	0.1907	0.7130	0.5212
6	LT III (B) - LT Industrial	above 20 kW	0.2070	0.7741	0.5659
7	LT IV : LT- Public Water Works	all units	0.1889	0.7062	0.5163
8	LT V : LT- Advertisements and Hoardings	all units	0.2452	0.9167	0.6701
9	LT VI: LT -Street Lights	all units	0.1907	0.7130	0.5212
10	LT VII (A): LT -Temporary Supply Religious	all units	0.1689	0.6315	0.4617
11	LT VII (B): LT -Temporary Supply Others	all units	0.2415	0.9031	0.6602
12	LT VIII: LT - Crematorium & Burial Grounds	all units	0.1507	0.5636	0.4120
13	LT IX (A) : LT -PS - Govt. Hospitals & EI	all units	0.1780	0.6654	0.4865
14	LT IX (B) : LT -PS – Others	all units	0.1852	0.6926	0.5063
15	LT X (A) : LT - Agriculture Pumpsets	all units	0.1253	0.4685	0.3425
16	LT X (B) : LT - Agriculture Others	all units	0.1598	0.5975	0.4368
17	LT IX : LT - EVCS	all units	0.1285	0.4801	0.3510
(B)	High Tension – HT				
18	HT I: HT-Industry	all units	0.2016	0.7537	0.5510
19	HT II : HT- Commercial	all units	0.2161	0.8080	0.5907
20	HT III: HT-Group Housing Society	all units	0.1925	0.7197	0.5262
21	HT IV : HT - Public Water Works	all units	0.1780	0.6654	0.4865
22	HT V (A) - HT Metro & Monorail	all units	0.1543	0.5772	0.4219
23	HT V (B) - HT Metro & Monorail	all units	0.1725	0.6451	0.4716
24	HT VI (A) : HT - PS - Govt. Hospitals & EI	all units	0.1870	0.6994	0.5113
25	HT VI (B) : HT - PS – Others	all units	0.2052	0.7673	0.5609
26	HT VII - Temporary Supply	all units	0.2034	0.7605	0.5560
27	HT VIII - HT - EVCS	all units	0.1294	0.4840	0.3538



**POST FACTO APPROVAL FOR FAC CHARGES FOR THE MONTHS OF
JANUARY, 2019 TO MARCH, 2019**

Subject: Post facto approval of AEML's Fuel Adjustment Charges (FAC) for the period of January, 2019 to March, 2019.

Reference: AEML's FAC submission for post-facto approval of FAC for the period from January, 2019 to March, 2019.

1. FAC submission by AEML-D:

1.1 AEML-D (formerly RInfra-D) has submitted FAC submissions for the months of January, 2019 to March, 2019 as referred above. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by RInfra-D, the Commission has accorded post facto approval for the FAC amount to be charged in the billing months of January, 2019 to March, 2019.

2. Background

2.1 On 21 October, 2016, the Commission has issued Tariff Order for RInfra-D, (Case No.34 of 2016) for True-up of FY 2014-15, provisional Truing-up for FY 2015-16, and Aggregate Revenue Requirement and Tariff for FY 2016-17 to FY 2019-20. Revised Tariff has been made applicable from 1 October, 2016

2.2 On 12 September, 2018, the Commission has issued Tariff Order for RInfra-D (now AEML-D) (Case No.200 of 2017) for Mid-Term Review, including Truing-up of FY 2015-16 and FY 2016-17, provisional Truing-up for FY 2017-18, and revised Aggregate Revenue Requirement and Tariff for FY 2018-19 to FY 2019-20. Revised Tariff has been made applicable from 1 September, 2018.

2.3 Vide its letter dated 15 November, 2016, the Commission communicated the excel formats for filing of FAC submissions to all Distribution Licensees. The Commission also directed all Distribution Licensees to submit FAC computations, including details pertaining to variation in fuel cost of generators for the approval of the Commission.

2.4 Vide FAC vetting Report dated 13 January, 2017, the Commission accorded prior approval to the FAC for the month of October, 2016.



2.5 In terms of MERC (MYT) Regulations, 2015 a Distribution Licensee is required to obtain post facto approval of the Commission on a quarterly basis for FAC charges. Accordingly, AEML-D has filed FAC submissions for the months of January, 2019 to March, 2019 for post facto approval. The Commission has scrutinized the submissions provided by AEML-D and has also verified the fuel and power purchase bills provided along with its submissions.

3. Energy Sales of the Licensee

3.1 The net energy sales within licence area during January, 2019 to March, 2019 as submitted by AEML-D in the FAC submission and as approved by the Commission as shown in the Table below.

Consumer Category	Approved* by the Commission (MU)	Monthly Approved (MU)	Actual Sales		
			Jan-19 MU	Feb-19 MU	Mar-19 MU
	(I)	(II=I/12)	(III)	(IV)	(III)
LT Category					
LT I: BPL	0.02	0.00	0.00	0.00	0.00
LT I: Residential	4216.72	351.39	253.94	259.91	323.25
LT II: Commercial	2643.15	220.26	182.31	184.01	208.56
LT III (A): LT Industrial up to 20 kW TOD Option	180.93	15.08	13.84	14.04	14.48
LT III (B): LT Industrial above 20 kW	398.79	33.23	29.74	28.09	32.11
LT V: LT- Advertisements and Hoardings	3.56	0.30	0.27	0.26	0.25
LT VI: LT -Street Lights	58.96	4.91	5.13	4.57	4.73
LT VII: LT -Temporary Supply	13.42	1.12	0.90	1.20	0.98
LT VIII: LT - Crematorium & Burial Grounds	1.31	0.11	0.11	0.10	0.10
LT X: LT -Public Service (A)	23.78	1.98	1.64	1.61	1.99
LT X: LT -Public Service (B)	126.32	10.53	7.68	7.67	9.20
LT X (A): LT - Agriculture Pump sets	0.05	0.00	0.00	0.01	0.01
LT X (B): LT - Agriculture Others	0.13	0.01	0.02	0.00	0.01
LT IV: Public Water Works	13.44	1.12	1.04	0.96	1.08
HT Category					
HT I: HT – Industrial	369.18	30.77	24.35	22.68	26.20



Consumer Category	Approved* by the Commission (MU)	Monthly Approved (MU)	Actual Sales		
			Jan-19	Feb-19	Mar-19
	(I)	(II=I/12)	MU (III)	MU (IV)	MU (III)
HT II: HT – Commercial	348.98	29.08	34.42	33.39	40.69
HT III: HT - Group Housing Society	38.97	3.25	2.61	2.49	3.10
HT VII: Temporary Supply	2.84	0.24	1.39	0.63	0.65
HT V: HT Metro & Monorail	31.24	2.60	2.32	2.11	2.38
HT VI (A): Public Services – Gov. EI & Hospital	7.86	0.66	0.38	0.38	0.47
HT VI (B): Public Services – Others	92.58	7.72	6.84	6.89	8.21
HT IV: HT- Public Water Works	6.99	0.58	0.63	0.58	0.65
Total	8579.21	714.94	569.57	571.57	679.07

*As per MTR Order vide dt. 12 September, 2018 in Case No. 200 of 2017

3.2 It was observed that the total sale for the month of January, February and March, 2019 is 569.57 MUs, 571.57 MUs and 679.07 MUs, respectively in comparison to the monthly approved monthly sale of 714.94 MUs as approved in MTR Order. This variation in sales in the aforesaid period is mainly on account of lower sales in LT I - Residential, LT II – Commercial, LT III- Industrial, LT X – Public Service and HT 1- Industrial. However, it was also observed that the sale of LT VI- Street Light and HT 2 Commercial categories are higher than the monthly approved sales.

4. Cost of Power Purchase

4.1 AEML-D procures most of its power from the ADTPS and VIPL-G under long term agreement. After accounting for the availability from long-term sources, to meet further demand AEML- D has also contracted with several other sources. The following are the list of sources from which AEML-D procures power to meet its customer’s demand:

- i) ADTPS (Formerly R Infra-G)
- j) Vidarbha Industries Power Ltd.-Generation (VIPL-G)
- k) Renewable energy based generation
- l) Bilateral contracts and decrements to the imbalance pool.

4.2 The following Tables show the variation in average power purchase cost (Rs/kWh) for the months of January to March, 2019 as compared to average power purchase cost as approved in MTR Orders dated 12 September, 2018:



Particulars	Tariff Order Dated 12.09.2018			Actual for January , 2019		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
ADTPS	3764.17	1453.35	3.86	173.44	77.20	4.45
RE Sources	1370.58	557.27	4.07	9.35	7.42	7.93
VIPL-G	3896.43	1743.65	4.47	73.48	35.71	4.86
Bilateral/Traders	968.27	338.89	3.50	211.81	89.89	4.24
Others	-	-	-	81.74	32.05	3.92
Surplus Sale	(31.64)	(11.35)	3.59	-	-	-
Total	9967.81	4081.81	4.09	549.83	242.27	4.41

Particulars	Tariff Order Dated 12.09.2018			Actual for February, 2019		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
ADTPS	3764.17	1453.35	3.86	244.80	105.54	4.31
RE Sources	1370.58	557.27	4.07	11.70	8.82	7.53
VIPL-G	3896.43	1743.65	4.47	(0.60)	3.32	-
Bilateral/Traders	968.27	338.89	3.50	226.86	89.26	3.93
Others	-	-	-	87.15	33.82	3.88
Surplus Sale	(31.64)	(11.35)	3.59	-	-	-
Total	9967.81	4081.81	4.09	569.91	240.76	4.22

Particulars	Tariff Order Dated 12.09.2018			Actual for March, 2019		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
ADTPS	3764.17	1453.35	3.86	274.59	117.10	4.26



Particulars	Tariff Order Dated 12.09.2018			Actual for March, 2019		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
RE Sources	1370.58	557.27	4.07	17.27	12.29	7.11
VIPL-G	3896.43	1743.65	4.47	(0.47)	(1.21)	-
Bilateral/Traders	968.27	338.89	3.50	365.08	136.76	3.75
Others	-	-	-	80.90	31.38	3.95
Surplus Sale	(31.64)	(11.35)	3.59	-	-	-
Total	9967.81	4081.81	4.09	737.38	296.91	4.03

- 4.3 AEML-D has procured power from ADTPS and VIPL-G under its long-term arrangement as approved by the commission vide Order Case No. 5 of 2017 and Case 2 of 2013, respectively. After accounting for the availability from long-term sources, the shortfall against power requirement was met by purchase from contracted short-term sources and from the Power Exchanges. AEML-D has also contracted Renewable Energy (RE) power from different sources for meeting the Renewable Purchase Obligation (RPO) specified by the Commission. The shortfall in requirement due to backing down of ADTPS and VIPL -G is met through off-take (decrement) from the Imbalance Pool.
- 4.4 The Commission has sought detailed bills/invoices for the power purchase from various sources in order to verify the claim of AEML-D with respect to average power purchase cost for the months of April to March, 2019. The relevant bills/invoices submitted by AEML-D has been verified and observations are summarised in paras below.

Own Generation (ADTPS):

- 4.5 With regards to ADTPS (own generation), it was observed that AEML-D has purchased 173.44 MUs, 244.80 MUs and 274.59 MUs respectively, during the months of January, February and March, 2019. The quantum of energy purchase during the month of January, 2019 is relatively lower as compared to the other months mainly on account of lower PLF and availability of ADPTS. The Table below shows the month wise availability and PLF of ADTP during Q4 of FY 2018-19.

Particular	Jan, 2019	Feb, 2019	Mar, 2019
Availability	66.11%	99.55%	100%
PLF	52.07%	80.40%	81.48%



- 4.6 The low availability and PLF of ADTPS during the month of January, 2019 is mainly on account of scheduled Planned shut-down of 27.82 days (i.e., from 23.12.2018 06.06 hrs to 20.01.2019 02:00 hrs) for Unit-1 for overhauling.
- 4.7 Even though the monthly availability of plant is lower at 66.11% during the month of January, the cumulative availability of plant over the same period was higher than the normative Target availability of 85%. Hence, ADTPS was entitled to recover full monthly fixed cost in line with the Regulation 48.3 of MYT Regulations, 2015. The spread of lower generation over full fixed cost has affected the average power purchase cost from ADTPS.
- 4.8 The average power purchase cost for ADTPS during the month of January, February, and March, 2019 is Rs. 4.45/kWh, Rs. 4.31/kWh and Rs. 4.26/kWh, respectively, as compared to MTR approved rate of Rs. 3.86/kWh. The variation in APPC from MTR approved value is mainly on account of fixed cost spread and due to increase in the variable cost primarily attributed due to the increase in the price of fuel. The observation and analysis of fuel prices prevailing during aforesaid period is provided below.
- 4.9 ADTPS uses both Domestic (washed) and Imported coal for its generation. With regards to washed coal price during the Q4 period, the landed cost considered by ADTPS for the month of January, February, and March, 2019 is Rs. 5284/MT, Rs. 5270/MT and Rs. 5320/MT, respectively which is around 10% to 12% higher as compared to MTR approved value of Rs. 4740/MT. During scrutiny it was observed that such a substantial increase in domestic coal price is mainly due to revision in the base freight rate by Railway Board (Ministry of Railways) vide its Circular No. 19 of 2018 w.e.f. 01 November, 2018, resulting in increasing base railway freight by almost Rs. 217/MT as shown in the Table below:

Particular	Circular No. 01 OF 2018 w.e.f. 15/01/2018	Circular No. 19 OF 2018 w.e.f. 01/11/2018	Increment
Base Freight (Rs./MT)	2,361.00	2,567.60	206.60
+ IGST 5% (Rs./MT)	118.05	128.38	10.33
Total Rly. Frt. Charge (Rs./MT)	2,479.05	2,695.98	216.93

- 4.10 Further, the Commission has sought for actual bills and invoices against the purchase during the respective period. ADTPS has submitted the detailed invoice summary of all the raw coal purchase from South Eastern Coalfields Limited (SECL). ADTPS has also submitted the sample invoices for other handling charges such as washing charges, liaising and loading supervision charges, local transportation charges, beneficiation



charges, third party sampling charges etc. The Commission has verified the said charges and found to be in order.

- 4.11 With regards to GCV of washed coal, the Commission has sought for third party sampling report. ADTPS has submitted the coal sampling report issued by Inspectorate Griffith India Pvt Ltd (Bureau Veritas) and the same has been verified. Further, with regards to ongoing disputes with SECL related to Grade Slippage, ADTPS stated that these disputes are ongoing and accordingly final debit / credit for this period is not raised by SECL. ADTPS submits that whenever the disputes are settled and final debit / credit invoice is raised, the same shall be included in FAC.
- 4.12 With regards to imported coal, ADTPS has procured 59,606 MT and 60,027 MT during January and March, 2019 respectively. The Commission has also asked ADTPS to confirm whether the coal has been procured through competitive bidding. In response to this ADTPS stated that the imported coal has been procured through competitive bidding. It further submitted that the lowest quote received from Pan Asia Coal Trading Pvt Ltd was selected for procurement of imported coal. ADTPS also submitted the copy of agreement though its data gap reply.
- 4.13 Further, the Commission has sought for actual bills and invoices against the purchase during the respective period. ADTPS has submitted the invoice for coal purchase, Ocean freight charges, Custom Duty, testing and sampling charge, Insurance charge and Coal handling charge, etc. The commission has verified all the invoices found to be in order. Based on above coal invoices and other charges, the landed cost claimed by ADTPS was Rs. 6379/MT, Rs. 6148/MT and Rs. 5943/MT for the month of January, February and March, 2019 as against MTR approved cost of Rs. 5070/MT. The increase in domestic price of coal is mainly attributable to higher imported coal price during the aforesaid period as compared to the price prevailed during MTR Order.

VIPL-G:

- 4.14 As regards VIPL-G, it was observed that the availability and the PLF of the plant during the month of January were very low, i.e., 23% and 19%, respectively. The availability and PLF were further noted Zero during the month of February and March, 2019. In response to clarification sought, AEML-D submitted that the declared capacity by VIPL-G during the foresaid period was lower on account of low coal storage. AEML-D also submitted sample Capacity declarations schedule by VIPL to MSLDC in the months of January to March, 2019. Further, as the availability of plant was low, the Commission has verified that the payment of monthly fixed charge has been done in accordance with Regulation 48.3 of MYT Regulations, 2015



4.15 Considering very low PLF, AEML-D has purchased 73.48 MUs during the month of January, 2019. The above-mentioned energy has been procured at a variable charge of Rs. 2.19/kWh as approved by the Commission. The same has been verified from the invoices submitted. As far as Grade Slippage is concerned, AEML-D submits that at present it is not paying FAC to VIPL-G and is only paying the variable charge of Rs. 2.19/ kWh as approved by the Commission. Hence, FAC computation of AEML-D is not impacted by grade slippage, if any, encountered by VIPL-G.

RE Power:

4.16 The source from which AEML -D has procure Renewable Energy are DSPPL, Reliance Innoventure, AAA Sons Enterprise, Jindal Steel and Power Ltd., Tembhu Power Pvt. Ltd. and Reliance Clean Power Pvt. Ltd.

4.17 AEML-D has purchased 9.35 MUs, 11.70 MUs and 17.27 MUs of RE power during the month of January, February and March, 2019. All the RE power has been procured at a rate approved by the Commission. The APPC from RE sources were Rs. 7.93/kWh, Rs. 7.53/kWh and Rs. 7.11/kWh during the aforesaid period as compared to MTR approved rate of Rs.4.07/kWh. The reason for deviation from approved cost is explained in the para below.

4.18 Even though AEML-D has purchased RE power at price approved by the Commission, the weighted average purchase cost is still resulting higher than the MTR approved rate mainly due to following reasons.

- Due to the change in actual quantum from various sources, there is a change in the weighted average rate of purchase from Solar RE and Non-Solar RE sources.
- Due to the absence of new cheaper RE sources in the total purchase portfolio against as envisaged by the Commission while determining the price for FY 2018-19 in its MTR Order.

Bilateral Power:

4.19 AEML-D has purchased bilateral power mainly from LMEL and JSWEL. It has purchased 211.81 MUs, 226.86 MUs and 365.08 MUs during the months of January, February and March, 2019 respectively. The APPC from bilateral sources were Rs. 4.14/kWh, Rs. 3.90/kWh and Rs. 3.73/kWh during the above period as compared to MTR approved rate of Rs. 3.50/kWh. The Commission has asked AEML-D to confirm whether the bilateral power has been purchased through competitive bidding. In response to this AEML-D has clarified that, it has purchased the short-term power either through DEEP e-portal or through day ahead exchanged linked contract.



- 4.20 Further, it is to be noted that the Commission in its Order on Case no. 335 of 2018 dated 1 January, 2019 has revised the ceiling rate for short term power as Rs. 5.00/kWh as against Rs. 3.50/kWh as in MTR Order for FY 2018-19. As compared to revised ceiling rate of Rs. 5/kWh, the actual APPC considering the total bilateral purchase during Q4 of FY 2018-19 is around Rs. 3.93/kWh. As the rate is within the ceiling approved by the Commission, therefore the same has been considered in this FAC approval.
- 4.21 Further, it was observed that AEML-D has considered banking OA charges during the month of January to March, 2019. On response to clarification sought against the same, AEML-D stated that it has entered into a banking contract from October, 2018 onwards. As per the transaction, there shall be receipt of energy with AEML in the months of January, 2019 to March 2019, which will be returned in the period July 2019 to September 2019. Therefore, for this transaction, there shall be actual payment or incurrence of cost in the period when the energy is returned by AEML-D to the banking partner. Correspondingly, this is similar to FBSM transaction, where the energy is drawn from the pool is consumed by the consumers, without a corresponding cost implication in the same month due to unavailability of bills. AEML-D further stated that, similar to the approach adopted by the Commission for FBSM transactions, both quantum and cost of banked energy has not been considered while calculating the FAC from January to March 2019. However, Banking Charges (OA charges) are paid for which actual bills are available. Hence, the same have been considered. AEML-D has submitted the bills and a summary of banking OA charges. The Commission has verified the same and found to be in order.
- 4.22 AEML-D has not done any sale of surplus bilateral power during the month of January to March, 2019. However, the AEML-D has purchased standby power during the month of January to March, 2019. The Commission has sought for reasoning for standby purchase. In response to which AEML-D stated that it undertakes standby purchase from MSEDCL during the contingencies/ outages of the contracted sources. Further, AEML-D has clarified that the quantum and cost of under standby arrangement has been considered on provisional basis in the months from January to March, 2019. The quantum has been considered as per the schedules finalized by MSLDC in daily MoD schedules. As the Commission has approved the standby charges in its MYT as well as in MTR Order, therefore, the Commission has considered the amount and quantum of standby power as submitted by AEML-D.
- 4.23 The Commission observed that AEML-D has not considered any pool quantum and cost in FAC computation since it was provisional in line with the approach adopted by the Commission in its post facto approval of Q1 of FY 2018-19. However, the Commission on request of AEML-D made during the previous submissions, has revised its approach and has allowed the pool cost and quantum in order to reduce the FAC burned on consumers. Accordingly, the Commission has sought for present quarter pool cost and



quantum. AEML-D has provided the required data and the Commission has considered the same in its present FAC computation.

- 4.24 Further, it was observed that AEML-D has considered WRPC DSM Charge of Rs.0.60 Crore in the month of March, 2019. On response to clarification sought against the same, AEML-D stated the WRPC bills is raised by the MSLDC in line with the decision made in MSPC meeting dated 25/03/2019 regarding shortfall of SLDC Fund. Further, it has clarified that, as the FBSM billing are delayed for around 2 years and were not in sync, resulted in short fall of SLDC fund. This matter was discussed in MSPC meeting dated 25/03/2019. To meet the fund shortfall, it was decided that SLDC will raise provisional bill for payment towards the WRPC bills. Since, billing data is not available, it was decided that each DISCOM will pay 25% share in the interim. Accordingly, AEML-D has paid the aforesaid amount and also submitted the invoices against the same.
- 4.25 Therefore, the key reasons for higher average power purchase cost is due to increase in washed and imported coal prices, impact of fixed charge payment over lower net generation due to lower availability and PLF, absence of cheaper new sources of RE power, increase bilateral power prices, WRPC Charge and additional Banking charges.
- 4.26 The Commission thus allows the APPC of **Rs. 4.41/kWh** for the month of January, 2019, **Rs. 4.22/kWh** for the month of February, 2019 and **Rs. 4.03/kWh** for the month of March, 2019 as shown in the Tables above.
- 4.27 Further, it is to be noted that the above power purchase cost and quantum has been adjusted in the final Truing-up of FY 2018-19 by the Commission in its MYT Order dated 30 March, 2020 in Case No. 325 of 2019, hence, it does not hold any further financial impact on the next FAC cycle

5. FAC on account of fuel and power purchase cost (F)

- 5.1 The Commission has worked out the average power purchase costs for the months as shown in above Tables. The same has been compared with the average power purchase cost approved by the Commission in Tariff Order (MTR) dated 12 September, 2018 for the months of January to March, 2019 and arrived at differential per unit rate at which Z_{FAC} is to be passed on to the consumers.
- 5.2 The following Table shows the Z_{FAC} worked out by the Commission on account of difference in fuel and power purchase cost for the months of January to March, 2019.



S. No.	Particulars	Units	Jan 2019	Feb 2019	Mar 2019
1	Average power purchase cost approved by the Commission*	Rs./kWh	4.09	4.09	4.09
2	Actual average power purchase cost	Rs./kWh	4.41	4.22	4.03
3	Change in average power purchase cost (= 2 - 1)	Rs./kWh	0.31	0.13	(0.07)
4	Net Power Purchase	MU	549.83	569.91	737.38
5	Change in fuel and power purchase cost (= 3 x 4/10)	Rs. Crore	17.12	7.39	(5.04)

*As per MTR Order dt. 12 September, 2018

6. Adjustment for over recovery/under recovery (B)

6.1 After adjustment for over-recovery/under recovery (B), the adjustment factor to be added / reduced is as below:

S. No.	Particulars	Units	Jan 2019	Feb 2019	Mar 2019
1.1	Incremental cost allowed to be recovered in Month n-4	Rs. Crore	36.31	31.04	28.48
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	27.81	27.75	33.82
1.3	Over-recovery/under-recovery (1.2 - 1.1)	Rs. Crore	8.50	3.28	(5.35)
2.0	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit	Rs. Crore	18.14	97.27	11.95
2.1	Net Adjustment factor for over-recovery/under-recovery	Rs. Crore	26.64	100.55	6.61

7. Carrying Cost for over recovery/under recovery (C)

7.1 Carrying/ Holding cost for under/ over recovery has been granted at approved interest rate for the eligible amount. The following Table shows the month wise interest rate and amount worked out as Carrying/ Holding cost for under/ over recovery for the months of January to March, 2019.

Month	Jan 2019	Feb 2019	Mar 2019
Adjustment Factor (Rs. Crore)	8.50	3.28	(5.35)



Applicable Interest Rate	10.05%	10.05%	10.05%
Carrying/ Holding cost for under/ over recovery (Rs. Crore)	0.14	0.05	(0.09)

8. Disallowance due to excess Distribution Loss

8.1 Regulation 10.8 of MYT Regulations, 2015 provides for FAC amount to be reduced in case the actual distribution loss for the month exceeds the approved distribution loss. The relevant extract is reproduced as follows.

“10.8 The total ZFAC recoverable as per the formula specified above shall be recovered from the actual sales in terms of “Rupees per kilowatt-hour”:

Provided that, in case of unmetered consumers, the ZFAC shall be recoverable based on estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission:

Provided further that, where the actual distribution losses of the Distribution Licensee exceed the level approved by the Commission, the amount of ZFAC corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total ZFAC recoverable”

8.2 The following Table provides the comparison of approved and actual distribution loss and disallowance due to excess distribution loss if any.

S. No.	Particulars	Units	Approved in MTR Tariff Order	Actual up to		
				Jan 2019	Feb 2019	Mar 2019
1	Net Energy Input at Distribution Voltages for own sales	MU	9,638.87	7,963.39	8,550.07	9,292.95
2	Own Energy sales at Distribution voltages	MU	8,579.21	7,267.45	7,839.02	8,518.09
3	Distribution Loss (1 - 2)	MU	1,059.66	695.94	711.05	774.85
4	Distribution Loss as % of net energy input (3/1)	%	10.99%	8.74%	8.32%	8.34%
5	Excess Distribution Loss = [Actual Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	-	-	-



S. No.	Particulars	Units	Approved in MTR Tariff Order	Actual up to		
				Jan 2019	Feb 2019	Mar 2019
6	Disallowance of FAC due to excess Distribution Loss	Rs. Crore	-	-	-	-

8.3 As seen from the above Table, cumulative distribution loss for the months of January to March, 2019 is lower than the approved distribution losses of 10.99%. Accordingly, no deductions have been made on account of excess distribution loss for the month of January to March, 2019.

9. Summary of Allowable Z_{FAC}

9.1 The summary of the FAC amount as approved by the Commission for the month of January to March, 2019 is as shown in the Table below.

S. No.	Particulars	Units	Jan 2019	Feb 2019	Mar 2019
1.0	Calculation of ZFAC				
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	35.26	104.66	10.38
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	0.14	0.06	(0.09)
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	8.50	3.29	(5.35)
1.4	ZFAC = F+C+B	Rs. Crore	43.90	107.99	4.94
1.5	Amount of instalment as per previous vetting report	Rs. Crore	-	-	-
2.0	Calculation of FAC Charge				
2.1	Energy Sales within the License Area	MU	569.57	571.57	679.07
2.2	Excess Distribution Loss	MU	0.00	0.00	0.00
2.3	ZFAC per kWh	Rs./kWh	0.77	1.89	0.07
2.4	ZFAC charged per kWh	Rs./kWh	0.50	0.50	0.50
2.5	Cap at 20% of variable component of tariff	Rs./kWh	1.27	1.30	1.30
2.6	FAC Charge allowable (Minimum of 2.4 and 2.5)	Rs./kWh	0.50	0.50	0.50
3.0	Recovery of FAC				



S. No.	Particulars	Units	Jan 2019	Feb 2019	Mar 2019
3.1	Allowable FAC [(2.1 x 2.6)/10]	Rs. Crore	28.48	28.58	33.95
3.2	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.6)/10]	Rs. Crore	0.00	0.00	0.00
4.0	Total FAC based on category wise and slab wise allowed to be recovered	Rs. Crore	28.48	28.58	33.95
4.1	Carried forward FAC for recovery during future period (1.4+1.5-3.2-4.0)	Rs. Crore	15.42	79.42	(29.01)

9.2 Further, the revenue on account of FAC has also been adjusted in the final Truing-up of FY 2018-19. Therefore, there is no recovery or refund outstanding on account of above FAC approval for future period.

10. Recovery from Consumers:

10.1 Regulation 10.9 of MERC MYT Regulations, 2015 provides for methodology of recovery of FAC charge from each category of consumers. The relevant extract is reproduced as below.

“10.9 The ZFAC per kWh for a particular Tariff category/sub-category/consumption slab shall be computed as per the following formula:—

$$ZFAC \text{ Cat (Rs/kWh)} = [ZFAC / (\text{Metered sales} + \text{Unmetered consumption estimates} + \text{Excess distribution losses})] * k * 10,$$

Where:

ZFAC Cat = ZFAC component for a particular Tariff category/sub-category/consumption slab in ‘Rupees per kWh’ terms;

k = Average Billing Rate / ACOS;

Average Billing Rate = Average Billing Rate for a particular Tariff category/sub-category/consumption slab under consideration in ‘Rupees per kWh’ as approved by the Commission in the Tariff Order;

Provided that the Average Billing Rate for the unmetered consumers shall be based on the estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission;

ACOS = Average Cost of Supply in ‘Rupees per kWh’ as approved for recovery by the Commission in the Tariff Order;



Provided that the monthly ZFAC shall not exceed 20% of the variable component of Tariff or such other ceiling as may be stipulated by the Commission from time to time:

Provided further that any under-recovery in the ZFAC on account of such ceiling shall be carried forward and shall be recovered by the Distribution Licensee over such future period as may be directed by the Commission....”

10.2 The Commission has worked out FAC per unit for each category of consumer based on the formula provided in the above Regulations. The Commission observed that there is a variation of Z_{FAC} in absolute terms on considering category wise per unit FAC worked out and category wise actual sales for the months of January to March, 2019.

10.3 The variation in FAC in absolute terms is due to formula error of Z_{FAC} computed on per unit basis. The variation however is taken care in the adjustment factor of subsequent months.

10.4 The following Table shows per unit Z_{FAC} to be charged to the consumers of AEML-D in the billing month of March, 2019 to May, 2019.

FAC for Billing Month of March, 2019 to May, 2019

S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			Mar '19	Apr' 19	May '19
			Rs./kWh	Rs./kWh	Rs./kWh
(A)	LT Category				
1	LT I - Below Poverty Line	0-30	0.2850	0.2750	0.2750
2	LT -I Residential (Single Phase)				
		0-100	0.2779	0.2915	0.2915
		101-300	0.4989	0.5144	0.5144
		301-500	0.5890	0.5749	0.5749
		500 and above	0.6878	0.6723	0.6723
3	LT -I Residential (Three Phase)				
		0-100	0.2762	0.2903	0.2903
		101-300	0.4611	0.4730	0.4730
		301-500	0.5634	0.5478	0.5478
		500 and above	0.6593	0.6423	0.6423
4	LT II : LT - Non - Residential or Commercial				
		0-20 kW	0.5850	0.5650	0.5650



S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			Mar '19	Apr' 19	May '19
			Rs./kWh	Rs./kWh	Rs./kWh
		TOD option	0.5850	0.5650	0.5650
		20-50 kW	0.6300	0.6000	0.6000
		above 50 kW	0.6600	0.6150	0.6150
5	LT III (A) - LT Industrial	upto 20 kW	0.5250	0.5150	0.5150
		upto 20 kW (TOD)			
6	LT III (B) - LT Industrial	above 20 kW	0.5700	0.5600	0.5600
7	LT IV : LT- Public Water Works	all units	0.5200	0.5150	0.5150
8	LT V : LT- Advertisements and Hoardings	all units	0.6750	0.6500	0.6500
9	LT VI: LT -Street Lights	all units	0.5250	0.5250	0.5250
10	LT VII (A): LT -Temporary Supply Religious	all units	0.4650	0.4600	0.4600
11	LT VII (B): LT -Temporary Supply Others	all units	0.6650	0.6450	0.6450
12	LT VIII: LT - Crematorium & Burial Grounds	all units	0.4150	0.4000	0.4000
13	LT IX (A) : LT -PS - Govt. Hospitals & EI	all units	0.4900	0.4700	0.4700
14	LT IX (B) : LT -PS – Others	all units	0.5100	0.4900	0.4900
15	LT X (A) : LT - Agriculture Pumpsets	all units	0.3450	0.3350	0.3350
16	LT X (B) : LT - Agriculture Others	all units	0.4400	0.4250	0.4250
17	LT IX : LT - EVCS	all units	0.3535	0.3503	0.3503
(B)	High Tension – HT				
18	HT I: HT-Industry	all units	0.5550	0.5700	0.5700
19	HT II : HT- Commercial	all units	0.5950	0.6200	0.6200
20	HT III: HT-Group Housing Society	all units	0.5300	0.5550	0.5550
21	HT IV : HT - Public Water Works	all units	0.4900	0.5150	0.5150
22	HT V (A)- HT Metro & Monorail	all units	0.4250	0.4211	0.4211
	HT V (B)- HT Metro & Monorail		0.4750	0.5100	0.5100
23	HT VI (A) : HT - PS - Govt. Hospitals & EI	all units	0.5150	0.5300	0.5300
24	HT VI (B) : HT - PS – Others	all units	0.5650	0.5850	0.5850
25	HT VII - Temporary Supply	all units	0.5600	0.5800	0.5800
26	HT VIII - HT - EVCS	all units	0.3564	0.3531	0.3531



