

MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
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Ref. No. MERC/FAC/2020-2021/E-Letter

Date: 5 October, 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’s Fuel Adjustment Charges (FAC) for the period of October 2019 to December 2019.

Reference: AEML’s FAC submission vide letter dated 6 April and 13 June 2020 for post-facto approval of FAC for the period from October 2019 to December 2019.

Sir,

Upon vetting the FAC calculations for the months of October 2019 to December 2019 as mentioned in the above reference, the Commission has accorded post facto approval to Adani Electricity Mumbai Limited - Distribution (AEML-D) for charging FAC to its consumers as shown in the Table below:

Month	October 2019	November 2019	December 2019
Z _{FAC} allowed for recovery (Rs. Crore)	4.04	29.10	(2.01)

AEML-D was to recover Rs.27.09 Crore cumulatively for the last two months of quarter. However, as against this AEML-D has worked out FAC recovery as Rs. 70.00 Crore. Hence, there is an over-recovery of amount Rs. 42.91 Crore. Therefore, AEML-D is required to re-fund additional recovered FAC of Rs. 42.91 Crore to consumers. However, as FY 2019-20 is already over, therefore, above adjustment will be rolled over in next FAC approvals (i.e., FAC of Q4 of FY 2019-20) and finally would be adjusted in the final True up of FY 2019-20.



AEML-D has recently submitted a letter on 19 September, 2020 wherein it has requested for certain changes in FAC approval as discussed in para 2.6 to 2.12 of the report. While the two requests of AEML-D have been partially considered, the last one will be dealt in subsequent quarter as and when it becomes relevant.

As FY 2019-20 is already over and provisional True-up of FY 2019-20 has also been done in recent MYT Order dated 30 March, 2020, the rationale for post-facto approval of Q3 of FY 2019-20 is only to carry forward the allowance or disallowance to next quarter and subsequently to Q4 of FY 2019-20. Any variation in final allowance or disallowance of FAC will be reconciled at the time of final True-up of FY 2019-20 under the MERC (Multi Year Tariff) Regulations, 2015.

Yours faithfully,

Sd/-
(Prafulla Varhade)
Director (EE), MERC

Encl: Annexure A: Detailed Vetting Report for the period of October 2019 to December 2019.



**POST FACTO APPROVAL FOR FAC CHARGES FOR THE MONTHS OF OCTOBER
2019 TO DECEMBER 2019**

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

Reference: AEML's FAC submission vide email dated 6 April and 13 June 2020 for post-facto approval of FAC for the period from October 2019 to December 2019.

1. FAC submission by AEML-D:

1.1 AEML-D (formerly RInfra-D) has submitted FAC submissions for the months of October to December 2019 as referred above. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by AEML-D, the Commission has accorded post facto approval for the FAC amount to be charged in the billing months of December to February 2020.

2. Background

2.1 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.

2.2 On 30 March, 2020 the Commission has issued Tariff Order for AEML-D, (Case No.325 of 2019) for True-up of FY 2017-18 and FY 2018-19, provisional True-up for FY 2019-20 and Aggregate Revenue Requirement and Multi-Year Tariff for 4th Control Period from FY 2020-21 to FY 2024-25. Revised Tariff has been made applicable from 1 April, 2020.

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 email dated 6 April and 13 May 2020, AEML-D has filed FAC submissions for the months of October 2019 to December 2019 for post facto approval as per power purchase figures approved in MTR Order.
- 2.6 Further, AEML-D has recently submitted a letter on 19 September, 2020 wherein it has requested the Commission to consider the following:
- To consider the rate of Imbalance Pool as Rs. 3.50/kWh for post facto approval from Q1 to Q4 of FY 2019-20 in order to align it with the other distribution licensee- TPC-D
 - To consider cost and quantum of banking transaction for FY 2019-20 and;
 - To allow AEML to pass on the surplus accruing after post facto approval of FAC for Q4 of FY 2019-20, if any, with holding cost over the twelve months of FY 2021-22 through monthly FAC mechanism, so as to provide continuing tariff relief to consumers.
- 2.7 In view of above, with regards to FBSM, it is observed that due to historical delay in settlement of FBSM bills, the licensee used to consider FBSM cost on provisional basis for accounting purpose. However, as per MYT Regulations, FAC is to be computed based on the actual variation in cost of fuel and power purchase being incurred and shall not be computed on the basis of estimated or expected variations in fuel and/or power purchase costs. Accordingly, due to the absence of actual bills and FBSM entries being provisional, the Commission had disallowed the same during Q1 of previous year.
- 2.8 However, later the licensee has requested to consider these provisional entries as UI power is actually consumed and the rates of which are normally lower as compared to other sources of power. Thus, consideration of the same reduces the average power purchase cost and correspondingly reduce FAC burden on consumers. Accordingly, on request of licensee and also to avoid FAC burdens on consumers, the Commission has considered the power purchase quantum as well as the cost towards imbalance pool on provisional basis in post-facto approval of FY 2018-19.
- 2.9 Further, during present year, i.e., FY 2019-20 the Commission till now has awarded post facto approval to Q1 and Q2 of FY 2019-20. Under these post-facto approvals, AEML-D vide its data gap reply has communicated the FBSM rate as Rs. 3.88/kWh. AEML-D also clarified that this rate has been arrived based on the weighted average energy charge of its own generating station, i.e., Adani Dahanu power plant. Accordingly, the Commission has considered the same rate of FBSM as submitted by AEML-D.



- 2.10 Similarly, for TPC-D, the Commission has considered the FBSM rate (provisional) as Rs. 3.50/kWh which was as per FAC submission made by TPC-D. It is noted that FBSM rate for both the licensee, i.e., for AEML-D and TPC-D are on provisional basis. Now, AEML-D vide its letter dated 19 September 2020 has requested the Commission to consider same rate of FBSM for both AEML and TPC, as a higher rate for AEML-D creates a competitive disadvantage for AEML-D, because it increases the FAC, which affects the Tariff. The Commission finds merit in AEML-D submission and accordingly, from present quarter has considered the same rate for both the licensees. However, request of AEML-D to revise the Q1 and Q2 post facto approval is not acceptable. As the Commission has already awarded post facto approval to said quarters, and there is no merit to revise same for provisional entries.
- 2.11 With regards to banking transaction, the Commission has considered the quantum as submitted by AEML-D. The same has been elaborated in subsequent paras of this report.
- 2.12 Further, the issue of adjustment of gap/(surplus) if any accruing after post facto approval of FAC for Q4, shall be dealt on Q4 of FY 2019-20.

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-19	Nov-19	Dec-19
			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	3071.56	255.96	372.00	350.08	325.60
LT II Commercial	3979.90	331.66	222.42	216.66	213.49
LT III(A) - LT Industrial upto 20 kW TOD Option	186.82	15.57	13.88	12.49	14.04
LT III(B) - LT Industrial above 20 kW	394.49	32.87	31.15	31.74	30.65
LT-V : LT- Advertisements and Hoardings	3.65	0.30	0.21	0.23	0.22
LT VI: LT -Street Lights	59.47	4.96	4.26	4.11	4.38
LT-VII : LT -Temporary Supply	10.37	0.86	1.13	0.92	1.26
LT VIII: LT - Crematorium & Burial Grounds	1.40	0.12	0.11	0.11	0.11



LT X: LT -Public Service (A)	25.80	2.15	2.21	2.15	2.16
LT X: LT -Public Service (B)	162.50	13.54	9.94	10.51	9.52
LT X (A) : LT - Agriculture Pumpsets	0.06	0.01	0.00	0.00	0.00
LT X (B) : LT - Agriculture Others	0.14	0.01	0.02	0.00	0.01
LTIV - Public Water Works	13.81	1.15	1.14	1.05	1.08
HT Category		0.00			
HT 1 (Industrial)	442.14	36.85	24.73	25.36	24.57
HT 2 (Commercial.)	345.26	28.77	46.68	44.38	43.22
HT 3 (Group Housing Soc.)	40.04	3.34	3.22	3.07	2.92
HT 4 (Temporary Supply)	2.87	0.24	0.03	0.04	0.05
HT – Railways	31.56	2.63	2.66	2.61	2.60
HT - Public Services (A)	8.66	0.72	0.48	0.48	0.45
HT - Public Services (B)	100.16	8.35	7.82	8.58	7.57
HT - Public Water Works	6.74	0.56	0.78	0.75	0.74
Total	8887.41	740.62	744.85	715.30	684.65

*As per MTR Order dt. 12 September, 2018

**-. In Case of AEML-D, the sales is approved on annual basis. Monthly approved sales is derived based on approved annual sales for comparison purpose.

3.2 It was observed that the actual sales for the months of November and December 2019 were significantly lower than the monthly approved sales of 740.62 MUs. In response to the clarification sought by the Commission in this regard, AEML-D replied that the monthly sales depend on seasonal factors like heat index, humidity, rainfall, etc. Therefore, there will be variation in sales within the months of a financial year. As October to December of a year includes summer as well as onset of winter months, there is variation in sales during the individual months. Thus, **the sales during October 744.85 MUs are higher than the average monthly sales approved for FY 19-20 in the MTR Order and the sales during November 715.30 MUs and December 684.65 MUs are lower than the average monthly sales approved for FY 19-20 in the MTR Order, which was 740.61 MUs.**

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)
- 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 October to December 2019, as compared to average power purchase cost approved in Tariff Orders dated 12 September, 2018:

Particulars	Approved** for October 2019			Actual for October 2019			Remark
	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	314.60	135.06	4.29	168.26	88.35	5.25	Higher APPC mainly due to increase in variable cost and Fixed Cost impact
RE Sources#	261.94	*83.44	3.19	11.04	7.99	7.24	Higher APPC mainly due to absence of cheaper sources as envisaged in MTR Order
VIPL-G	333.41	146.60	4.40	(0.48)	(0.37)	7.75	No Power purchase from VIPL-G, only auxiliary consumption
Bilateral/ Traders @	-	-	-	609.51	189.98	3.12	Bilateral + Banking
Others*	-	-	-	41.41	14.49	3.50	Imbalance Pool
Surplus Sale	(52.67)	(18.90)	3.59	-	-	-	No surplus sale
Total	857.28	346.21	4.04	829.74	300.44	3.62	

Particulars	Approved** for November 2019			Actual for November 2019			Remark
	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	314.60	135.06	4.29	276.11	124.48	4.51	Higher APPC mainly due to increase in variable cost and Fixed Cost impact
RE Sources#	261.94	83.44	3.19	8.88	6.50	7.31	Higher APPC mainly due to absence of cheaper sources as envisaged in MTR Order
VIPL-G	333.41	146.60	4.40	-	(0.47)	-	No Power purchase from VIPL-G, previous adjustment
Bilateral/ Traders @	-	-	-	449.16	121.54	2.71	Bilateral + Banking
Others*	-	-	-	71.29	24.95	3.50	Imbalance Pool



Particulars	Approved** for November 2019			Actual for November 2019			Remark
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost	
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh	
Surplus Sale	(52.67)	(18.90)	3.59	-	-	-	No surplus sale
Total	857.28	346.21	4.04	805.44	276.99	3.44	

Particulars	Approved** for December 2019			Actual for December 2019			Remark
	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	314.60	135.06	4.29	289.25	132.83	4.59	Higher APPC mainly due to increase in variable cost and Fixed Cost impact
RE Sources#	261.94	83.44	3.19	11.48	8.41	7.33	Higher APPC mainly due to absence of cheaper sources as envisaged in MTR Order
VIPL-G	333.41	146.60	4.40	-	-	-	No Power purchase from VIPL-G
Bilateral/ Traders@	-	-	-	393.75	129.56	3.29	Bilateral + Banking
Others*	-	-	-	72.64	66.05	9.09	Imbalance Pool + standby power
Surplus Sale	(52.67)	(18.90)	3.59	-	-	-	No surplus sale
Total	857.28	346.21	4.04	767.13	336.85	4.39	

*Others include UI, WRPC DSM charges and other charges Pl. refer para.4.37 to 4.41 below.

There is absence of new cheaper RE sources which was envisaged under the MTR Order. Pl. refer para. 4.26 to 4.29 below.

@ The Commission approved the ceiling rate to Rs. 5 per Unit in a subsequent Order in December, 2018. Pl. refer para.4.34 below.

**In case AEML-D, the power purchase quantum and cost are approved on annual basis. The monthly quantum and cost have been arrived based on yearly approved numbers for comparison purpose.

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). 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 its Renewable Purchase Obligation (RPO). Further, there was offtake (decrement) from the Imbalance Pool as per real time deviation.

- 4.4 The Commission has sought 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, 2019. 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 The paras below provide the detailed source wise analysis of power purchase expenses incurred by AEML-D during Q3 of FY 2019-20.

ADTPS (Own Generation):

- 4.6 **During the month of October, November and December 2019, AEML-D has purchased 168.26 MUs, 276.11 MUs and 289.25 MUs, respectively from ADTPS as compared to 314.60 MU approved in the MTR Order.** The quantum of power purchased mainly in the month of October, 2019 is observed lower as compared to other months of Q3 of FY 2019-20. In response to clarification sought, AEML-D clarified that Unit 2 was under forced outage from 7 October 2019 to 1 November, 2019 (i.e., 24.5 Days) due to shortage of domestic coal because of flooding in the underground coal mines managed by the South Eastern Coalfield Limited (SECL). This has led to lower generation during the said month. The Table below shows the month wise PLF and availability of ADTPS during Q3 of FY 2019-20:

Particular	October 2019	November 2019	December 2019
Availability	61.11*%	99.29%	97.12%
PLF	50.43*%	84.68%	85.79%

**lower due to forced outages*

- 4.7 Further, even though the monthly standalone PLF and availability was lower than the normative level for above specified period, the cumulative availability of ADTPS was higher than the normative Target availability of 85% for all the months of Q3 of FY 2019-20. ADTPS vide its data gap reply stated that **the cumulative availability upto Q3 months i.e., upto December, 2019 is 94.07%. Hence, ADTPS was entitled to recover full monthly fixed cost in line with the Regulation 48.3 of MYT Regulations, 2015.**



Accordingly, the spread of full monthly fixed cost over lower generation has affected the per unit fixed cost and hence, average power purchase cost from ADTPS. **Due to above, per unit fixed cost has increased from approved rate of Rs. 0.92/kW for FY 2019-20 to Rs.1.72/kWh in October, Rs. 1.05/kWh in November and Rs. 1.00/kWh in December, 2019.**

4.8 **The average cost of power purchase from ADTPS during the month of October, November and December, 2019 is Rs. 5.25/kWh, Rs. 4.51/kWh and Rs. 4.59/kWh, respectively, as compared to MTR approved rate of Rs. 4.29/kWh.** The variation in APPC from MTR approved value is mainly on account of following reasons:

- Variation in actual quantum of power purchase during respective period (PLF variation)
- Impact of monthly fixed charge payment (spread of fixed cost over monthly generation)
- Variation in the price of fuel during the respective period

4.9 The paras below provide the detailed analysis of variation in fuel price during Q3 period:

Fuel Price Analysis:

4.10 DTPS uses both Domestic (washed) and Imported coal for its generation. With regards to Domestic coal, ADTPS procures it from the South Eastern Coalfields Limited (SECL) having a GCV range band (G-10 & G-11) exceeding 4000 kCal/kg but not exceeding 4600 kCal/kg. The landed cost (i.e., Basic cost + Freight + Taxes/Duties + Handling charges + Other charges) of domestic washed coal for energy charge computation as **claimed by ADTPS for the month of October, November, and December 2019 is Rs. 5,283.71/MT, Rs. 5,597.22/MT, Rs.5,617.39/MT which is around 14% to 18% higher as compared to MTR approved value of Rs. 4740.41/MT.** ADTPS vide its data gap reply stated that the variation in landed price of domestic washed coal is mainly on account of, inter alia, change in notified price of coal, transportation rates, transit loss, grade slippage, taxes & duties, royalty etc.

4.11 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 purchased from South Eastern Coalfields Limited (SECL). ADTPS 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 From the invoices submitted, it can be inferred that main reason for such an increase in landed cost of domestic coal compared to MTR approved cost 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. 1 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

4.13 Apart from the above, ADTPS vide its data gap reply clarified that the increase in domestic washed coal is also due to the following reasons:

- **Increase in ‘Paryavaran and Vikas Upkar’ from Rs. 15/MT to Rs. 22.50/MT during Q3 of FY 2019-20**
- **Applicability of terminal tax of Rs. 1.04/MT w.e.f. December 2019**
- **Settlement of Grade slippage credit/debit note adjustment based on the reconciliation with SECL. AEML-D submitted that major reconciliation of grade slippage for the period till March, 2019 has been carried out. Post reconciliation, there is a net debit of Rs. 12.12 Crore. The same has been amortised in 5 months starting from November, 2019 onwards to March, 2020. In this regard, AEML-D submitted detailed settlement computation and a sample reconciliation statement as signed off by both the parties in contract.**

4.14 Further, to ascertain the prudence of landed cost of washed coal claimed, the Commission has worked out the landed cost of domestic coal on sample basis. The Commission has considered the basic Run of Mine price of above specified G-10 grade coal from the price notification notified by CIL (M&S:GM(F)/Pricing 2018/07). The Table below shows the computation of basic cost of raw domestic coal as per invoices and CIL (Coal India Limited) notifications:

Particular	Landed Coal Cost in December 2019 (Rs./MT)	Remark
Basic Amount (Run of Mine)	955.00	Price notified by CIL for G-11 coal



Particular	Landed Coal Cost in December 2019 (Rs./MT)	Remark
Royalty @ 14% of Base price	133.70	Calculated as per CIL notification
DMFT @30% of Royalty	40.11	Calculated as per CIL notification
NMET @2% of Royalty	2.67	Calculated as per CIL notification
Terminal Tax	1.04	Calculated as per CIL notification
Sizing Charges	87.00	As per CIL notification
CG Vikas Upkar and Pryavaran Upkar	22.50	As per CIL notification
Surface Transportation charges	57.00	As per CIL notification
Evacuation facility charges	50.00	As per CIL notification
Total Taxable Value	1,349.02	
GST @ 5%	67.45	Calculated as per CIL notification
Total Cost including GST	1,416.47	
GST Compensation Cess	400.00	As per CIL notification
Total Cost including GST Cess	1,816.47	
TCS @1%	18.16	Calculated as per CIL notification
Grand Total	1,834.63	

4.15 From above the basic raw cost of domestic coal worked out as Rs.1,834.63/MT. This price is the basic cost of raw coal available at the boundary of mine. This 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 to ADTPS by first transporting coal from washery to Railway Siding and thereafter transporting the clean coal through Rail to ADTPS station. Accordingly, washery charges, railway freight charges, local transport charges and other handling charges are added to above basic cost of coal to arrive at the landed cost of coal at ADTPS station. As stated above, ADTPS has submitted the invoices for washing charges, railway freight and other charges. The Commission has considered standard per MT charges as specified in sample bills to work out the landed cost of washed coal as shown in Table below:

Particular	Cost (Rs./MT)	GST (Rs./MT)
Basic raw coal cost	1,834.63	
#Railway Freight charges	2,567.60	128.38
*Coal Handling Charges:		
i. Local transportation charges	76.21	13.72
ii. Beneficiation charges	170.00	30.60
iii. Other handling charges	4.20	0.76



Particular	Cost (Rs./MT)	GST (Rs./MT)
*Other Charges:		
i. Liaisoning and loading supervision, Weighment, Maintenance of GCV & Transit loss, Placement of rakes etc.	176.00	31.68
*Third party sampling charges	4.20	0.76
Total Charges	4,832.84	205.90
Grand Total Landed Cost		5,038.74
Grand Total Including normative Transit Loss		5,079.30

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

4.16 From the above, the landed cost of domestic coal from the sample bills has been worked out as around Rs.5,079.30/MT. It is to be noted that the above cost is landed cost of coal purchased during Q3 period as per standard rate and sample bills. However, the cost claimed by ADTPS mentioned in paras above (i.e., Rs. 5,283.71/MT, Rs. 5,597.22/MT, Rs.5,617.39/MT) is the cost of coal actually consumed during Q3 period. This cost has been derived by ADTPS by Moving Average Price Method on the basis of coal inventory stock pertaining to previously purchased coal and recently added coal. Further, in addition to the above the landed cost claimed also include other expenses towards BG Commission, ARC coal rake handling and rail maintenance charges, bank charges, open coal yard insurance, etc. Because of this reason, the landed cost of coal as computed above based on sample bills and as considered in energy charge computation generally varies. However, the Commission has verified the total landed cost (Rs. Crore) of coal purchased and cost of inventory of coal from the detailed computation submitted by AEML-D for Q3 period vide its data gap reply and found to be in order.

4.17 Further, with regards to check the prudence of GCV of washed coal as considered for energy charge computation, the Commission sought for third party sampling report for each of the month of Q3. ADTPS has submitted the coal sampling report issued by Mitra S. K. Pvt Ltd and Inspectorate Griffith India Pvt Ltd (Bureau Veritas). The Table below shows the summary of GCV (net of stacking loss) as per sample report and as considered by ADTPS for energy charge computation:

Particular	October 2019	November 2019	December 2019
Wt. avg GCV as per 3 rd party Sample report (kCal/kg)	3,949 (21 samples)	4,203 (35 samples)	3,995 (43 samples)
Wt. avg GCV as received basis as considered by ADTPS (kCal/kg)	3,949	4,203	3,995

Imported Coal:



4.18 With regards to imported coal, it was observed that ADTPS had procured two vessels (MV Jia Yue and MV Sbi Ursa) of imported coal in the month of October, 2019 (total lading quantity 121,000 MT) and two vessels (MV Spar Canis and MV Magnum Force) of imported coal in the month of November, 2019 (total lading quantity 105,360 MT), and two vessels (MV Coral Gem and MV Star Glory) of imported coal (total lading capacity of 112,790 MT) in the month of December, 2019. The Commission has asked ADTPS to confirm if the imported coal has been procured through competitive bidding. In its response ADTPS confirmed that it has procured imported coal through competitive bidding only.

4.19 From the invoices submitted, it was observed that the aforesaid quantity of coal has been procured at a FOB price of 52.81 USD/MT and 51.43 USD/MT for the two vessels purchased in the month of October, 2019, FOB price of 50.30 USD/MT and 55.39 USD/MT for the two vessels procured in the month of November, 2019 and FOB price of 61.23 USD/MT and 61.63 USD/MT for the vessels procured in the month of December 2019. This FOB prices were arrived as per FOB formula specified in contract awarded to successful bidder. The formula as per contract is as reproduced below:

Contract Period	Bidder	FOB Formula
Till November, 2019	Pan asia	$\text{FOB} = \frac{\{API\ 4\ Index + NEWC\ Index\} \times 0.89 \times 4400}{2 \times 6300}$
From December, 2019 onwards	Taurus	$\text{FOB} = \frac{\{API\ 4\ Index + NEWC\ Index\} \times 0.90 \times 4400}{2 \times 6300}$

4.20 As per formula above, it can be seen that the price of imported coal is linked to API 4 (Richards Bay indices) and New Castle indices. Accordingly, the Commission sought supporting document for coal reference indices along with detailed computation of FOB prices as reflected in the invoices of imported coal purchased during aforesaid period. ADTPS submitted the required details as shown in Table below:

Sr No.	Invoice Rate Calculation	Imported Coal Vessel					
		MV Jia Yue	MV Sbi Ursa	MV SPAR CANIS	MV MAGNUM FORCE	MV CORAL GEM	MV STAR GLORY
		October 2019		November 2019		December 2019	
1.	Richards Bay Index (6300 CV)	59.87	60.69	58.73	70.18	86.66	86.66
2.	NewCastle Index (6300 CV)	65.36	65.94	64.99	68.34	67.62	67.62



Sr No.	Invoice Rate Calculation	Imported Coal Vessel					
		MV Jia Yue	MV Sbi Ursa	MV SPAR CANIS	MV MAGNUM FORCE	MV CORAL GEM	MV STAR GLORY
		October 2019		November 2019		December 2019	
3.	Average Index (6300 CV)	62.62	63.32	61.86	69.26	77.14	77.14
4.	FOB adjusted to 4400 CV	43.73	44.22	43.20	48.37	53.88	53.88
5.	Discount on FOB	11%	11%	11%	11%	10%	10%
6.	Resultant FOB Price	38.92	39.36	38.45	43.05	48.49	48.49
7.	Actual GCV-Kcal/kg-ARB (Load Port)	4,275	4,139	4,040	4,128	4,058	4,094
8.	GCV-Kcal/kg-ARB (Contract)	4,400	4,400	4,400	4,400	4,400	4,400
9.	Final adjusted FOB \$	\$37.81	\$36.43	\$35.30	\$40.39	\$44.72	\$45.12
10.	Fixed Ocean Freight (as per Contract)	\$15.00	\$15.00	\$15.00	\$15.00	\$16.51	\$16.51
11.	Total cost as per contract	\$52.81	\$51.43	\$50.30	\$55.39	\$61.23	\$61.63

4.21 The above computed cost is the basic purchase cost of imported coal (FOB price + Freight charges). In addition to above, the other charges such as stevedoring charges, loading/unloading charges at DTPS jetty, road transportation charges from ADTPS jetty to ADTPS stockyard, insurance, custom duty, analysis charges, taxes/duties etc. are also payable by ADTPS. Based on above charges, the landed cost of imported coal is derived. The Table below shows the summary computation of landed cost of imported coal procured during Q3 of FY 2019-20:

Sr No.	Particulars	UoM	Imported Coal Purchase costs during Q3 of FY 2019-20						Total	Remark
			MV JIA YUE	MV SBI URSA	MV SPAR CANIS	MV MAGNUM FORCE	MV CORAL GEM	MV STAR GLORY		
1	Vendor		Pan Asia Coal Trading Pte.Ltd.			Taurus Commodities				
2	Receipt Month		Oct'19	Oct'19	Nov'19	Nov'19	Dec'19	Dec'19		As per Invoice
3	Bill of Lading	MT	60,500.00	60,500.00	53,000.00	52,360.00	54,540.00	58,250.00	339,150.00	As per Invoice
4	GRN / Receipt Qty.	MT	60,208.13	60,226.02	52,979.07	52,307.20	54,511.96	58,237.82	338,470.20	As per Invoice
5	Transit Loss	MT	291.87	273.98	20.93	52.80	28.04	12.18	679.80	As per Invoice
6	Transit Loss	%	0.48%	0.45%	0.04%	0.10%	0.05%	0.02%	0.20%	As per Invoice



Sr No.	Particulars	UoM	Imported Coal Purchase costs during Q3 of FY 2019-20							Total	Remark
			MV JIA YUE	MV SBI URSA	MV SPAR CANIS	MV MAGNUM FORCE	MV CORAL GEM	MV STAR GLORY			
7	Purchase Rate	USD/MT	52.81	51.43	50.30	55.39	61.23	61.63		As per Invoice	
8	Invoice Value	USD	3,195,005	3,111,515	2,665,900	2,900,220	3,339,484	3,589,947	18,802,072		
9	Exchange Rate	Rs./USD	70.91	71.12	71.05	71.45	70.75	71.16		As per Invoice	
10	Basic Value	Rs. Crore	22.66	22.13	18.94	20.72	23.63	25.54	133.62	As per Invoice	
11	Custom Duty	Rs. Crore	3.62	3.58	3.12	3.17	3.43	3.66	20.58	As per Invoice	
12	Stevedoring Charges	Rs. Crore	1.79	1.56	1.61	1.63	1.79	1.92	10.29	As per Invoice	
13	Coal Analysis	Rs. Crore	0.02	0.02	0.02	0.02	0.02	0.02	0.12	As per Invoice	
14	Coal Insurance	Rs. Crore	0.01	0.01	0.01	0.01	CIF	CIF	0.04	As per Invoice	
15	Total	Rs. Crore	28.09	27.30	23.70	25.55	28.86	31.14	164.64		
16	IGST on Ocean Freight	Rs. Crore	0.32	0.32	0.28	0.28	0.32	0.34	1.87	As per Invoice	
17	Total Value	Rs. Crore	28.42	27.62	23.98	25.83	29.18	31.48	166.51		
18	Landed Cost	Rs./MT	4,720	4,587	4,527	4,938	5,353	5,406			

4.22 It is to be noted that the above price is the landed price of imported coal which was purchased during Q3 period. This price generally varies with the price as claimed for energy charge computation because the price for energy computation is determined by ADPTS as per FIFO method based on the weighted average price of the vessels from which such quantity was consumed.

4.23 Further, the cost of imported coal considered in energy charge computation as claimed by ADPTS is Rs. 4,706.89/ MT, Rs. 4598.00 / MT, and Rs. 4,895.50 / MT, respectively, for the months of October, November, and December 2019, as against MTR approved price of Rs. 5,070/MT for FY 2019-20. The reasons for variation in price of imported coal is mainly attributable to variation in the value of indices and the exchange rate.

VIPL-G

4.24 With regard to VIPL-G, as already mentioned in previous post facto approval that the Commission has issued the Order in Case No. 247 of 2019 on 16 December, 2019 wherein



the termination notice issued by AEML-D has been held valid. Hence, there is **Hence, there is no purchase during Q2 of FY 2019-20 from VIPL-G.**

4.25 Further, during Q3 of FY 2019-20 (mainly in the month of October, 2019), VIPL-G has drawn power from grid for its auxiliary operations. AEML-D has charged VIPL at the rate of energy charge for HT – I (Industry) as approved in the MTR Order dated 12 September, 2018 in Case No. 200 of 2017, for this energy. VIPL filed a Petition (Case No. 232 of 2019) seeking a clarification on netting off the energy drawn by it with the energy injected into the grid for supply to AEML-D. The Commission in the Order dated 17 October, 2019 in Case No. 232 of 2019 has stated that for the period till October 2019 energy drawn by VIPL from the grid has to be settled with AEML-D at the energy charge rate of AEML-D as approved in the MTR Order dated 12 September, 2018 in Case No. 200 of 2017. Accordingly, the revenue corresponding to the energy drawn from grid by VIPL in October, 2019 is adjusted in the power purchase expense for the said month. Hence, the power purchase quantum and cost is considered as negative mainly for October, 2019.

RE Power:

4.26 The sources of RE for AEML-D are DSPPL, Reliance Innoventure, AAA Sons Enterprise, Vector Green Energy Pvt Ltd. Tembhu Power Pvt. Ltd., Reliance Clean Power Pvt. Ltd. AEML-D has purchased 11.04 MU, 8.88 MU and 11.48 MU of RE power during the month of October, November, and December 2019, respectively. **The APPC from RE sources were Rs. 7.24/kWh, Rs. 7.31/kWh and Rs. 7.33/kWh for the respective months of Q3 as compared to MTR approved rate of Rs. 3.19/kWh for FY 2019-20.** The Table below shows the summary of RE power purchase during Q3 of FY 2019-20.

Sources	Approved		October 2019		November 2019		December 2019	
	MUs	(Rs./kWh)	Actual MUs	Actual Rs./kWh	Actual MUs	Actual Rs./kWh	Actual MUs	Actual Rs./kWh
Solar Sources:								
DSPPL	5.73	10.30	4.25	10.30	3.54	10.30	4.53	10.30
New Solar Sources	36.45	2.72	NA	NA	NA	NA	NA	NA
Non-Solar Sources:								
Reliance Innoventure	6.50	5.00	2.39	5.00	1.50	5.00	1.79	5.00
AAA Sons Enterprise*	0.25	5.00	0.07	5.00	0.07	5.00	0.07	5.00
Vector Green Energy Pvt Ltd	2.62	5.00	1.36	5.00	1.29	5.00	1.38	5.00
Vector Green Energy Pvt Ltd	0.92	5.07	0.30	5.07	0.29	5.07	0.42	5.07
Tembhu Power Pvt. Ltd.	0.71	4.26	-	-	-	-	-	-
Reliance Clean Power Pvt. Ltd.	6.07	5.81	2.66	5.81	2.19	5.81	3.28	5.81



Sources	Approved		October 2019		November 2019		December 2019	
	MUs	(Rs./kWh)	Actual MUs	Actual Rs./kWh	Actual MUs	Actual Rs./kWh	Actual MUs	Actual Rs./kWh
Non-Solar New Sources	200.9	2.87	-	-	-	-	-	-
Mini/Micro hydro	1.71	5.64	-	-	-	-	-	-
Total RE Power	261.9	3.19	11.04	7.24	8.88	7.31	11.48	7.33

**Actual power purchase quantum and cost considered as per bills as against the provisional number considered by AEML-D in its submission*

4.27 It can be seen from above table, that even though all the RE power has been procured from approved sources at an approved price, APPC is still higher as compared to MTR approved rate of Rs. 3.19/kWh. This is mainly due to the reason that in MTR Order, while determining the power purchase price for RE sources, the Commission has envisaged that the RPO Obligation (Solar and Non-Solar) of AEML-D would first be met from the existing tied up sources (solar and non-solar) and the remaining RPO requirement would then be fulfilled from new RE sources such as new solar, new non-solar and hydro, instead of any REC purchase. Accordingly, for solar RPO obligation, the Commission has considered solar purchase from existing tied up source, i.e., DSPPL at Rs.10.30/kWh. However, in absence of any identified new RE sources at that time, the Commission has considered the additional requirement of Solar power for FY 2019-20 to be purchased at generic tariff of Rs. 2.72/kWh as determined in the Order in Case No. 204 of 2018. Similarly, for non-solar RPO obligation, the Commission has considered the same to be met through existing tied up Non-solar sources at a weighted average price of Rs.5.26/kWh and the remaining through new non-solar sources at the generic tariff of Rs. 2.87/kWh as determined in the Order in Case No. 204 of 2018 instead of any REC purchase. Considering the above mentioned prices, the weighted average power purchase cost from overall RE sources has been worked out as Rs. 3.19/kWh for FY 2019-20.

4.28 As against the above, in the present quarter the solar and non-solar RPO target has been fulfilled by AEML-D through purchase of RE power from existing tied up sources only. There were no new solar or non-solar sources (having cheaper approved rate) identified in Q3 power purchase portfolio. Hence, **absence of these new cheaper RE power sources has resulted in higher APPC from RE sources in Q2 of FY 2019-20 than MTR approved price.** Further, in response to clarification sought for absence of new cheaper sources as envisaged in MTR Order, AEML-D stated that any RE purchase under competitive guidelines need minimum 18 months lead time, hence AEML could not tie up any new solar or non-solar source for purchase of RE power in FY 2019-20. AEML conducted a competitive bidding for procurement of power from a Wind – solar hybrid source (350 MW + 350 MW) in FY 2019-20. Vide Order dated 8 January, 2020 in Case No. 281 of 2019, the Commission has approved the proposal at the rate of Rs.3.24 per unit. The



power procurement from the said new source shall commence from FY 2021-22. Hence in FY 2019-20, AEML has purchased RE power from existing RE sources only.

4.29 Further, the variation in APPC within the months are mainly due to variation in actual quantum of power purchase from these sources during respective period of Q3 of FY 2019-20. The Table below shows the actual source wise RE quantum purchase along with % share of each sources vis-à-vis approved sources wise RE quantum and approved % share of each sources during Q3 of FY 2019-20:

Sources	Approved			October 2019		November 2019		December 2019	
	MUs	Share (%)	Rate (Rs./kWh)	MUs	% Share	MUs	% Share	MUs	% Share
Solar									
DSPPL	5.73	2.19%	10.30	4.25	39%	3.54	40%	4.53	39%
New Solar Sources	36.45	13.92%	2.72	0.00	0%	0.00	0%	0.00	0%
Non-Solar									
Reliance Innoventure	6.50	2.48%	5.00	2.39	22%	1.50	17%	1.79	16%
AAA Sons Enterprise	0.25	0.10%	5.00	0.07	1%	0.07	1%	0.07	1%
Vector Green Energy Pvt Ltd	2.62	1.00%	5.00	1.36	12%	1.29	14%	1.38	12%
Vector Green Energy Pvt Ltd	0.92	0.35%	5.07	0.30	3%	0.29	3%	0.42	4%
Tembhu Power Pvt. Ltd.	0.71	0.27%	4.26	0.00	0%	0.00	0%	0.00	0%
Reliance Clean Power Pvt. Ltd.	6.07	2.32%	5.81	2.66	24%	2.19	25%	3.28	29%
Non-Solar New Sources	200.98	76.73%	2.87	0.00	0%	0.00	0%	0.00	0%
Mini/Micro hydro	1.71	0.65%	5.64	0.00	0%	0.00	0%	0.00	0%
Total RE Power	261.94	100.0%	3.19	11.04	100%	8.88	100%	11.48	100%
APPC		3.19		7.24		7.31		7.33	

4.30 As can be seen from above Table, there is a substantial variation in actual power purchase quantum from various RE sources within the months. Further, the weighted average power purchase cost (Rs./kWh) is arrived by considering the percentage share of each source and its corresponding approved energy charges. **Therefore, when the quantum and hence, % share of costlier approved sources in the overall RE portfolio is higher, the weighted average power purchase cost (Rs./kWh) driven towards approved price of costlier sources and vice-versa.**

Bilateral Power:



- 4.31 With regards to bilateral power, AEML-D has purchased it mainly from IEX, AEL, DIL, MPL and APPCL. AEML-D has purchased 528.98 MU, 342.68MU and 357.20 MU during the months of October, November, and December 2019, respectively. **The APPC from bilateral sources were Rs. 3.54/kWh, Rs. 3.43/kWh and Rs. 3.59/kWh during the above period.**
- 4.32 The Commission has asked AEML-D to confirm if it has procured the bilateral power through competitive bidding process. In its reply, AEML-D stated that **it has purchased short-term/ bilateral power either through competitive bidding via DEEP e-portal or Power Exchange or through day ahead exchange linked contracts.** AEML further clarified that power procured through exchange linked contracts on day ahead basis is at a rate lower than the rates discovered in IEX. It further stated that through such contracts, trading margin of IEX is also saved. AEML-D has also submitted sample exchange linked contracts and sample firm contracts of short-term purchase through DEEP e-portal
- 4.33 The Commission has not approved any bilateral quantum purchase for AEML-D for FY 2019-20. However, in actual AEML-D has purchase substantial quantum of bilateral power. In this regard, AEML-D, vide its data gap reply for Q1 of FY 2019-20 had clarified that the short term quantum and cost in FY 2019-20 were NIL in MTR Order as the Commission had considered the entire RE shortfall till FY 2017-18, apart from the standalone requirement of FY 2019-20 to be met in FY 2019-20, through new solar and non-solar sources in the MTR Order. However, AEML-D had to procure short term power in order to compensate for the non-availability of power from VIPL-G and the replacement of power that was projected to be purchased from RE sources towards meeting the requirement of FY 2019-20 as well as shortfall of previous years. AEML-D further stated that in any case, even if RE power had been available, purchase of short-term power to meet shortfall in peak is always required.
- 4.34 Further, AEML-D in its separate Petition had contended before the Commission that for procurement of power from new RE sources through competitive bidding as per guidelines of Central Government, it will take at least 18-20 months for actual realisation of RE power. Till that time, energy which is projected to be procured from RE sources will need to be sourced through other short-term sources. **The Commission vide its Order dated 1 January, 2019 in Case No. 335 of 2019 considered the submissions of AEML-D and allowed them to meet shortfall in energy on account of non-availability of RE sources from other short term sources with the ceiling rate for purchase of short-term power at Rs. 5.00/kWh.** Considering that the short-term power has been procured through competitive bidding or through exchange and the price of which is also within the ceiling rate approved by the Commission, same has been considered as submitted by AEML-D.

Banking Cost:



- 4.35 AEML-D vide its data gap reply clarified **that it has received 80.53 MUs in the month of October 2019, 106.48 MUs in the month of November 2019 and 36.55 MUs in the month of December, 2019 towards banking power as per banking arrangement with MPL.** However, in the initial FAC submission of Q3 of FY 2019-20, AEML-D has not considered the banking quantum as well as cost. It has only considered banking OA charges and Trading Margin for the aforesaid purchase. AEML-D further stated that it revised the FAC submission wherein it has considered the banking quantum as the energy has been actually received by AEML-D. With regard to cost of banked energy, the actual payment will happen in the period when the energy will be returned by AEML-D to the banking partner, i.e., FY 2020-21. Accordingly, consequent cost of energy shall be claimed in FY 2020-21.
- 4.36 **The Commission has verified the banking OA charges and Trading Margin from the documents submitted by AMEL-D vide its data gap reply and found to be in order.** Accordingly, the Commission has considered the Banking OA Charges and quantum for Q3 of FY 2019-20, as submitted by AEML-D vide its data gap reply. **Further, the Commission is of the view that energy banking transaction should benefit the end consumers by bringing down the average power purchase cost of AEML-D. Accordingly, the Commission directs AEML-D to substantiate and submit the party-wise benefits of such transactions at the time of filing of Truing-up Petition for FY 2019-20.**

Standby Power:

- 4.37 **The Commission observed that AEML-D has purchased standby power of 4.36 MUs during the month of December 2019.** In response to clarification sought, AEML-D stated that the standby power was scheduled from MSEDCL on 26 December, 2019 due to unplanned outage of ADTPS Unit-1 (Boiler Tube Leakage). With regards to invoices, AEML-D stated that, MSEDCL bills the Standby power based on FBSM bills, but since the FBSM bills for the period after Mar-2018 are not issued, the invoices for supply of standby power for Q3 of FY 2019-20 have not been received from MSEDCL yet. Accordingly, the cost has been considered on provisional basis.
- 4.38 Further, it was observed that AEML-D has considered some adjustment towards standby charges of previous year amounting to Rs. (0.08) Crore mainly in the month of December, 2019. AEML-D vide its data gap reply clarified that as per Accounting Standards, it had made provision of Rs. 61,10,000 for the standby energy scheduled in May 2017 and June 2017. Subsequently, AEML-D has received two bills from MSEDCL for standby energy scheduled in May 2017 and June 2017 amounting to Rs. 52,95,047. However, AEML-D disputed the rate charged by MSEDCL and has paid Rs. 52,67,525/- only. Hence, excess provision made earlier was reversed in December 2019, amounting to Rs. 8,42,475/- and the same has been passed through as credit to consumers in the FAC of December 2019.



AEML-D also submitted working of the same, along with bills. The Commission has scrutinised the same and found them to be in order.

FBSM/Imbalance Pool:

- 4.39 The Commission observed that AEML-D has not considered any pool quantum and cost in FAC computation as the same being on provisional basis was disallowed by the Commission in previous post facto approvals (Q1 of FY 2018-19). However, AEML-D in its earlier submission (Q2 of FY 2018-19) has requested to consider these provisional entries as UI power is actually consumed and the rates of which are normally lower as compared to other sources of power. Thus, consideration of the same reduces the average power purchase cost and correspondingly reduce FAC burden on consumers. Accordingly, on request of licensee and also to avoid FAC burdens on consumers, the Commission has considered the power purchase quantum as well as the cost towards imbalance pool on provisional basis in post-facto approval of FY 2018-19.
- 4.40 **In present approval as well, the Commission has continued with the same approach as adopted in previous post-facto approvals and has considered imbalance power purchase quantum as well as the cost on provisional basis. With regards to FBSM rate the Commission has considered it as Rs. 3.50/kWh as stated in paras above.** However, Utility is requested to expedite the FBSM settlement process and submit the actual bills with adjustments, if any, promptly. Further, it is to clarify that AEML-D should not treat the Imbalance Pool mechanism as a source of procuring power. It is only meant for settling the deviations in the real-time power interchange between various pool participants. Therefore, AEML-D is required to carry out due diligence of its Power procurement plans in such a way to minimise quantum of purchase from Imbalance Pool.

Take or Pay

- 4.41 It was observed that AEML-D had considered some adjustment of Rs. 40.49 Crore in the month of December 2019. In response to clarification sought, AEML-D stated that the **aforesaid payment was made to TPC as per the Commission's Order by way of MA No. 39 of 2009 in Case No. 7 of 2002.** The said Order was issued on 22 January 2020, wherein, TPC was directed to revise the bill for 'Take or Pay' and AEML-D was to pay such amount to TPC. Further, as per the Order, amount received by TPC shall be shared amongst the distribution licensees who were taking power supply from TPC during that period. TPC, subsequently, on 30 January, 2020 demanded Rs. 57.05 Crore from AEML. In the claim of TPC, AEML's receivable share in TPC-G amounted to Rs. 16.56 Crore. Thus, AEML, without prejudice to the claim of TPC, paid the differential amount of Rs. 40.49 Crore (Rs. 57.05 Crore minus Rs. 16.56 Crore). Accordingly, the same has been considered in FAC calculations during the month of December 2019.



Surplus Sale:

4.42 There was no surplus power available with AEML-D during Q3 of FY 2019-20, hence, **no surplus sale has been done in present quarter.**

Summary:

- 4.43 Based on the above, the key reasons for variation in average power purchase cost is due to variation in washed and imported coal prices for ADTPS, impact of full monthly fixed charge payment over lower net generation due to lower PLF, absence of cheaper new sources of RE power in overall RE portfolio, no bilateral sale, consideration of cost and quantum for imbalance pool, standby power purchase, Banking quantum and cost consideration and Take and Pay cost incurred during respective period.
- 4.44 Based on above analysis, the Commission thus allows the APPC of **Rs. 3.62/kWh, Rs. 3.44/kWh, and Rs. 4.39/kWh** for the months of October, November, and December 2019, as shown in the Tables above.



4.45 The Table below shows the comparison of the power purchase cost claimed by AEML-D-D and as approved by the Commission for Q3 of FY 2019-20:

Source of Power Purchase	October 2019			November 2019			December 2019		
	Net Purchase	Power Purchase Cost	Average power purchase cost	Net Purchase	Power Purchase Cost	Average power purchase cost	Net Purchase	Power Purchase Cost	Average power purchase cost
	MU	Rs. Crore	Rs./kWh	MU	Rs. Crore	Rs./kWh	MU	Rs. Crore	Rs./kWh
Power Purchase Cost claimed by AEML-D									
ADTPS	168.26	88.35	5.25	276.11	124.48	4.51	289.25	132.83	4.59
RE Generating Stations	11.04	7.99	7.24	8.88	6.16	6.93	11.48	8.41	7.33
VIPL-G	(0.48)	(0.37)	7.75	0.00	(0.47)		0.00	0.00	
Bilateral	528.98	189.98	3.59	342.68	121.54	3.55	357.20	129.56	3.63
Other Sources (FBSM/Standby/SLDC)	0.00	0.00	0.00	0.00	0.00	0.00	4.36	42.15	96.59
Total power purchase claimed	707.80	285.95	4.04	627.66	251.70	4.01	662.29	312.95	4.73
Power Purchase Cost approved by the Commission									
ADTPS	168.26	88.35	5.25	276.11	124.48	4.51	289.25	132.83	4.59
RE Generating Stations	11.04	7.99	7.24	8.88	6.50	7.31	11.48	8.41	7.33
VIPL-G	(0.48)	(0.37)	7.75	-	(0.47)	-	0.00	0.00	
Bilateral	609.51	189.98	3.12	449.16	121.54	2.71	393.75	129.56	3.29



Source of Power Purchase	October 2019			November 2019			December 2019		
	Net Purchase	Power Purchase Cost	Average power purchase cost	Net Purchase	Power Purchase Cost	Average power purchase cost	Net Purchase	Power Purchase Cost	Average power purchase cost
	MU	Rs. Crore	Rs./kWh	MU	Rs. Crore	Rs./kWh	MU	Rs. Crore	Rs./kWh
Other Sources (FBSM/Standby/SLDC)	41.41	14.49	3.50	71.29	24.95	3.50	72.64	66.05	9.09
Total power purchase approved	829.74	300.44	3.62	805.44	276.99	3.44	767.13	336.85	4.39



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 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 October to December, 2019.

S. No.	Particulars	Units	Oct 2019	Nov 2019	Dec 2019
1	Average power purchase cost approved by the Commission*	Rs./kWh	4.04	4.04	4.04
2	Actual average power purchase cost	Rs./kWh	3.62	3.44	4.39
3	Change in average power purchase cost (=2 -1)	Rs./kWh	(0.42)	(0.60)	0.35
4	Net Power Purchase	MU	829.74	805.44	767.13
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	(34.65)	(48.28)	27.05

*As per MTR Order dt. 12 September, 2018

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

6.1 The adjustment factor for over recovery/under recovery for Q3 of FY 2019-20 is computed as below:

S. No.	Particulars	Units	Oct 2019	Nov 2019	Dec 2019
1.1	Incremental cost allowed to be recovered in Month n-4	Rs. Crore	36.71	35.77	4.04
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	36.41	34.17	32.65
1.3	Over-recovery/under-recovery (1.2 - 1.1)	Rs. Crore	0.30	1.60	(28.61)
1.4	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit	Rs. Crore	38.38	75.76	0.00
2.0	Net Adjustment factor for over-recovery/under-recovery	Rs. Crore	38.68	77.36	(28.61)

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 to December, 2019.

Month	Oct 2019	Nov 2019	Dec 2019
Adjustment Factor (Rs. Crore)	0.30	1.60	(28.61)
Applicable Interest Rate	9.55%	9.50%	9.40%
Carrying/ Holding cost for under/ over recovery (Rs. Crore)	0.00	0.03	(0.45)

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. N o.	Particulars	Units	Approved in MTR Tariff Order	Cumulative up to		
				Oct 2019	Nov 2019	Dec 2019
1	Net Energy Input at Distribution Voltages for own sales	MU	9,947.90	5896.08	6,706.85	7,479.42
2	Own Energy sales at Distribution voltages	MU	8,887.41	5373.45	6,088.74	6,773.39
3	Distribution Loss (1 - 2)	MU	1,060.49	522.64	618.10	706.02



S. No.	Particulars	Units	Approved in MTR Tariff Order	Cumulative up to		
				Oct 2019	Nov 2019	Dec 2019
4	Distribution Loss as % of net energy input (3/1)	%	10.66%	8.86%	9.22%	9.44%
5	Excess Distribution Loss = [Actual Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	-	-	-
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 October to December 2019 is lower than the approved distribution losses of 10.66%. Accordingly, **no deductions have been made on account of excess distribution loss for the months of October to December 2019.**

9. Summary of Allowable Z_{FAC}

9.1 The summary of the FAC amount as approved by the Commission for the month of October to December 2019 which is allowed to be recovered in the billing month of December 2019 to February 2020 is as shown in the Table below.

S. No.	Particulars	Units	Oct 2019	Nov 2019	Dec 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	(34.65)	(48.28)	27.05
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	0.00	0.03	(0.45)
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	38.68	77.36	(28.61)
1.4	ZFAC = F+C+B	Rs. Crore	4.04	29.10	(2.01)
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	744.85	715.30	684.65
2.2	Excess Distribution Loss	MU	-	-	-



S. No.	Particulars	Units	Oct 2019	Nov 2019	Dec 2019
2.3	ZFAC per kWh	Rs./kWh	0.05	0.41	(0.03)
2.4	Cap at 20% of variable component of tariff	Rs./kWh	1.29	1.29	1.29
2.5	FAC Charge allowable (Minimum of 2.3 and 2.4)	Rs./kWh	0.05	0.41	(0.03)
3.0	Recovery of FAC				
3.1	Allowable FAC [(2.1 x 2.5)/10]	Rs. Crore	4.04	29.10	(2.01)
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	4.04	29.10	(2.01)
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 October, November and December, 2019 is Rs. 4.04 Crore, Rs. 29.10 Crore and Rs (2.01) Crore respectively. Based on total energy sales, FAC per unit has been worked out as Rs. 0.05/kWh, Rs. 0.41/kWh and Rs. (0.03)/kWh for the months of October, November December, 2019, 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 The FAC per unit for Q3 of FY 2019-20 is lower than the capping of 20% cap specified in Regulation as shown in Table above, hence, there is no restriction triggered with regards to such ceiling for the Q3 months of FY 2019-20.

9.4 However, as against the above AEML-D in its initial FAC submission of Q3 of FY 2019-20 has worked out FAC (including carry forward) for the months of October, November and December, 2019 as Rs. 42.43 Crore, Rs. 79.62 Crore and Rs 55.33 Crore, respectively. Based on total energy sales, FAC per unit worked out by AEML-D was Rs. 0.57/kWh, Rs. 1.11/kWh and Rs. 0.81/kWh for the respective months. However, as against the aforesaid per Unit FAC, AEML-D has levied only Rs. 0.50/kWh for all the months of Q3 stating that charging such a such high level of per unit FAC, would subject the consumers to significantly high electricity bills. The remaining un-charged FAC, i.e., Rs. 5.18 Crore, Rs. 43.86 Crore and Rs. 21.10 Crore pertaining to the months of October, November and December, 2019 respectively, has been considered as carry forward FAC.



9.5 **AEML-D was to recover Rs.27.09 Crore cumulatively for the last two months of the quarter. However, as against this AEML-D has actually worked out FAC recovery as Rs. 70.00 Crore. Hence, there is an over-recovery of amount Rs. 42.91 Crore. Therefore, AEML-D is required to re-fund additional recovered FAC of Rs. 42.91 Crore to consumers.**

9.6 Further, AEML-D has considered an amount of Rs. 64.96 Crore (i.e., carry forward FAC of November and December, 2019) as carry forward FAC for the next quarter as per existing billing cycle. (i.e., FAC which got un-recovered due to application of ceiling and to be considered in FAC calculation of next quarter). However, against this there is no carry forward FAC outstanding as per Commission's approval. Hence, **the carry forward FAC for the next quarter is approved as Nil.**

9.7 As FY 2019-20 is already over, therefore, above adjustment will be rolled over in next FAC approvals (i.e., FAC of Q4 of FY 2019-20) and finally would be adjusted in the final True up of FY 2019-20.

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 Q3 of FY 2019-20.

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} for the month of October to December, 2019 to be charged to the consumers of AEML-D for the billing month of December 2019 to February, 2020.

FAC for Billing Month of December, January and February

S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			Dec -19	Jan-20	Feb-20
			Rs./kWh	Rs./kWh	Rs./kWh
(A)	LT Category				
1	LT I - Below Poverty Line	0-30	0.2750	0.2750	0.2750
2	LT -I Residential (Single Phase)				
		0-100	0.2915	0.2915	0.2915
		101-300	0.5144	0.5144	0.5144
		301-500	0.5749	0.5749	0.5749
		500 and above	0.6723	0.6723	0.6723
3	LT -I Residential (Three Phase)				
		0-100	0.2903	0.2903	0.2903
		101-300	0.4730	0.4730	0.4730
		301-500	0.5478	0.5478	0.5478



S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			Dec -19	Jan-20	Feb-20
			Rs./kWh	Rs./kWh	Rs./kWh
		500 and above	0.6423	0.6423	0.6423
4	LT II : LT - Non - Residential or Commercial				
		0-20 kW	0.5650	0.5650	0.5650
		20-50 kW	0.6000	0.6000	0.6000
		above 50 kW	0.6150	0.6150	0.6150
5	LT III (A) - LT Industrial	upto 20 kW	0.5150	0.5150	0.5150
6	LT III (B) - LT Industrial	above 20 kW	0.5600	0.5600	0.5600
7	LT IV : LT- Public Water Works	all units	0.5150	0.5150	0.5150
8	LT V : LT- Advertisements and Hoardings	all units	0.6500	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	0.4600	0.4600	0.4600
11	LT VII (B): LT -Temporary Supply Others	all units	0.6450	0.6450	0.6450
12	LT VIII: LT - Crematorium & Burial Grounds	all units	0.4000	0.4000	0.4000
13	LT IX (A) : LT -PS - Govt. Hospitals & EI	all units	0.4700	0.4700	0.4700
14	LT IX (B) : LT -PS – Others	all units	0.4900	0.4900	0.4900
15	LT X (A) : LT - Agriculture Pumpsets	all units	0.3350	0.3350	0.3350
16	LT X (B) : LT - Agriculture Others	all units	0.4250	0.4250	0.4250
17	LT IX : LT – EVCS	all units	0.3503	0.3503	0.3503
(B)	High Tension – HT				
18	HT I: HT-Industry	all units	0.5700	0.5700	0.5700
19	HT II : HT- Commercial	all units	0.6200	0.6200	0.6200
20	HT III: HT-Group Housing Society	all units	0.5550	0.5550	0.5550
21	HT IV : HT - Public Water Works	all units	0.5150	0.5150	0.5150
22	HT V (A) - HT Metro & Monorail	all units	0.4211	0.4211	0.4211
23	HT V (B) - HT Metro & Monorail	all units	0.5100	0.5100	0.5100
24	HT VI (A) : HT - PS - Govt. Hospitals & EI	all units	0.5300	0.5300	0.5300
25	HT VI (B) : HT - PS – Others	all units	0.5850	0.5850	0.5850



S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			Dec -19	Jan-20	Feb-20
			Rs./kWh	Rs./kWh	Rs./kWh
26	HT VII - Temporary Supply	all units	0.5800	0.5800	0.5800
27	HT VIII - HT – EVCS	all units	0.3531	0.3531	0.3531



11. Summary:

11.1 The Table below shows the summary of FAC claimed by AEML_D vis-à-vis approved by the Commission for Q3 of FY 2019-20:

Particular	Month	Claimed	Approved	Remarks
FAC (Rs. Cr.)	October 2019	37.24	4.04	For Q3 of FY 2019-20 (Rs. 70.00 Cr.- Rs. 27.09 Cr.) =Rs. 42.91 Cr. refundable
	November 2019	35.76	29.10	
	December 2019	34.23	(2.01)	
Carried forward FAC (Rs. Cr.)	October 2019	5.18	-	
	November 2019	43.86	-	
	December 2019	21.10	-	
Total FAC (Rs Cr.)	October 2019	42.43	4.04	
	November 2019	79.62	29.10	
	December 2019	55.33	(2.01)	
FAC per Unit	October 2019	0.50	0.05	
	November 2019	0.50	0.41	
	December 2019	0.50	(0.03)	

11.2 AEML-D was to recover Rs.27.09 Crore cumulatively for the last two months of quarter. However, as against this AEML-D has actually worked out FAC recovery as Rs. 70.00 Crore. Hence, there is an over-recovery of amount Rs. 42.91 Crore. Therefore, AEML-D is required to re-fund additional recovered FAC of Rs. 42.91 Crore to consumers. However, as FY 2019-20 is already over, therefore, above adjustment will be rolled over in next FAC approvals (i.e., FAC of Q4 of FY 2019-20) and finally would be adjusted in the final True up of FY 2019-20.

