

MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
World Trade Centre, Centre No.1, 13th Floor, Cuffe Parade, Mumbai 400 005
Tel. No. 022 22163964/65/69 – Fax 022 22163976
E-mail: mercindia@merc.gov.in
Website: www.merc.gov.in

Ref. No. MERC/FAC/2020-21/ E-Letter

Date: 15 July, 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 April 2019 to June 2019.

Reference: AEML’s FAC submission vide letter dated 5 November, 2019 and 27 May, 2020 for post-facto approval of FAC for the period from April 2019 to June 2019.

Sir,

Upon vetting the FAC calculations for the months of April 2019 to June 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	April 2019	May 2019	June 2019
Z _{FAC} allowed for recovery (Rs. Crore)	42.48	53.47	62.40

AEML-D was to recover Rs.115.87 Crore cumulatively for the last two months of the quarter 1 of FY 2019-20, however, as against this AEML-D has actually worked out FAC (inclusive of carry forward) as Rs. 118.96 Crore. Hence, there is an over-recovery of amount Rs. (3.09) Crore as explained in paras 9.2, 9.4 and 9.5 of the enclosed report. Since the recovery of this amount is



already done, the above adjustment will be rolled over in next FAC approvals (i.e., FAC of Q2 of FY 2019-20) and finally would be adjusted in the final True up of FY 2019-20.

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 Q1 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 April 2019 to June 2019.



**POST FACTO APPROVAL FOR FAC CHARGES FOR THE MONTHS OF APRIL
2019 TO JUNE 2019**

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

Reference: AEML's FAC submission vide letter dated 5 November, 2019 and 27 May, 2020 for post-facto approval of FAC for the period from April 2019 to June 2019.

1. FAC submission by AEML-D:

1.1 AEML-D (formerly RInfra-D) has submitted FAC submissions for the months of April 2019 to June 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 April 2019 to June 2019.

2. Background

2.1 On 21 October, 2016, the Commission has issued Tariff Order for RInfra-D (now AEML-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 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.

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

2.4 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.



- 2.5 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 5 November, 2019 and 27 May 2020, AEML-D has filed FAC submissions for the months of April, May, and June 2019 for post facto approval as per power purchase figures approved in 2018 MTR Order.
- 2.6 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.
- 2.7 Considering that post facto approval of Q1 for FY2019-20 is under review, AEML-D has revised its submission from Q1 to Q4 of FY 2019-20 based on the MYT Order approved provisional power purchase cost. AEML-D stated that as power purchase cost has been re-determined in the MYT Order, hence, it is appropriate to re-work the FAC for FY 2019-20 considering the revised weighted average power purchase rate.
- 2.8 AEML-D in its FAC submission of Q4 of FY 2019-20 stated that as per MTR Order (dt. 12 September, 2018) the weighted average power purchase cost for working FAC for FY 2019-20 was Rs. 4.04/kWh. However, in MYT Order (dt. 30 March, 2020) the Commission re-determined the weighted average power purchase cost on provisional basis as Rs. 4.16/kWh.
- 2.9 Further, while re-determining the power purchase cost in the MYT Order, the Commission has adopted the following principles as per AEML-D submissions:
- i. Energy purchased through Imbalance Pool (FBSM) and Standby power (power purchase through standby arrangement) for FY 2019-20 is considered. However, as bills for the same are not received from MSLDC, no cost has been considered towards these purchases.
 - ii. Banking quantum (energy received in FY 2019-20) is considered. However, as this energy will be returned in FY 2020-21, the corresponding cost implications shall not be in FY 2019-20. Accordingly, no cost towards banked energy is considered in FY 2019-20. However, the OA charges paid for the banking transaction are included in FY 2019-20.
 - iii. The cost of banking transaction done in FY 2018-19 wherein the energy received in FY 2018-19 is returned in FY 2019-20 is included in the cost in FY 2019-20.
- 2.10 AEML-D further stated that, with regards to FBSM cost, the same has been considered for FY 2018-19 and FY 2019-20 as a separate entry in calculation of the total cumulative



revenue gap / surplus upto FY 2019-20 in the MYT Order. Thereby making the same to be passed on in Tariff of FY 2020-21. This cost is over and above the power purchase cost considered for FY 2019-20. AEML-D stated that it is therefore appropriate to re-work the FAC for FY 2019-20 considering the above revised weighted average power purchase rate, instead of the rate approved in the MTR Order.

- 2.11 AEML-D further submitted that as FY 2019-20 is over, and the actual power cost is now available. Therefore, it has reworked FAC using the actual power purchase cost of FY 2019-20 and as per same principle adopted in the MYT Order. In addition to that AEML-D has also factored rebate availed in power purchase transactions in the actual power purchase cost of FY 2019-20. **Accordingly, the actual weighted average power purchase cost as submitted by AEML-D for FY 2019-20 is Rs. 3.99/kWh instead of Rs. 4.16/kWh as approved in the MYT Order (dt. 30 March 2020). Hence, based on above there is a refund for the entire period of FY 2019-20 of Rs.(160.89) Crore which is over and above the MYT Order. AEML-D requested to approve the accumulated negative FAC of Rs.160.89 Crore and allow part of it, i.e., Rs. 110 Crore (as per limit of FAC fund for AEML-D) to be netted off against FAC fund and the balance surplus of Rs. 50.89 Crore may be considered as credit FAC to be passed on as a refund to consumers.**
- 2.12 The Commission has noted the submission of AEML-D. AEML-D has revised its FAC submission from Q1 to Q4 of FY 2019-20 based on provisional power purchase cost as per the MYT Order which was issued on 30 March, 2020. Although, the same has not been charged/levied to the consumers. The FAC that has been levied to the consumers was computed and charged by AEML-D as per MTR Order only. Further, the revenue recovered from consumers during Q1 to Q4 period of FY 2019-20 was also as per Tariff approved in 2018 MTR Order. It is to be noted that the Commission in its MYT Order (dt. 30 March 2020) has not revised the Tariff for FY 2019-20, it has only carried over provisional True-up of revenue and ARR expenditure. Also, the final true-up of FY 2019-20 as per MYT Regulations 2015 is yet to happen . Hence, the scrutiny of FAC for FY 2019-20 need to be done as per 2018 MTR Order only.
- 2.13 Further, with regards to provisional FBSM and other cost is concerned, the Commission for maintaining consistency in FAC approval across all licensee has continued with its earlier approach as adopted in previous post facto approvals of FY 2018-19. The same approach has also been adopted by the Commission in prior approval of FAC from April, 2020 onwards. Accordingly, the Commission in present FAC approval has considered both FBSM cost and quantum on provisional basis. Any differential amount between actual and provisional figures would be reconciled at the time of final trueing up of FY 2019-20.



2.14 Also, with regards to accumulated surplus of Rs.(160.89) Crore (which as per AEML-D submission is over and above the MYT Order), AEML-D has determined so based on actual power purchase cost (Rs. 3.99/kWh) of complete year of FY 2019-20. As against this, the Commission in the MYT Order has determined weighted average power purchase cost as Rs. 4.16/kWh which was based on actual power purchase costs for half of FY 2019-20 and estimated power purchase costs for balance half of FY 2019-20. Moreover, in post facto FAC approval, the actual power purchase cost for complete year will be scrutinised on quarterly basis. After detailed scrutiny, differential amount if any would be carried forward from one Quarter to another till Quarter 4 of FY 2019-20. **Decision regarding the FAC amount that gets accumulated at the end of Quarter 4 would be taken by the Commission at the time of Quarter 4 of FY 2019-20 approval.**

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		
			Apr-19	May-19	Jun-19
	(I)	(II=I/12)	MU (III)	MU (IV)	MU (III)
LT Category					
BPL	0.02	0.00	0.00	0.00	0.00
LT -I Residential	3071.56	255.96	403.50	426.13	421.51
LT II Commercial	3979.90	331.66	235.15	241.34	235.39
LT III(A) - LT Industrial upto 20 kW TOD Option	186.82	15.57	14.97	13.93	13.54
LT III(B) - LT Industrial above 20 kW	394.49	32.87	33.05	33.75	31.89
LT-V : LT- Advertisements and Hoardings	3.65	0.30	0.23	0.22	0.21
LT VI: LT -Street Lights	59.47	4.96	4.36	4.13	3.78
LT-VII : LT -Temporary Supply	10.37	0.86	0.99	0.85	1.35
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	2.18	2.11	2.16
LT X: LT -Public Service (B)	162.50	13.54	10.13	10.48	10.64
LT X (A) : LT - Agriculture Pumpsets	0.06	0.01	0.01	0.01	0.01
LT X (B) : LT - Agriculture Others	0.14	0.01	0.01	0.03	0.02



LTIV - Public Water Works	13.81	1.15	1.03	1.05	1.04
HT Category		0.00			
HT 1 (Industrial)	442.14	36.85	28.61	29.17	24.66
HT 2 (Commercial.)	345.26	28.77	46.05	49.53	50.13
HT 3 (Group Housing Soc.)	40.04	3.34	3.70	3.79	3.72
HT 4 (Temporary Supply)	2.87	0.24	0.09	0.15	0.24
HT – Railways	31.56	2.63	2.41	2.59	2.66
HT - Public Services (A)	8.66	0.72	0.51	0.56	0.54
HT - Public Services (B)	100.16	8.35	9.16	9.37	8.89
HT - Public Water Works	6.74	0.56	0.64	0.66	0.70
Total	8887.41	740.62	796.89	829.93	813.19

**As per MTR Order dt. 12 September, 2018*

3.2 It was observed that the total sale for April, May and June, 2019 is 796.89 MU, 829.93 MU and 813.19 MU, respectively. It was observed that the actual sales for the months of May and June 2019 were significantly higher than the approved sales of 740.62 MU. 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. Usually the sales during summer months are more than the sales during winter months of the year. Therefore, the sales during April (796.89 MU), May (829.93 MU) and June (813.19 MU) (being the summer months) are higher than the average monthly sales approved for FY 19-20 in the MTR Order.

4. Cost of Power Purchase

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

- a) Purchases from ADTPS (Formerly RInfra-G)
- b) Purchase from other generating stations such as VIPL-G
- c) Renewable energy procurement (RPS)
- d) 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 April 2019 to June 2019 as compared to average power purchase cost approved in Tariff Orders dated 12 September, 2018:

Particulars	Tariff Order Dated 12.09.2018	Actual for April 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	3775.15	1620.73	4.29	278.63	132.00	4.74	Higher APPC mainly due to increase in mainly in variable cost and explained at Para 4.13 to 4.31 below.
RE Sources	3143.30	1001.33	3.19	19.53	13.47	6.90	Higher APPC mainly due to absence of cheaper sources as envisaged in MTR Order and explained at Para 4.35 and 4.36 below.
VIPL-G	4000.97	1759.25	4.40	-0.49	-0.38	7.75	No Power purchase from VIPL-G, Explained at para. 4.32 and 4.33 below
Bilateral/ Traders	-	-	-	551.82	239.87	4.35	Bilateral + Banking cost
Others	-	-	-	35.00	14.79	4.23	Pool + standby power +WRPC DSM bills
Surplus Sale	(632.04)	(226.75)	3.59	-	-	-	No surplus sale
Total	10287.38	4154.56	4.04	884.49	399.68	4.52	

Particulars	Tariff Order Dated 12.09.2018			Actual for May 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	3775.15	1620.73	4.29	280.83	134.11	4.78	Higher APPC mainly due to increase in variable cost
RE Sources	3143.30	1001.33	3.19	25.87	16.77	6.48	Higher APPC mainly due to absence of cheaper sources as envisaged in MTR Order
VIPL-G	4000.97	1759.25	4.40	-0.65	-0.50	7.75	No Power purchase from VIPL-G
Bilateral/ Traders	-	-	-	547.11	247.59	4.53	Bilateral + Banking cost
Others	-	-	-	65.39	26.39	4.04	Pool +WRPC DSM bills
Surplus Sale	(632.04)	(226.75)	3.59	-	-	-	No surplus sale
Total	10287.38	4154.56	4.04	918.56	424.43	4.62	



Particulars	Tariff Order Dated 12.09.2018			Actual for June 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	3775.15	1620.73	4.29	262.44	129.09	4.92	Higher APPC mainly due to increase in variable cost
RE Sources	3143.30	1001.33	3.19	33.09	19.97	6.03	Higher APPC mainly due to absence of cheaper sources as envisaged in MTR Order
VIPL-G	4000.97	1759.25	4.40	-0.55	-0.43	7.75	No Power purchase from VIPL-G
Bilateral/ Traders	-	-	-	499.95	231.00	4.62	Bilateral + Banking cost
Others	-	-	-	102.01	43.46	4.26	Pool +WRPC DSM bills
Surplus Sale	(632.04)	(226.75)	3.59	-	-	-	No surplus sale
Total	10287.38	4154.56	4.04	896.94	423.09	4.72	

- 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 the Renewable Purchase Obligation (RPO) specified by the Commission. The surplus power available at different times was sold outside its Licence area through the Power Exchanges. Further, there was offtake (decrement) from the Imbalance Pool as per real time deviation.
- 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 April to June, 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 provides the detailed source wise analysis of power purchase of AEML-D during Q1 of FY 2019-20.

ADTPS (Own Generation):



4.6 With regards to ADTPS (own generation), it was observed that AEML-D has purchased 278.63 MUs, 280.83 MUs and 262.44 Mus, respectively, in April, May and June, 2019. The Table below shows the month wise availability and PLF of ADTP during Q1 of FY 2019-20

Particular	April 2019	May 2019	June 2019
Availability	97.81%	100.00%	100.00%
PLF	85.43%	83.48%	80.65%

4.7 The Commission observed that even though availability of ADTPS was 100% during May and June, the actual PLF of plant was below the normative level of 85%. On response to clarification sought, AEML-D stated that loss of PLF during aforesaid period was because of backing down instruction given by MSLDC. AEML-D provided the backing down details as under:

- May 2019 – 60.998 MU
- June 2019 – 69.402 MU

4.8 AEML-D further stated that as per existing Regulatory framework MSLDC follows the State level MoD principle while issuing the despatch schedule to ADTPS. Because of the backing down instructions by MSLDC, the PLF of ADTPS has been impacted. In this regard, the Commission has sought details of despatch schedule given by MSLDC vis-à-vis actual ex-bus generation achieved by ADTPS during Q1 period along with justification for variation if any. AEML-D submitted the details as below:

Particular	April 2019	May 2019	June 2019	Total
Schedule by MSLDC (MUs)	278.34	280.91	261.47	820.71
Actual ex-bus generation of ADTPS (MUs)	278.63	280.83	262.44	821.90

4.9 AEML-D stated that as against total schedule given of 820.72 MU for the quarter, actual ex-bus generation achieved by ADTPS is 821.90 MU, thus, there is overall minor deviation of +0.14%.

4.10 Although, the monthly PLF was lower than the normative level for above specified period, the cumulative availability of plant was higher than the normative Target availability of 85% for all the months of Q1. Hence, ADTPS was entitled to recover full monthly fixed



cost in line with the Regulation 48.3 of MYT Regulations, 2015. Hence, the spread of lower generation over full monthly fixed cost has affected the average power purchase cost from ADTPS.

- 4.11 ADTPS has also claimed thermal PLF incentives of Rs. 0.07 Crore in April 2019 as the PLF was above the Target PLF of 85%. The Commission has sought for detailed computation against the same. ADTPS has submitted the detailed computation wherein it was observed that although the PLF was above normative level of 85% in April, but the cumulative PLF during the subsequent month was found below normative level of 85%. Hence, the PLF incentives of Rs. 0.07 Crore claimed during the month of April would need to be adjusted as refund in subsequent ADTPS as the incentive are payable on cumulative basis. However, it was observed that ADTPS has not adjusted the same in subsequent month. The Commission corrected the said anomaly and thus no PLF incentive is considered in present FAC approval.
- 4.12 The average power purchase cost from ADTPS during the month of April, May and June 2019 is Rs. 4.74/kWh, Rs. 4.78/kWh and Rs. 4.92/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 fixed cost spread over lower generation and also due to increase in the variable cost primarily attributed due to the increase in the price of fuel during the respective period.

Fuel Price Analysis:

- 4.13 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 April, May and June 2019 is Rs. 5,283.50/MT, Rs. 5,312.30/MT, and Rs. 5,379.09/MT which is around 11% to 13% higher as compared to MTR approved value of Rs. 4740.41/MT.
- 4.14 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.



4.15 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. 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

4.16 Further, in order 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	Cost (Rs./MT)	Remark
Basic Amount (Run of Mine)	955.00	Price notified by CIL for G-11 coal
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
Sizing Charges	87.00	As per CIL notification
CG Vikas Upkar and Pryavaran Upkar	15.00	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	1,340.48	
GST @ 5%	67.02	Calculated as per CIL notification
Total Cost including GST	1,407.51	
GST Compensation Cess	400.00	As per CIL notification
Total Cost including GST Cess	1,807.51	
TCS @ 1%	18.08	Calculated as per CIL notification
Grand Total	1,825.58	



4.17 From above the basic raw cost of domestic coal worked out as Rs.1825.58/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, etc. 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	1,825.58	
#Railway Freight charges	2,567.60	128.38
*Coal Handling Charges:		
i. Local transportation charges	75.08	13.51
ii. Beneficiation charges	170.00	30.60
iii. Other handling charges	2.70	0.49
*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	4.40	0.79
Total Charges	4,821.36	205.45
Grand Total Landed Cost		5,026.82
Grand Total Including normative Transit Loss		5,067.35

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

4.18 From the above, the landed cost of domestic coal from the sample bills has been worked out as around Rs.5,067.35/MT. It is to be noted that the above cost is landed cost of coal purchased during Q1 period as per standard rate and sample bills. However, the cost claimed by ADTPS mentioned in paras above (i.e., Rs. 5,283.50/MT, Rs. 5,312.30/MT, and Rs. 5,379.09/MT) is the cost of coal actually consumed during Q1 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 Q1 period vide its data gap reply and found to be in order.

- 4.19 With regards to GCV of washed coal, the Commission observed difference in as-billed and as-received GCV. The Commission sought for clarification from AEML-D regarding the steps taken to reduce difference in as-billed and as-received GCV. In its response, AEML-D submitted that an independent Third Party Agency has already been appointed, i.e., Central Institute of Mining and Fuel Research (CIMFR) for undertaking the work of sampling and analysis, of coal at the loading end on behalf of both the ADTPS and SECL. The authorized representatives of ADTPS and SECL jointly witness the process of sample collection and preparation of the laboratory samples. The representatives put their signature on the sample tags in evidence of the process of sampling. All three, i.e., independent sampler, ADTPS and SECL also sign on the samples' register maintained by SECL at the loading end. The samples collected and prepared by CIMFR are as per Bureau of Indian Standards (BIS) norms. The final laboratory sample is divided into 4 (four) parts. Part-1 of the sample is for analysis by the CIMFR at a government laboratory or NABL Accredited laboratory as appointed by CIMFR through a transparent process. Part-2 and Part-3 of the sample are then handed over to SECL and ADTPS, respectively for their own analysis. Part-4 of the sample, called Referee sample, are sealed jointly by the third-party agency, representatives of SECL and ADTPS. This is then kept with the Third-Party Agency under proper lock and key arrangement. The Referee samples are preserved for a period of 30 days from the date of sample collection.
- 4.20 AEML further stated that there is bound to be a difference between GCV as billed and as received due to difference in method of billed GCV and received GCV. Regarding billing of GCV by SECL which is the coal supplier for domestic coal, AEML submitted that under the existing billing system, SECL carries out analysis of GCV on Equilibrated Basis (i.e., controlled conditions of 60% Relative Humidity, at 40 Deg. C, 72-hour observation). However, AEML and other generating station analyse GCV, Ash and Moisture content of coal on As-Received Basis (ARB) upon receipt of washed coal at the plant. The ARB method employs Total Moisture, while the Equilibrated method, analyses moisture in Equilibrated condition. Further, AEML submitted that while firing the coal, adjustments needs to be done corresponding to total moisture and inherent moisture as coal is fired at very high temperature, based on the standard formula given by the World Coal Council.
- 4.21 By considering the parameters of Coal, i.e., Total Moisture, Inherent Moisture & equilibrated moisture and converting the results by using above formulae, it is generally seen that GCV measured on As-Received Basis (ARB) is around 300 to 350 kcal/kg less



than GCV on Equilibrated Basis (EB). Total Moisture is observed in the range of 11% to 14% and inherent moisture in the range of 5 to 8%. Equilibrated Moisture, on the other hand, is observed in the range of 4% to 8%. Primarily, because of higher Total Moisture as compared to Equilibrated Moisture, the GCV (ARB) is less than GCV (EB).

- 4.22 Further, with regards to query related to ongoing disputes with SECL on account of Grade Slippage, ADTPS stated credit & debit note for the period Q1 of FY 2019-20 is not yet settled with SECL. Although, AEML-D submitted the correspondence done for disputing the analysis results declared by CSIR-CIMFR Bilaspur. The Commission has verified the same.
- 4.23 Further, with regards to check prudence of GCV of washed coal considered for energy charge computation, the Commission sought for third party sampling report for each month of Q1. 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. The Table below shows the summary of GCV as per sample report and as considered by ADTPS for energy charge computation:

Particular	April 2019	May 2019	June 2019
Wt. avg GCV as per 3 rd party Sample report (kCal/kg)	3,924 (32 samples)	3,844 (46 samples)	3,928 (33 samples)
Wt. avg GCV as considered by ADTPS (kCal/kg)	3,926	3,846	3,928

- 4.24 With regards to imported coal, it was observed that ADTPS has purchased 113,602 MT and 55,000 MT, respectively during the month of May and June, 2019 respectively. The Commission has asked ADTPS to confirm if the imported coal has been procured through competitive bidding. In its response ADTPS stated that it has procured imported coal during Q1 through competitive bidding and has submitted the competitive bidding documents vide its data gap reply. As per the documents submitted, LoA was given to PAN Asia Coal Trading PTE Ltd for supply of imported coal with contracted GCV of 4400 kcal/kg and FOB price as per formula specified in the agreement.
- 4.25 The landed cost of imported coal considered in energy charge computation as claimed by ADTPS was Rs. 5561.12/ MT, Rs. 5942.47 / MT, and Rs. 5547.56 / MT, respectively, for the months of April, May, and June 2019, as against MTR approved price of Rs. 5,070/MT for FY 2019-20. In order to verify the landed cost as claimed by ADTPS in FAC, the Commission sought for supporting bills/invoices for the aforesaid purchase.



4.26 Upon scrutiny of the submitted bills, it was observed that ADTPS had procured two vessels (MV Ikan Senyur an MV Poseidon S) of imported coal in April 2019 (total lading quantity 1,13,602.00 MT) and one vessel (MV Porthos) of imported coal in May 2019 (total lading quantity 55000 MT) from Indonesia. The FOB price in USD/MT as per invoices was 50.88 USD/MT and 49.18 USD/MT for two vessels purchased in April and 45.19 USD/MT for the month of May. This FOB prices were arrived as per FOB formula specified in contract awarded to PAN Asia as under:

$$\text{FOB} = \frac{\{API 4 \text{ Index} + \text{NEWC Index}\} \times 0.89 \times 4400}{2 \times 6300}$$

4.27 The Commission noted that as per formula above, to arrive at FOB price, the imported coal index to be referred is API 4 (Richards Bay indices) and NewCastle indices. Accordingly, the Commission sought ADTPS to provide the supporting document for coal reference indices prevailing during respective months Q1 along with detailed computation of FOB prices as reflected in the invoices of imported coal purchase. ADTPS submitted the required details as shown in Table below:

Sr No.	Invoice Rate Calculation	Imported Coal Vessel		
		MV Ikan Senyur (April-19)	MV Poseidon S (April-19)	MV Porthos (May-19)
1.	Richards Bay Index (6300 CV)	71.33	67.96	65.52
2.	NewCastle Index (6300 CV)	90.51	89.17	78.30
3.	Average Index (6300 CV)	80.92	78.57	71.91
4.	FOB adjusted to 4400 CV	56.52	54.88	50.23
5.	Discount on FOB	11%	11%	11%
6.	Resultant FOB Price	50.30	48.84	44.70
7.	Actual GCV-Kcal/kg-ARB (Load Port)	4,451	4,431	4,448
8.	GCV-Kcal/kg-ARB (Contract)	4,400	4,400	4,400
9.	Final adjusted FOB \$	\$50.88	\$49.18	\$45.19
10.	Fixed Ocean Freight (as per Contract)	\$15.00	\$15.00	\$15.00
11.	Total cost as per contract	\$65.88	\$64.18	\$60.19

4.28 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 form ADTPS jetty to ADTPS stockyard, insurance, custom duty, analysis charges, taxes/duties etc. are also



payable by ADTPS. Accordingly, the Commission sought for detailed computation of landed cost of imported coal for aforesaid purchase. ADTPS submitted the details as shown in Table below:

Sr No.	Particulars	UoM	Imported Coal Purchase costs for Q1 of FY 2019-20				Remark
			MV Ikan Senyur	MV Poseidon S	MV Porthos	Total	
1.	Quantity purchase	MT	60,500.00	53,102.00	55,000.00	168,602.00	As per Invoice
2.	Purchase Rate	USD/MT	65.88	64.18	60.19		As per Invoice
3.	Invoice Value	USD	3,933,204.65	3,378,011.61	3,298,986.81	10,610,203	As per Invoice
4.	Exchange Rate	Rs./USD	69.51	69.32	69.74		
5.	Basic Value	Rs. Crore	27.34	23.42	23.01	73.77	As per Invoice
6.	Custom Duty	Rs. Crore	3.83	3.33	3.40	10.57	As per Invoice
7.	Stevedoring charges	Rs. Crore	1.91	1.64	1.79	5.34	As per Invoice
8.	Analysis	Rs. Crore	0.02	0.02	0.02	0.06	As per Invoice
9.	Insurance	Rs. Crore	0.01	0.01	0.01	0.02	As per Invoice
10.	Total	Rs. Crore	33.11	28.42	28.22	89.75	
11.	IGST on Ocean Freight	Rs. Crore	0.32	0.28	0.29	0.88	As per Invoice
12.	Total cost	Rs. Crore	33.43	28.69	28.51	90.63	
13.	Landed price	Rs./MT	5,525.04	5,403.66	5,183.69	5375.46	

4.29 Further, the above price is the landed price of imported coal purchased in Q1 period. This price generally varies with the price as claimed for energy charge computation (i.e., Rs. 5561.12/ MT, Rs. 5942.47 / MT, and Rs. 5547.56 / MT as mentioned in paras above) because the price for energy computation is determined by ADTPS as per FIFO method. Further, the Commission has verified the coal inventory stock details and imported purchase cost details provided by AEML and found to be in order.

4.30 With regards to GCV of imported coal, the Commission observes substantial difference (from 242 kCal/kg to 317 kCal/kg) between GCV “as received” and GCV “as fired basis”. In response to clarification sought, ADTPS stated that for imported coal, coal received during the month is first shifted to coal stock. Therefore, “received GCV” for the month is considered based on the weighted average “as received” GCV of all the imported coal available in the yard in the said month. However, “fired GCV” is considered based on coal fired during the month which has been fed to the boiler from the coal yard. While feeding the imported coal to the boiler, FIFO method is being followed, therefore GCV of coal fired



is determined by the vessel(s) considered for FIFO. Accordingly, “received GCV” represents the GCV of coal of all the vessels (coal stored in the coal yard) whereas “fired GCV” represents GCV of specific vessel(s) from which coal has been fired.

- 4.31 ADTPS further stated that depending upon the quality of coal received during the month, the difference at times may show large variation when seen on standalone month basis. However, if the same values analysed for the entire year as a whole, the said abnormality gets normalised. The same holds true when stacking loss for imported coal for the entire FY 2019-20 is considered, which is 184 kCal/kg. Further, as far as the stacking loss of 184 kCal/kg is considered, it is submitted that because ADTPS does not have an all-weather port, the Imported Coal can only be received for six months in a year (i.e., not during Monsoon Period – May to October) and therefore coal quantity of entire year is received in the six month window, leading to average coal stock of imported of about 6 months. Such high Inventory period of coal would naturally lead to higher stacking losses.

VIPL-G

- 4.32 As regards VIPL-G, the Commission observed that there was no power purchase from VIPL-G during Q1 of FY 2019-20 (Power purchase quantum and cost were negative) . In response to clarification sought, AEML-D stated that the reason for zero availability or no power purchase from VIPL-G was mainly due to shortage of coal. AEML-D also submitted the sample day wise Availability declaration forms of VIPL-G showing the reason for low availability certified by chief engineer VIPL-Butibori. AEML further stated that it has issued a letter to VIPL-G on 20th April 2019 for termination of PPA between AEML-D and VIPL-G. VIPL has filed a Petition before the Commission challenging the validity and legality of the termination letter (Case No. 247 of 2019). The Commission has issued the Order on the said petition in Case No. 247 of 2019 on 16th December 2019. As per the said Order, the Termination Notice is held valid and the Termination Notice shall be deemed to have been issued to the Lenders on the date of the Order.
- 4.33 AEML-D further clarified that VIPL-G has drawn power from grid for its auxiliary operations in FY 2019-20. AEML-D has charged VIPL at the rate of energy charge for HT – I (Industry) as approved in the MTR Order dated 12th 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 17th 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 12th September 2018 in Case No. 200 of 2017. Accordingly, the revenue corresponding to the energy drawn from grid by VIPL in April 2019, May 2019 and June



2019 is adjusted in the power purchase expense for the respective months. Hence, the power purchase quantum and cost is considered as negative for Q1 of FY 2019-20.

RE Power:

4.34 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 19.53 MU, 26.86 MU and 33.09 MU of RE power during the month of April, May, and June 2019, respectively. The APPC from RE sources were Rs. 6.90/kWh, Rs. 6.48/kWh and Rs. 6.03/kWh for the respective months of Q1 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 Q1 period.

Sources	Approved		April'19		May'19		June'19	
	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	6.32	10.30	6.13	10.30	4.66	10.30
New Solar Sources	36.45	2.72	NA	NA	NA	NA	NA	NA
Non-Solar Sources:								
Reliance Innoventure	6.50	5.00	4.80	5.00	7.45	5.00	9.80	5.00
AAA Sons Enterprise*	0.25	5.00	0.10	5.00	0.24	5.00	0.28	5.00
Vector Green Energy Pvt Ltd	2.62	5.00	1.68	5.00	2.46	5.00	4.78	5.00
Vector Green Energy Pvt Ltd	0.92	5.07	0.55	5.07	0.74	5.07	1.45	5.07
Tembhu Power Pvt. Ltd.	0.71	4.26	1.19	4.26	1.38	4.26	0.85	4.26
Reliance Clean Power Pvt. Ltd.	6.07	5.81	4.89	5.81	7.47	5.81	11.27	5.81
Non-Solar New Sources	200.9	2.87	NA	NA	NA	NA	NA	NA
Mini/Micro hydro	1.71	5.64	NA	NA	NA	NA	NA	NA
Total RE Power	261.9	3.19	19.53	6.90	25.86	6.48	33.09	6.03

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

4.35 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 as such 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.

4.36 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 Q1 power purchase portfolio. Hence, due to absence of these new cheaper power sources, the actual APPC has resulted higher as compared to MTR approved price. Further, in response to clarification sought for absence of new cheaper sources as envisaged in MTR Order, AEML-D stated that it has not tied 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 8th Jan 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.

4.37 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 Q1 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 Q1 of FY 2019-20:

Sources	MUs	Approved Share (%)	Approved Rate (Rs./kWh)	April		May		June	
				MUs	% Share	MUs	% Share	MUs	% Share
Solar									



Sources	MUs	Approved Share (%)	Approved Rate (Rs./kWh)	April		May		June	
				MUs	% Share	MUs	% Share	MUs	% Share
DSPPL	5.73	2.19%	10.30	6.32	32.36%	6.13	23.70%	4.66	14.08%
New Solar Sources	36.45	13.92%	2.72	0.00	0.00	0.00	0.00	0.00	0.00
Non-Solar									
Reliance Innoventure	6.50	2.48%	5.00	4.8	24.58%	7.45	28.80%	9.8	29.62%
AAA Sons Enterprise	0.25	0.10%	5.00	0.10	0.51%	0.24	0.93%	0.28	0.85%
Vector Green Energy Pvt Ltd	2.62	1.00%	5.00	1.68	8.60%	2.46	9.51%	4.78	14.45%
Vector Green Energy Pvt Ltd	0.92	0.35%	5.07	0.55	2.82%	0.74	2.86%	1.45	4.38%
Tembhu Power Pvt. Ltd.	0.71	0.27%	4.26	1.19	6.09%	1.38	5.33%	0.85	2.57%
Reliance Clean Power Pvt. Ltd.	6.07	2.32%	5.81	4.89	25.04%	7.47	28.88%	11.27	34.06%
Non-Solar New Sources	200.98	76.73%	2.87	0.00	0.00	0.00	0.00	0.00	0.00
Mini/Micro hydro	1.71	0.65%	5.64	0.00	0.00	0.00	0.00	0.00	0.00
Total RE Power	261.94	100.00%	3.19	19.53	100.00%	25.86	100.00%	33.09	100.00%

4.38 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. As per Table above, the %share of costlier approved source, i.e., DSPPL is highest in the month of April whereas, in the month of June, it is lower as compared to other months of Q1. Due to this the reason APPC for the month of April is resulted higher as compared to other months, whereas for the month of June it is lower as compared to other months. Although all the aforesaid RE power have been procured at a rate approved by the Commission.

Bilateral Power:

4.39 With regards to bilateral power, AEML-D has purchased it mainly from IEX, AEL and LMEL. AEML-D has purchased 551.82 MU, 547.11 MU and 499.95 MU during the months of April, May and June 2019, respectively. The APPC from bilateral sources were Rs. 3.65 /kWh, Rs. 3.82/kWh and Rs. 3.85/kWh during the above period. It is to be noted that 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



response to clarification sought against such a purchase, AEML-D stated 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.

4.40 AEML-D further stated that it had filed a separate Petition in respect of additional power requirement through short term (Case No. 335 of 2018) wherein AEML-D 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. As the rate of Short-Term Sources will be higher than the generic rate considered by the Commission for RE sources, total cost of power purchase will increase. This will lead to increase in quantum and cost of power procurement beyond stipulated 5% of the approved values.

4.41 The Commission, in its Order dated 1st January 2019 in Case No. 335 of 2019 considered the submissions of AEML-D and allowed AEML 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. The relevant section of the Order is under

12.Reasons for such variation in power procurement have been explained in their submission mentioned in earlier paragraphs. The Commission taking cognizance of the reasons especially the one relating to short time left for procurement of RE and that REC would not be able to compensate for the shortfall in the assumed quantum of power procurement from RE sources, allows AEML-D to meet shortfall in energy on account of non-availability of RE sources from other short term sources. While carrying out the procurement the least cost options shall be ensured by AEML-D. Further, AEML-D is allowed to pass on variation in power purchase cost to its consumers through FAC mechanism subject to ceiling limit specified under the MYT Regulations, 2015.

13. Further, considering that the actual short-term rates discovered through competitive bidding on DEEP Portal are higher than the ceiling rate of Rs. 3.50/kWh approved by the



Commission in the MTR Order, the Commission hereby increases the ceiling rate for purchase of short-term power to Rs. 5.00/kWh for FY 2018-19 and FY 2019-20.”

- 4.42 Further, the Commission has asked AEML-D to confirm if all the bilateral power has been procured through competitive bidding. In its response, AEML-D stated that it had purchased short term power either through Competitive Bidding through DEEP e-portal and Power Exchange or through day ahead exchange linked contracts. It further stated that power procured through exchange linked contracts on day ahead basis are at a rate lower than the rates discovered in IEX. Through such contracts, Trading margin of IEX is also saved. AEML-D has submitted the details summary of month wise purchase of bilateral power during the Q1 of FY 2019-20. AEML-D had also submitted sample exchange linked contracts with traders for purchase of power through short term. As the bilateral power has been procured through competitive bidding and also within the ceiling approved by the Commission, the same has been considered as submitted by AEML-D.
- 4.43 Further, it was observed that AEML-D has considered banking charges during each month of Q1 of FY 2019-20. AEML-D earlier (during Q3 of FY 2018-19) stated that it has entered into a banking contract from October, 2018 onwards. As per the transaction, there would be receipt of energy with AEML-D in the months of October 2018 to March 2019, which would 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. Hence, the banking cost considered during April 2019 to June 2019 is mainly correspond to the banked power consumed in FY 2018-19, which was returned in FY 2019-20 during the period July 2019 to September 2019.
- 4.44 AEML-D further clarified that banking cost would ideally be incurred in July 2019 to September 2019. However, charging the entire banking return cost over three months period (July 2019 to September 2019) would have significantly increased the FAC and would have resulted in tariff burden on consumers. Hence, AEML had spread the cost over the six-month period starting April 2019 itself. It further stated that, since the actual cost of returnable energy was not known when the FAC was being calculated for April 2019, the cost of the energy (banking energy received in FY 2018-19) considered for the purpose of FAC of April 2019 to June 2019 period was taken as per the LOI rate of Rs. 4.00 per unit (for MPL) and Rs. 5.00 per unit (for BRPL and APPCL). This worked out to Rs. 231.6 crore, as shown below:

Source of Banking	Banked Energy for FY 18-19 at G-T (MU)	Rate as per LoI (Rs./kWh)	Cost (Rs. Crore)
MPL	194.00	4.00	77.60



Source of Banking	Banked Energy for FY 18-19 at G-T (MU)	Rate as per LoI (Rs./kWh)	Cost (Rs. Crore)
BRPL	65.00	5.00	32.50
APPCPL	243.00	5.00	121.50
Total	502.00		231.60

4.45 AEML-D further submitted that spreading the cost as worked out above over 6-month period from April 2019 to Sept 2019, the amount chargeable in FAC worked out to Rs. 38.60 crore and the same has been considered for FAC costing for April 2019 to June 2019. AEML-D further clarified that the actual cost against the above, was available from the month of July 2019 when the return of banked energy commenced. Accordingly, AEML has, in the second quarter, considered the actual cost of return, along with the adjustment for excess or deficit for the first quarter, for calculation of FAC. The Commission has verified the total actual banking cost from the Q2 submission of AEML-D and found to be in order.

Standby Power:

4.46 AEML-D has also purchased standby power of 0.40 MUs during the month of April 2019. The Commission has sought for reasoning for standby purchase, in response to which AEML-D submitted that the standby power during Q1 of FY 2019-20 have been scheduled from MSEDCL during unplanned outage of ADTPS. Generally, MSEDCL bills the Standby power based on FBSM bills, but since the FBSM bill for the period after Mar-2018 is not issued, the invoices for supply of standby power for Q1 of FY 2019-20 have not been received from MSEDCL yet. The Commission has considered the standby charges as submitted by AEML-D in line with previous approach.

FBSM/Imbalance Pool:

4.47 The Commission observed that AEML-D has not considered any pool quantum and cost in FAC computation. It is to be noted that due to historical issues of delay in computing imbalance pool quantum and cost of power by MSLDC, AEML-D has been considering the same on provisional basis. The Commission in its post facto approval of Q1 of FY 2018-19 had decided not to approve any cost and quantum of imbalance pool being provisional and envisaged the same to be considered in future when the actual quantum and cost will be available as per invoices/bills. Subsequently, AEML-D requested the Commission to revise its approach and consider the quantum and cost of imbalance pool as it is cheaper source of power as compared to other AEML tied up sources and the disallowance of which may lead to FAC burden on consumers. Therefore, on request of licensee and in order to reduce the



FAC burden on consumers the Commission has accepted AEML-D submission and has allowed imbalance pool cost and quantum on provisional basis.

- 4.48 In present approval also, 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 as submitted by AEML-D vide its data gap reply. However, Utility is requested to expedite the UI 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, AMEL-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.
- 4.49 Further, it was observed that AEML-D has considered WRPC charges of Rs. 1.21 Crore, Rs. 1.03 Crore, and Rs. 3.89 Crore for the respective months of Q1 of FY2019-20. In this regard, the Commission has scrutinised the WRPC bills submitted by AEML-D and found them to be in Order.
- 4.50 Further, there was no surplus power available with AEML-D during Q1 of FY 2019-20, hence, no surplus sale has been done in present quarter. However, in MTR Order the Commission has considered total surplus sale of around 632.04 MU for FY 2019-20 while determining the power purchase cost for AEML-D.
- 4.51 Therefore, the key reasons for increase in average power purchase cost is due to increase in washed and imported coal prices for ADTPS thus increasing the variable cost as compared to MTR approved prove, 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 and Baking cost incurred during respective period.
- 4.52 Based on above analysis, the Commission thus allows the APPC of **Rs. 4.52/kWh, Rs. 4.62/kWh, and Rs. 4.72/kWh** for the months of April, May and June, 2019, 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 April 2019 to June, 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 April 2019 to June, 2019.

S. No.	Particulars	Units	Apr 2019	May 2019	June 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	4.52	4.62	4.72
3	Change in average power purchase cost (=2 -1)	Rs./kWh	0.48	0.58	0.68
4	Net Power Purchase	MU	884.49	918.56	896.94
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	42.48	53.47	60.86

*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 Q1 of FY 2019-20 is computed as below:

S. No.	Particulars	Units	Apr 2019	May 2019	June 2019
1.1	Incremental cost allowed to be recovered in Month n-4	Rs. Crore	0.00	0.00	42.48
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	0.00	0.00	40.96
1.3	Over-recovery/under-recovery (1.2 - 1.1)	Rs. Crore	0.00	0.00	1.52
1.4	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit	Rs. Crore	0.00	0.00	0.00
2.0	Net Adjustment factor for over-recovery/under-recovery	Rs. Crore	0.00	0.00	1.52

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 April to June, 2019.

Month	Apr 2019	May 2019	June 2019
Adjustment Factor (Rs. Crore)	-	-	1.52



Applicable Interest Rate	-	-	9.95%
Carrying/ Holding cost for under/ over recovery (Rs. Crore)	-	-	0.03

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		
				Apr 2019	May 2019	June 2019
1	Net Energy Input at Distribution Voltages for own sales	MU	9,947.90	869.91	1779.81	2673.20
2	Own Energy sales at Distribution voltages	MU	8,887.41	796.89	1626.82	2440.01
3	Distribution Loss (1 - 2)	MU	1,060.49	73.03	152.99	233.19
4	Distribution Loss as % of net energy input (3/1)	%	10.66%	8.39%	8.60%	8.72%
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	Cumulative up to		
				Apr 2019	May 2019	June 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 April to June, 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 month of April to June, 2019.

9. Summary of Allowable Z_{FAC}

9.1 The summary of the FAC amount as approved by the Commission for the month of April to June, 2019 which is allowed to be recovered in the billing month of June, 2019 to August, 2019 is as shown in the Table below.

S. No.	Particulars	Units	Apr 2019	May 2019	June 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	42.48	53.47	60.86
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	0.00	0.00	0.03
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	0.00	0.00	1.52
1.4	ZFAC = F+C+B	Rs. Crore	42.48	53.47	62.40
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	796.89	829.93	813.19
2.2	Excess Distribution Loss	MU	0.00	0.00	0.00
2.3	ZFAC per kWh	Rs./kWh	0.53	0.64	0.77
2.4	ZFAC chargeable per kWh	Rs./kWh	0.53	0.64	0.77
2.5	Cap at 20% of variable component of tariff	Rs./kWh	1.29	1.29	1.29
2.6	FAC Charge allowable (Minimum of 2.4 and 2.5)	Rs./kWh	0.53	0.64	0.77



S. No.	Particulars	Units	Apr 2019	May 2019	June 2019
3.0	Recovery of FAC				
3.1	Allowable FAC [(2.1 x 2.5)/10]	Rs. Crore	42.48	53.47	62.40
3.2	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.5)/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	42.48	53.47	62.40
4.1	Carried forward FAC for recovery during future period (3.1-3.2-4.0)	Rs. Crore	0.00	0.00	0.00

9.2 It can be seen from the above Table that standalone FAC for the months of April to June, 2019 is Rs. 42.48 Crore, Rs. 53.47 Crore and Rs 62.40 Crore respectively. Based on total energy sales, FAC per unit has been worked out as Rs. 0.53/kWh, Rs. 0.64/kWh and Rs. 0.77/kWh for the months of April to May, 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 Q1 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 Q1 months of FY 2019-20.

9.4 However, as against the above AEML-D in its initial FAC submission of Q1 of FY 2019-20 has worked out FAC (including carry forward) for the months of April to June, 2019 is Rs. 43.07 Crore, Rs. 54.46 Crore and Rs 64.50 Crore, respectively. Based on total energy sales, FAC per unit has been worked out by AEML-D was Rs. 0.54/kWh, Rs. 0.66/kWh and Rs. 0.79/kWh for the months of April to May, 2019, respectively. However, AEML-D has levied only Rs. 0.50/kWh stating that charging such a such high level of per unit FAC, would subject the consumers to significantly high electricity bills.

9.5 AEML-D was to recover Rs.115.87 Crore cumulatively for the last two months of quarter, however, as against this AEML-D has actually worked out FAC (inclusive of carry forward) as Rs. 118.96 Crore. Hence, there is an over-recovery of amount Rs. (3.09) Crore. Therefore, AEML-D is required to re-fund additional FAC of Rs. (3.09) 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 Q2 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 April, 2019 to June, 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} for the month of April, 2019 to June, 2019 to be charged to the consumers of AEML-D for the billing month of June, 2019 to August, 2019.

S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			June'19	July'19	Aug'19
			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
		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



S.No.	Consumer Categories	Slabs	ZFAC to be levied in billing month of		
			June'19	July'19	Aug'19
			Rs./kWh	Rs./kWh	Rs./kWh
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
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 Q1 of FY 2019-20:

Particular	Month	Claimed	Approved	Remarks
FAC (Rs. Cr.)	April	39.84	42.48	For Q1 of FY 2019-20 (Rs. 115.87 Cr.- Rs. 118.96 Cr.) =Rs. 3.09 Cr. refundable
	May	41.50	53.47	
	June	40.66	62.40	
Carried forward FAC (Rs. Cr.)	April	3.22	-	
	May	12.96	-	
	June	23.84	-	
Total FAC (Rs Cr.)	April	43.07	42.48	
	May	54.46	53.47	



	June	64.50	62.40	
FAC per Unit	April	0.50	0.53	
	May	0.50	0.64	
	June	0.50	0.77	

11.2 AEML-D was to recover Rs.115.87 Crore cumulatively for the last two months of quarter, however, as against this AEML-D has actually worked out FAC (inclusive of carry forward) as Rs. 118.96 Crore. Hence, there is an over-recovery of amount Rs. (3.09) Crore. Since the recovery of this amount is already done, the above adjustment will be rolled over in next FAC approvals (i.e., FAC of Q2 of FY 2019-20) and finally would be adjusted in the final True up of FY 2019-20.

