

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

**Date: 5 October, 2020**

To,  
**The Managing Director,**  
Tata Power Company Ltd.,  
Dharavi Receiving Station,  
New Shalimar Industrial Estate  
Matunga, Mumbai – 400 019

**Subject:** Post facto approval of TPC-D's Fuel Adjustment Charges (FAC) for the period of October, 2019 to December, 2019.

**Reference:** 1. TPC-D's FAC submission vide email dated 6 April 2020 for post-facto approval of FAC for the period from October, 2019 to December, 2019.  
2. Replies to Data gap submitted on 27 June 2020

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 TPC-D for charging FAC to its consumers as shown in the table below:

<b>Month</b>	<b>Oct, 2019</b>	<b>Nov, 2019</b>	<b>Dec, 2019</b>
Z <sub>FAC</sub> allowed for recovery (Rs. Crore)	2.57	4.32	(7.83)

The cumulative FAC for the last two months of quarter as worked out by the Commission stands at Rs. (3.51) crore, however, as against this TPC-D has actually recovered Rs. 3.63 Crore. Hence, there is an over-recovery of amount Rs. 7.14 Crore (Rs. (3.51) Crore – Rs. 3.63 Crore) which is due to reason mentioned in paras 9.2 to 9.5 of the enclosed Report. Therefore, TPC-D is required to refund FAC of Rs. 7.14 Crore to consumers. Since FY 2019-20 is already over, the 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.



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 objective for post facto approval of Q3 of FY 2019-20 is only to carry forward the allowance or disallowance 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 TPC-D's Fuel Adjustment Charges (FAC) for the period of October, 2019 to December, 2019.

**Reference:** TPC-D's FAC submission vide emails dated 6 April and 27 June 2020 for post-facto approval of FAC for the period from October, 2019 to December, 2019.

**1. FAC submission by TPC-D:**

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

**2. Background**

2.1 On 21 October, 2016, the Commission has issued Tariff Order for TPC-D, (Case No.47 of 2016) for True-up of FY 2014-15, provisional Truing-up for FY 2015-16, and Aggregate Revenue Requirement and Tariff for FY 2016-17 to FY 2019-20. Revised Tariff has been made applicable from 1 October, 2016.

2.2 On 12 September, 2018, the Commission has issued Tariff Order for TPC-D (Case No.69 of 2018) for Mid-Term Review, including Truing-up of FY 2015-16 and FY 2016-17, provisional Truing-up for FY 2017-18, and revised Aggregate Revenue Requirement and Tariff for FY 2018-19 to FY 2019-20. Revised Tariff has been made applicable from 1 September, 2018.

2.3 On 30 March, 2020, the Commission has issued MYT Tariff Order for TPC-D (Case No.326 of 2019) for Truing-up of FY 2017-18 and FY 2018-19, provisional Truing-up for FY 2019-20, and Aggregate Revenue Requirement and Tariff for FY 2020-21 to FY 2024-25. Tariff has been made applicable from 1 April, 2020.

2.4 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.

2.5 Vide FAC vetting Report dated 16 January, 2017, the Commission accorded prior approval to the FAC for the month of October, 2016.

2.6 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 27 June 2020, TPC-D has filed FAC submissions for the months of October, 2019 to December, 2019 for post facto approval. The Commission has scrutinized the submissions provided by TPC-D and has also verified the fuel and power purchase bills provided along with its submissions.

### 3. Energy Sales of the Licensee

3.1 The net energy sales within licence area as submitted by TPC-D in the FAC submission and as approved by the Commission is as shown in the table below.

Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual Sales		
			Oct' 19 (MU)	Nov'19 (MU)	Dec'19 (MU)
	(I)	(II=I/12)	(III)	(IV)	(V)
<b>LT Category</b>					
LT I(B) – Residential	2072.63	172.72	162.50	161.27	153.54
LT II(A) - Commercial upto 20 kW	163.38	13.62	15.50	13.83	14.68
LT II(B) - Commercial 20 to 50 kW	96.94	8.08	10.87	4.33	8.47
LT II(C) - Commercial > 50 kW	318.15	26.51	32.76	18.40	26.72
LT III(A) - Industrial upto 20 kW	36.07	3.01	3.79	2.33	3.36
LT III(B) - Industrial > 20 kW	202.40	16.87	18.47	11.91	13.99
LT IV - PWW & Sewage Treatment Plants	25.80	2.15	0.08	0.05	0.09
LT V - Advertisement & Hoardings	0.10	0.01	0.01	0.01	0.01
LT VI – Streetlights	0.75	0.06	0.06	0.04	0.04
LT VII(A) - Temporary Religious	0.03	0.00	0.00	0.01	0.00
LT VII(B) - Temporary Others	32.58	2.72	3.40	1.66	2.41
LT VIII - Crematoriums & Burial Grounds	0.29	0.02	0.04	0.00	0.03
LT IX(A) - Public Service Govt Hospital & Educational Institutions	2.09	0.17	0.49	0.15	0.32
LT IX(B) - Public Services Others	0.09	0.01	2.16	1.23	1.92
LT XI - Electric Vehicle Charging Stn.	0.00	0.00	0.01	0.01	0.01



Consumer Category	Approved by the Commission (MU)	Monthly Approved (MU)	Actual Sales		
			Oct' 19 (MU)	Nov'19 (MU)	Dec'19 (MU)
	(I)	(II=I/12)	(III)	(IV)	(V)
<b>HT Category</b>					
HT I – Industry	925.25	77.10	75.62	65.55	76.57
HT II – Commercial	644.60	53.72	45.93	44.93	34.77
HT III - Group Housing Society (Resi)	3.76	0.31	1.16	1.14	1.13
HT IV - PWW & Sewage Treatment Plants	76.00	6.33	6.56	6.25	6.30
HT V(A) - Railways 22/33 kV	70.08	5.84	6.00	5.92	6.31
HT V(B) - Railways Metro & Monorail	11.77	0.98	0.00	0.00	0.00
HT VI(A) - Public Service Govt Hospital & Educational Institutions	14.66	1.22	1.36	1.35	1.27
HT VI(B) - Public Services Others	166.37	13.86	7.38	6.70	8.34
HT VII - Temporary Supply	37.21	3.10	3.31	3.62	3.20
<b>Total</b>	<b>4901.00</b>	<b>408.42</b>	<b>397.46</b>	<b>350.68</b>	<b>363.47</b>

3.2 It was observed that the **total sale for October, November & December, 2019 is 397.46 MUs, 350.68 MUs and 363.47 MUs respectively, as compared to 408.42 MUs of sales approved vide MTR Order.** The major variation in energy sale were observed in LT I(B) Residential, LT II(B) – Commercial, LT II(C) – Commercial, LT III(B) – Industrial, HT I – Industry, HT II – Commercial and HT VI(B) - Public Services categories. TPC-D stated that the above variation in sales is mainly on account of seasonal impact during aforesaid period.

#### **4. Cost of Power Purchase**

4.1 TPC-D purchases majority of its power from TPC-G. Further, TPC-D also procures power from other sources in order to fulfil the demand of its consumers. The following are the list of sources from which TPC-D procures power to meet its demand.

- a) Purchases from Tata Power Company Ltd. (TPC-G)
- b) Renewable energy procurement (RPS)
- c) Bilateral contracts and decrements to the imbalance pool.
- d) Unscheduled Interchanges (Interstate UI)



4.2 The following Table shows the variation in average power purchase cost (APPC) (Rs/kWh) for the month of October, 2019 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	APPC	Net Purchase	Cost	APPC	
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh	
TPC-G	295.32	131.63	4.46	311.38	130.15	4.18	Decrease in APPC mainly due to decrease in coal price
RE Sources#	58.96	25.62	4.34	17.69	17.61	9.96	Higher APPC mainly due to REC purchase cost
Bilateral@	44.08	12.63	2.87	70.87	22.14	3.12	Prices as per IEX and bilateral contract
Others*	-	-	-	22.96	7.99	3.48	Includes UI and OLA Sale
<b>Total</b>	<b>398.36</b>	<b>169.88</b>	<b>4.26</b>	<b>422.89</b>	<b>177.89</b>	<b>4.21</b>	Reduction of Rs. 0.05/kWh

Particulars	Approved** for November, 2019			Actual for November, 2019			Remark
	Net Purchase	Cost	APPC	Net Purchase	Cost	APPC	
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh	
TPC-G	295.32	131.63	4.46	319.56	134.19	4.20	Decrease in APPC mainly due to decrease in coal price
RE Sources#	58.96	25.62	4.34	15.36	17.24	11.23	Higher APPC mainly due to REC purchase cost
Bilateral@	44.08	12.63	2.87	25.31	7.70	3.04	Prices as per IEX and bilateral contract
Others*	-	-	-	33.98	11.85	3.49	Includes UI and OLA Sale
<b>Total</b>	<b>398.36</b>	<b>169.88</b>	<b>4.26</b>	<b>394.21</b>	<b>170.99</b>	<b>4.34</b>	Increase by Rs. 0.08/kWh mainly due to higher REC purchase

Particulars	Approved** for December, 2019			Actual for December, 2019			Remark
	Net Purchase	Cost	APPC	Net Purchase	Cost	APPC	
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh	
TPC-G	295.32	131.63	4.46	247.38	103.41	4.18	Decrease in APPC mainly due to decrease in coal price



Particulars	Approved** for December, 2019			Actual for December, 2019			Remark
	Net Purchase	Cost	APPC	Net Purchase	Cost	APPC	
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh	
RE Sources#	58.96	25.62	4.34	16.73	9.93	5.93	Higher APPC mainly due to change in source wise quantum
Bilateral@	44.08	12.63	2.87	73.00	22.97	3.15	Prices as per IEX and bilateral contract
Others*	-	-	-	53.51	18.79	3.51	Includes UI, OLA Sale and Standby sale
<b>Total</b>	<b>398.36</b>	<b>169.88</b>	<b>4.26</b>	<b>390.62</b>	<b>155.10</b>	<b>3.97</b>	Reduction of Rs. 0.29/kWh mainly due to absence of REC purchase

\*Others include UI/OLA Sale- Pl. refer para.4.41 below.

# the rates of the RE sources include the cost of REC which were not considered in the MTR Order. Also, there is absence of new cheaper RE sources which was envisaged under the MTR Order. Pl. refer para. 4.31 to 4.35 below.

@ The Commission approved the ceiling rate to Rs. 5 per Unit in a subsequent Order in December, 2018. Pl. refer para.4.36 and 4.37 below.

\*\*In case TPC-D, the power purchase quantum and cost is approved on annual basis. The monthly quantum and cost has been arrived based on yearly approved numbers for comparison purpose.

- 4.3 The Commission has scrutinised detailed bills/invoices for all of the power purchase sources in order to verify the claim of TPC-D with regards to average power purchase cost for the months of October, 2019 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.

### **TPC-G**

- 4.4 TPC-G operates thermal as well as hydro generating stations. The thermal generating station of TPC-G are placed in MoD stack by MSLDC whereas the hydro is considered as must run.
- 4.5 **TPC-D has purchased 311.38 MUs, 319.56 MUs and 247.38 MUs of power from TPC-G during the months of October, November and December, 2019 as compared to 295.32 MUs approved in MTR Order.** The reason for monthly variation in power purchase quantum during Q3 period is mainly due to variation in PLF of various generating stations of TPC-G. The Table below shows the monthly/Quarterly Plant Availability Factor



(PAF) vis-à-vis Plant Load Factor (PLF) of thermal generating stations of TPC-G during Q3 of FY 2019-20:

Months	Unit 5 (Multi-fired)		Unit 7 (Gas)		Unit 8 (Coal)	
	PAF (%)	PLF (%)	PAF (%)	PLF (%)	PAF (%)	PLF (%)
Oct-19	97.91%	67.46%	99.02%	89.50%	89.72%	79.40%
Nov-19	100.00%	74.80%	100.00%	98.47%	81.48%	78.56%
Dec-19	100.00%	79.66%	100.00%	63.00%	2.34*%	2.01*%
<b>Quarterly</b>	<b>99.50%</b>	<b>74.00%</b>	<b>99.80%</b>	<b>83.50%</b>	<b>57.60%</b>	<b>53.00%</b>

*\*lower due to Annual planned outage*

- 4.6 From the above Table, it can be seen that the actual PLF of thermal generating stations of TPC-G during Q3 period was lower than the normative value of 85% except for Unit 7 in the month of October and November, 2019. In response to clarification sought against such lower PLF, TPC-D has stated that PLF of unit 5 and 8 was lower due to low system demand. Further, in the month of December, 2019 Unit 8 was under annual planned outage, hence, its PAF and PLF was lower. With regard to lower PLF of Unit-7 (Gas) during the month of December, 2019, it was clarified that the PLF of Unit-7 (Gas) was lower due to lesser availability of APM gas. From 6 December, 2019 onwards, the Daily Nominated Quantity (DNQ) of APM gas got reduced. The average DNQ from 6 December, 2019 to 31 December, 2019 was 0.61171 MMSCM as against ~0.94 MMSCM of average DNQ required for PLF of 100%.
- 4.7 Also, from the above Table it was observed that, although the PLF was lower during aforesaid period, the availability of generating stations was seen above normative except for unit 8 during the month of November and December, 2019. In this regard, the Commission has asked TPC-D to confirm whether it has fully utilised availability declared by TPC-G during Q3 period. TPC-D was also sought to confirm if MoD principle has been followed while scheduling the power. In response to above query, TPC-D confirmed that it has fully utilised declared availability of all of its sources during Q3 of FY 2019-20.
- 4.8 With regard to MoD principle, TPC-D replied that the State Merit Order Despatch (MOD) is run by State Load Despatch Centre (SLDC) and TPC-D gets the drawl schedules, accordingly from SLDC. **TPC-D has followed such schedule provided by SLDC during the months of October, November and December 2019.** In this regard the Commission asked to provide the details of Plant-wise generation schedule given by MSLDC vis-à-vis actual generation achieved by TPC-G during the Q3 period, the same is as provided below:





Units	Oct-19		Nov-19		Dec-19	
	Scheduled Generation (MUs)	Actual Generation (MUs)	Scheduled Generation (MUs)	Actual Generation (MUs)	Scheduled Generation (MUs)	Actual Generation (MUs)
Unit-5	240.96	235.44	260.91	254.39	289.56	280.29
Unit-7	114.46	116.5	124.21	123.69	80.45	81.01
Unit-8	142.17	138.34	134.46	132.61	3.54	2.42
Hydro	120.17	115.76	112.29	113.40	141.84	142.35
<b>Total TPC-G</b>	<b>617.76</b>	<b>606.04</b>	<b>631.87</b>	<b>624.09</b>	<b>515.39</b>	<b>506.07</b>

4.9 From the above Table it can be seen that, as against the total schedule of 1,756.02 MUs (617.76 MUs + 631.87 MUs + 515.39 MUs) given during Q3 period, actual generation achieved by TPC-G is 1736.20 MUs, reflecting a minor deviation of (1.63)% on overall basis.

4.10 Further, considering that the monthly fixed charge payment is based on the cumulative availability of plant as per Regulation 48.3 of MYT Regulations 2015, the Commission sought for month wise and cumulative availability declared by TPC-G for its various generating stations during the Q3 period. TPC-G has submitted the details as shown in Table below:

<b>Unit 5 (Thermal)</b>	<b>Apr-19</b>	<b>May-19</b>	<b>Jun-19</b>	<b>Jul-19</b>	<b>Aug-19</b>	<b>Sep-19</b>	<b>Oct-19</b>	<b>Nov-19</b>	<b>Dec-19</b>
Monthly Availability	100.0%	100.0%	100.0%	99.54%	80.73%	97.55%	97.91%	100.0%	100.0%
Cumulative Availability	100.0%	100.0%	100.0%	100%	96.11%	96.35%	96.58%	97.00%	97.41%
<b>Unit 7 (Thermal)</b>	<b>Apr-19</b>	<b>May-19</b>	<b>Jun-19</b>	<b>Jul-19</b>	<b>Aug-19</b>	<b>Sep-19</b>	<b>Oct-19</b>	<b>Nov-19</b>	<b>Dec-19</b>
Monthly Availability	100.0%	100.0%	100.0%	100.0%	99.18%	100.0%	99.02%	100.0%	100.0%
Cumulative Availability	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.90%	99.94%	99.97%
<b>Unit 8 (Thermal)</b>	<b>Apr-19</b>	<b>May-19</b>	<b>Jun-19</b>	<b>Jul-19</b>	<b>Aug-19</b>	<b>Sep-19</b>	<b>Oct-19</b>	<b>Nov-19</b>	<b>Dec-19</b>
Monthly Availability	99.25%	90.50%	97.78%	96.49%	90.05%	89.61%	89.72%	81.48%	2.34%
Cumulative Availability	99.25%	94.81%	95.79%	95.96%	94.77%	93.92%	93.31%	91.86%	81.77%
<b>Bhira (Hydro)</b>	<b>Apr-19</b>	<b>May-19</b>	<b>Jun-19</b>	<b>Jul-19</b>	<b>Aug-19</b>	<b>Sep-19</b>	<b>Oct-19</b>	<b>Nov-19</b>	<b>Dec-19</b>
Monthly Availability	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cumulative Availability	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Bhivpuri (Hydro)</b>	<b>Apr-19</b>	<b>May-19</b>	<b>Jun-19</b>	<b>Jul-19</b>	<b>Aug-19</b>	<b>Sep-19</b>	<b>Oct-19</b>	<b>Nov-19</b>	<b>Dec-19</b>
Monthly Availability	100.0%	100.0%	100.0%	97.94%	100.0%	100.0%	100.0%	72.27%	100.0%
Cumulative Availability	100.0%	100.0%	100.0%	99.48%	99.58%	99.65%	99.70%	96.33%	96.74%
<b>Khopoli (Hydro)</b>	<b>Apr-19</b>	<b>May-19</b>	<b>Jun-19</b>	<b>Jul-19</b>	<b>Aug-19</b>	<b>Sep-19</b>	<b>Oct-19</b>	<b>Nov-19</b>	<b>Dec-19</b>
Monthly Availability	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	81.11%	98.92%
Cumulative Availability	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	97.68%	97.82%

4.11 As it can be seen from the Table above, **the cumulative availability of all generating Units except Unit-8 (December, 2019) were above normative Target availability of 85%.**



Hence, full monthly fixed cost was payable to these Units in line with Regulation 48.3 of MYT Regulations 2015. However, **for Unit-8 the cumulative availability was lower than Target availability mainly in the month of December, 2019 (due to annual planned outage). Accordingly, the monthly fixed charge was payable on pro rata basis.** The Commission has verified the fixed charge payment from the invoice submitted and found to be in order.

4.12 **The weighted average power purchase cost for TPC-G considering all its thermal and hydro generation has been worked out at Rs. 4.18/ kWh, Rs. 4.20/ kWh and Rs. 4.18/kWh for the months of October, November, and December, 2019, respectively as compared to MTR approved rate of Rs. 4.46/kWh. The APPC is lower by approx. Rs. 0.28/kWh, Rs. 0.26/kWh and Rs. 0.28/kWh in the months of October, 2019, November, 2019 and December, 2019 respectively. The variation in power purchase price is mainly because of following reasons:**

- **Due to variation in fuel parameters during Q3 period as compared to MTR approved parameters**
- **Due to the change in actual quantum from various sources as compared to MTR approved quantum**

**Fuel parameter Analysis:**

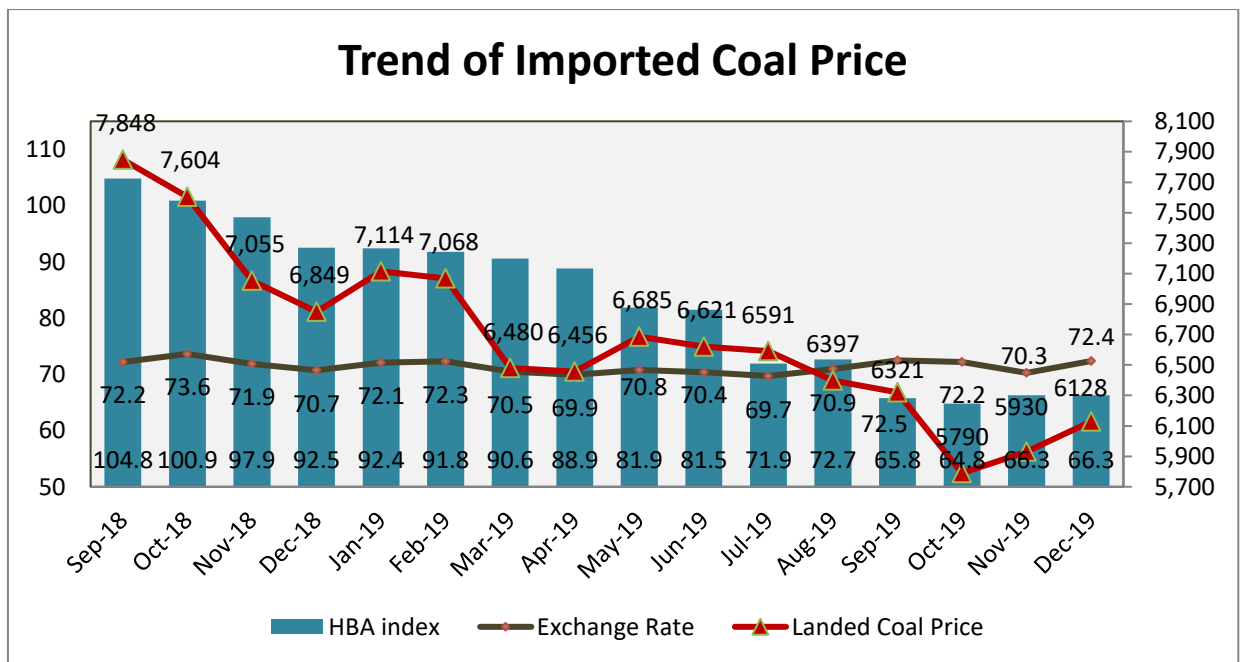
4.13 TPC-G generates power on Imported Coal, Domestic Natural Gas (under APM mechanism), Oil (LSHS), imported RLNG and Hydro. The Commission observed that energy charge with respect to coal based generating stations was lower whereas for gas based generating station it was higher during Q3 period as compared to respective MTR approved charges. The Table below shows the comparison of actual energy charges vis-à-vis approved energy charges for thermal generating station.

Units/ Months	Unit 5 (Multi-fired)		Variation	Unit 7 (Gas)		Variation	Unit 8 (Coal)		Variation
	Approved	Actual		Approved	Actual		Approved	Actual	
Oct-19	3.99	3.35	(0.63)	1.80	2.68	0.87	3.94	3.33	(0.61)
Nov-19	3.99	3.44	(0.55)	1.80	2.55	0.74	3.94	3.43	(0.51)
Dec-19	3.99	3.49	(0.50)	1.80	2.56	0.75	3.94	3.46	(0.49)

4.14 The above variation in energy charges is mainly due to variation in fuel prices during the respective period. To analyse the variation in fuel price, the Commission sought for fuel purchase bills during present quarter.



4.15 With regards to coal, TPC-G mainly procures imported coal from Indonesian market which is linked to Harga Batubara Acuan (HBA) index. The coal reference price, i.e., Harga Batubara Acuan or HBA index for Indonesian coal is set by Ministry of Energy and Mineral Resources (Indonesia). The Commission has asked TPC-D to confirm if the imported coal has been procured by TPC-G through competitive bidding along with documentary evidence. The Commission has also sought for prevailing HBA index during the aforesaid period along with the detailed computation of FOB price at which the coal has been procured by TPC-G. In response to above, TPC-G stated that it has procured imported coal through competitive bidding route and submitted the documents vide its data gap reply. TPC-G has also provided the HBA indices prevailing during Q3 period. The Commission has observed that the HBA indices and hence, the price of imported coal in international market has shown downward trend as compared to time of MTR Order when the HBA indices was very high (104.81 as shown in graph below). This is mainly attributed to demand supply position of the global coal market. The graph below shows the trend of HBA indices vis-à-vis landed coal cost claimed by TPC-G from September, 2018 to December, 2019.



4.16 From graph above, it can be observed that the **HBA index was at around 104.8 in September 2018 and has decreased to 66.30 in December, 2019**. Due to this the landed cost of coal and hence, energy charges during present quarter has arrived lower as compared to cost approved in MTR Order dated 12 September, 2018. **The landed cost of coal claimed by TPC-G is Rs. 5790/MT, Rs. 5930/MT and Rs. 6128/MT for the month of October, November and December, 2019 as against the MTR approved rate of Rs. 7154/MT.**



4.17 Further, the Commission has also scrutinised the sample bills provided in order to verify the landed cost of imported coal. The Table below provides the detailed computation of basic cost of imported coal for the month of November, 2019:

Month	16 Nov-19	29 Nov-19	Remark
Exchange Rate	71.71	71.73	Verified from SAP Entry
Supplier	PT KIDECO JAYA A	PT ADARO	Verified from Invoice
Vessel Name	VEENUS	SAGARJEET	Verified from Invoice
HBA	66.27	66.27	Submitted by TPC-G
Coal Qty (MT)	77028.00	57528.00	Verified from Invoice
GCV (kcal/kg)	4954.00	4813.00	Verified from Invoice
Moisture (%)	24.76	29.54	Verified from Invoice
Ash (%)	2.98	1.65	Verified from Invoice
Sulphur (%)	0.09	0.09	Verified from Invoice
FOB (USD/MT)	50.12	46.82	Verified from Invoice
FOB Rs /MT	3594.15	3358.19	Calculated
Avg Base Price Rs./MT	3476.17		Calculated

4.18 As from Table above the average basic cost of imported coal for the month of November 2019 is Rs. 3,476.17/MT. The landed cost of imported coal is arrived by adding the freight charges, excise duty, custom duty, GST compensation cess, insurance and other handling charges. The Commission has sought TPC-G to provide the details of above expenses. TPC-G in its data gap reply submitted the details, accordingly, the Commission worked out the landed cost of imported coal for the month of November 2019 as shown in Table below:

Sr. No	Particular	Source/Formula	Units	Price
1	Base price	As computed above	Rs./MT	3476.17
2	Freight charges	As per bills	Rs./MT	559.76
3	Excise + Custome Duty + C E Cess + insurance	As submitted	Rs./MT	625.45
4	Handling and wharfage	As submitted	Rs./MT	545.09
5	Other Fuel Handling Charges	As submitted	Rs./MT	822.96
6	<b>Total landed cost</b>	<b>Sum (3:4)</b>	<b>Rs./MT</b>	<b>6029.43</b>

4.19 From the Table above, the landed cost of imported coal for the month of November has been worked at Rs. 6,029.43/MT. Although, the landed cost claimed by TPC-G in FAC computation for the month of November is Rs. 5930.23/MT. The variation is mainly due to reason that the cost claimed by TPC-G in FAC computation pertains to cost of coal consumed in respective period from the inventory/stocks whereas, the cost as calculated above pertains to recent purchase cost, hence, it does not match exactly. Further, the cost



claimed in FAC computation is based on the weighted average cost of the total coal purchase and the cost of actual inventory prevailing at that time. Therefore, there is a variation in the between the cost claimed by TPC-G and as computed by the Commission. However, **the sample calculations are found to be within the range as submitted by TPC-G.**

4.20 Further, the Commission has also sought for details of GCV along with third party sampling report for GCV verifications. TPC-G submitted the details as shown in Table below:

Sr. No	GCV as Received (kcal/kg)	GCV as fired (kcal/kg)	GCV for energy billing (kcal/kg)	Remark
October-19	4,805	4,685	4,685	GCV for energy billing = GCV as received – stacking loss; subjected to max stacking loss of 150 kcal/kg
November-19	4,782	4,654	4,654	
December-19	4,927	4,736	4,777	

4.21 TPC-G has also submitted the third party sampling certificate issued by Bureau Veritas for the respective period. The Commission has verified the document submitted and found to be in order.

4.22 With regards to higher gas price and hence, energy charges for gas generating station, TPC-G stated the actual energy charge is higher than approved energy charge due to following reasons:

- **Revised ONGC differential tariff which has increased from Rs. 5.7/MMBTU to Rs. 34.73/MMBTU.**
- **Transportation Charges got revised from Rs. 1.04 /MMBTU to Rs 25.15 /MMBTU with effect from 1 July, 2019**

4.23 TPC-G has submitted the sample gas bills issued by GAIL showing the above revised rate and the same has been verified. Further, there has been an increase in the basic price of APM gas on account of scheduled revisions by MOPNG (Ministry of Petroleum & Natural Gas) every six months.

4.24 Based on above, considering the downward price of imported coal and the upward price of APM Gas, the net impact of FAC has been worked out for respective months, as shown in Table below:

Particulars for October, 2019	Units	Unit 5	Unit 7	Unit 8	Impact
Energy Available to TPC-D	MUs	114.96	56.88	83.00	<b>254.85</b>



Particulars for October, 2019	Units	Unit 5	Unit 7	Unit 8	Impact
Approved Energy Charge	Rs./kWh	3.99	1.80	3.94	
Actual Energy Charge	Rs./kWh	3.35	2.68	3.33	
Fuel Surcharge Adjustment	Rs./kWh	(0.63)	0.87	(0.61)	
<b>Recoverable through FAC</b>	<b>Rs. Crore</b>	<b>(7.29)</b>	<b>4.96</b>	<b>(5.05)</b>	<b>(7.37)</b>

Particulars for November, 2019	Units	Unit 5	Unit 7	Unit 8	Impact
Energy Available to TPC-D	MUs	124.22	60.40	79.57	<b>264.18</b>
Approved Energy Charge	Rs./kWh	3.99	1.80	3.94	
Actual Energy Charge	Rs./kWh	3.44	2.55	3.43	
Fuel Surcharge Adjustment	Rs./kWh	(0.55)	0.74	(0.51)	
<b>Recoverable through FAC</b>	<b>Rs. Crore</b>	<b>(6.78)</b>	<b>4.48</b>	<b>(4.05)</b>	<b>(6.35)</b>

Particulars for December, 2019	Units	Unit 5	Unit 7	Unit 8	Impact
Energy Available to TPC-D	MUs	136.86	39.56	1.45	177.87
Approved Energy Charge	Rs./kWh	3.99	1.80	3.94	
Actual Energy Charge	Rs./kWh	3.49	2.56	3.46	
Fuel Surcharge Adjustment	Rs./kWh	(0.50)	0.75	(0.49)	
<b>Recoverable through FAC</b>	<b>Rs. Crore</b>	<b>(6.88)</b>	<b>2.98</b>	<b>(0.07)</b>	<b>(3.97)</b>

4.25 As can be seen from above, the net impact of change in fuel prices (i.e., increase in gas price and decrease in coal price) is negative in all the months of Q3, FY2020, i.e., refund of around Rs. (7.37) crore in October, 2019, Rs. (6.35) crore in November, 2019 and Rs. (3.97) crore in December, 2019. This has resulted into lowering of variable charge and thus total power purchase cost during respective period

4.26 Based on above, the APPC of TPC-G for the months of October, November and December, 2019 worked out to be Rs. 4.18/kWh, Rs. 4.20/kWh and Rs. 4.18/kWh respectively as compared to MTR approved rate of Rs. 4.46/kWh. **The actual APPC is lesser as compared to approved APPC by approx. Rs. (0.28)/kWh, Rs. (0.26)/kWh and Rs. (0.28)/kWh in October, November and December, 2019 respectively.**

#### **Renewable Purchase (RE Power):**



4.27 In order to meet its RPO requirement, TPC-D procures RE Power from its long term tied up RE sources (solar RE sources and non-solar RE sources). The balance requirement towards RPO target has been met through REC purchase. For solar power, TPC-D has long term agreement with Mulshi Solar Plant, Palaswadi and Carnac roof top. For non-solar power, TPC-D has long term contract with wind generators such as Khandke, Bramhanvel, Sadawaghapur, Visapur, Agaswadi. Tata Power-D is procuring solar as well as non-solar power at a generic tariff approved by the Commission.

4.28 During the present quarter, **TPC-D has purchased 3.26 MUs, 3.88 MUs and 3.18 MUs of solar power from existing solar sources at a rate of Rs. 9.59/kWh, Rs. 9.64/kWh and Rs. 9.74/kWh in the month of October, November and December, 2019**, respectively, which is within the MTR approved rate of Rs. 9.81/kWh applicable for existing solar tied up sources. For its non-solar RPO target, **TPC-D has purchased 14.43 MUs, 11.47 MUs and 13.56 MUs of non-solar power at a rate of Rs. 5.02/kWh, Rs.5.05/kWh and Rs.5.04/kWh in the month of October, November and December, 2019**, respectively as against the MTR approved rate of Rs. 5.06/kWh applicable for existing non-solar tied up sources. Based on both solar and non-solar power, the total RE power procured by TPC-D stands at 17.69 MUs, 15.36 MUs and 16.73 MUs for the month of October, November and December, 2019, respectively.

4.29 Apart from above, **TPC-D has also purchased non-solar REC of worth Rs. 7.24 Crore in October 2019, Rs. 7.70 crore in November, 2019 to fulfil its RPO Obligation.** Considering the RE (solar and non-solar) purchase cost and also the REC cost as mentioned above, the overall weighted average price of RE power inclusive of REC cost stands at Rs. 9.96/kWh, Rs. 11.23/kWh and Rs. 5.93/kWh, for months of October, November and December, 2019 respectively, as compared to MTR approved rate of Rs.4.34/kWh. The Table below shows the comparison of actual RE power purchase vis-à-vis approved during the Q3 of FY 2019-20:

Particular	As approved in MTR Order			Actual for October, 2019		
	Quantum (MUs)	% share	Rate (Rs./kWh)	Quantum (MUs)	% share	Rate (Rs./kWh)
Solar Sources:						
Existing Sources	47.4	6.70%	9.81	3.26	18.43%	9.59
New Solar	119.91	16.95%	2.72*	-	-	-
Non-Solar Sources:						
Existing Sources	322.21	45.54%	5.06	14.43	81.57%	5.02
New Non- Solar (MU)	208.4	29.46%	2.87*	-	-	-
Mini/Micro Hydro Purchase	9.56	1.35%	5.64*	-	-	-
<b>Total RE Power</b>	<b>707.48</b>	<b>100.00%</b>	<b>4.34</b>	<b>17.69</b>	<b>100.00%</b>	<b>5.87</b>



REC Solar	-	-	-	-	-	-
REC Non-solar	-	-	-	-	-	7.24 <sup>^</sup>
<b>Total RE Power</b>	-	-	-	-	-	<b>9.96</b>

*\*Generic Tariff solar and non-solar Tariff as considered in MTR Order; <sup>^</sup>REC purchase in Rs.Crore*

Particular	Actual for Nov, 2019			Actual for Dec, 2019		
	Quantum (MUs)	% share	Rate (Rs./kWh)	Quantum (MUs)	% share	Rate (Rs./kWh)
Solar Sources:						
Existing Sources	3.88	25.28%	9.64	3.18	19.00%	9.74
New Solar	-	-	-	-	-	-
Non-Solar Sources:						
Existing Sources	11.47	74.72%	5.05	13.56	81.00%	5.04
New Non- Solar (MU)	-	-	-	-	-	-
Mini/Micro Hydro Purchase	-	-	-	-	-	-
<b>Total RE Power</b>	<b>15.36</b>	<b>100.00%</b>	<b>6.21</b>	<b>16.73</b>	<b>100.00%</b>	<b>5.93</b>
REC Solar	-	-	-	-	-	-
REC Non-solar	-	-	7.70 <sup>^</sup>	-	-	-
<b>Total RE Power</b>	-	-	<b>11.23</b>	-	-	<b>5.93</b>

<sup>^</sup>REC purchase in Rs.Crore

4.30 It can be observed from above Table that even though TPC-D has procured RE power at a generic Tariff approved by the Commission, the overall APPC is still appearing higher than the MTR approved rate of Rs. 4.34/kWh. The increase in APPC is mainly due to following reasons:

- Due to the change in actual quantum of power (% share) from various sources, there is a change in the weighted average rate of purchase from Solar RE and Non-Solar RE sources.
- Due to the absence of new cheaper RE sources in the total purchase portfolio as envisaged by the Commission while determining the price for FY 2019-20 in its MTR Order.
- Due to additional purchase of REC by TPC-D during the respective period in order to fulfil its RPO Obligation of the year.

4.31 Further, it is also observed that the Commission in its MTR Order dated 12 September, 2018, has arrived at APPC from RE sources as Rs. 4.34/kWh considering the purchase from existing tied-up long term Solar and Non-Solar sources. While arriving this APPC, the weighted average purchase cost for existing solar sources was taken as Rs.9.81/kWh and





for non-solar it was considered as Rs.5.06/kWh. The balance requirement of Solar and Non-Solar RPO target was considered to be met through new RE sources considering the average price as Rs.2.72/kWh for Solar, Rs.2.87/kWh for Non-Solar and Rs.5.64/kWh for micro/mini hydro purchase. No REC purchase has been considered in MTR Order for FY 2019-20. TPC-D was accordingly directed to explore new cheap RE sources. Based on above the weighted average cost of power purchase has been worked out as Rs.4.34/kWh for FY 2019-20 in the MTR Order.

- 4.32 As against the above, in actual TPC-D has procured RE power from existing tied up sources only and there was no RE purchase from new cheaper sources as envisaged in MTR Order. On response to clarification sought with regards to absence of new cheaper RE sources, In its replies to the data gaps for Q1 FAC, TPC-D had submitted the other efforts taken by it to tie up cheaper RE power and had stated that it had explored option to tie-up on Generic tariff by approaching few Developers who were winning bidders in MSEDCL's tendering process, however considering the short timeline for CoD from August 2018 to March 2019, Tariff period of 13 years & safeguard duty issue, developers were not inclined to tie-up with the terms & conditions as per Generic tariff. TPC-D further stated that it had put up the proposal in front of the Commission through a Petition in Case No. 136 of 2019 dated 6 June 2019, to procure 150 MW solar power from grid connected solar PV power projects through Competitive Bidding Process. The Commission had issued an Order in this case on 2 August, 2019 in which the Commission has accorded an approval for procurement of 150 MW Solar power from grid connected Solar PV projects for a PPA period of 25 years through Competitive Bidding process.
- 4.33 Subsequently, TPC- D floated a tender on 21 August, 2019 on MSTC's e-bidding 'DEEP Portal' to procure cumulative 150 MW Solar Power from grid connected solar photovoltaic project on long term basis for a period of 25 years. TPREL was declared as successful Bidder after completion of the Bidding process. Subsequently, TPC-D had filed a petition for adoption of Tariff and through the Order dated 4 December, 2019 in Case No. 292 of 2019, the Commission has accorded approval for procurement of 150 MW on long term basis from grid connected Solar power project for Rs. 2.83 per unit for 25 Years. Subsequent to this Order, Tata Power-D signed a PPA on 3 January, 2020. Considering the timelines of this process, this project is scheduled to achieve commercial operation in FY 2021-22.
- 4.34 As regards to purchase of REC is concerned, **TPC-D stated that MERC RPO Regulations, 2016 also allows Distribution Licensees and other Obligated Entities to meet their RPO by purchasing RECs.** The relevant provision of MERC (RPO-REC) Regulations, 2016 is reproduced below;



*“Every 'Obligated Entity' may meet its RPO target by way of own generation or procurement of power from RE developer or by way of purchase from other licensee or by way of purchase of renewable energy certificate or by way of combination of any of the above options.”*

- 4.35 **TPC-D has submitted the RE certificate and obligation report issued by IEX and the same has been verified.**

**Bilateral Sources/Traders:**

- 4.36 TPC-D has purchased bilateral power from Dhariwal Infrastructure Limited and IEX during Q3 FY2019-20. **The total bilateral power stands at 70.87 MUs, 25.31 MUs and 73.00 MUs respectively during the months of October, November and December, 2019.** With respect to lesser quantum of power purchase from traders in the month of November, 2019, TPC-D stated that the quantum of power purchase from traders depends on the demand of distribution licensees in the particular month which is also dependent on the seasonal variation. Hence, the quantum of power purchase from traders is lesser in the month of November, 2019 due to lower demand of distribution licensee during aforesaid period. **The average power purchase cost from traders is Rs. 3.12/kWh, Rs.3.04/kWh and Rs. 3.15/kWh during the month of October, November and December, 2019 respectively, as compared to MTR approved rate of Rs.2.87/kWh.**
- 4.37 It is observed that **the Commission in its Order in Case No. 319 of 2018 dated 3 December, 2018 has increased the ceiling rate for purchase of short-term power to Rs. 5.00/kWh for FY 2018-19 and FY 2019-20.** Considering that the actual bilateral power purchase rate is within the revised ceiling approved by the Commission, the same has been considered as submitted by TPC-D.

**UI and OLA Sale:**

- 4.38 It was observed that **TPC-D has considered Unscheduled Interchange (UI) power of 23.26 MUs, 34.26 MUs and 51.22 MUs at a price of Rs. 3.50/kWh during the month of October, November and December, 2019 respectively.** The Commission has sought for supporting invoices/bills for UI purchase. In response TPC-D stated that UI is a balancing figure between the InSTS requirement of TPC-D and total power purchase of TPC-D for a particular month. The bills/invoices of UI for the period October to December 2019 can be provided once provisional bill settlement of UI is completed. At present, TPC-D has considered UI price at provisional basis.
- 4.39 TPC-D has purchased significant UI power during Q3 period which is mainly due to backing down of TPC-G generating stations as per State-wide MoD run by MSLDC. TPC-G's generating Stations with which TPC-D has long term contracts are at a higher position in the Merit Order Stack. Hence, depending on the State demand these generators are backed



down. As per the procedure laid down by the Commission the requirement against backed down generation get fulfilled by the pool power. Hence, quantum of UI power is reflecting higher during Q3 period.

- 4.40 Since UI rates are normally lower as compared to other sources of power, consideration of the same reduces the average power purchase cost, thus, reducing FAC burden on consumers. Therefore, in line with approach adopted in earlier FAC approval, the Commission has considered imbalance power purchase quantum as well as the cost on provisional basis as submitted by TPC-D. 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 TPC-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, TPC-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.
- 4.41 With regards to Outside Licence Area (OLA) or surplus sale, it was observed that **TPC-D has sold total 0.87 MUs of power during quarter 3 of FY 2019-20 at a price of Rs. 4.88/kWh. TPC-D has earned a revenue of Rs. 0.43 Crore from this transaction which has been considered in reduction of power purchase cost during the respective period.** In response to details sought for sale of surplus power, TPC-D stated that the surplus power has been sold to NIDAR Utilities (NUPLLP), Panvel as per approved Power Purchase Agreement (PPA) vide MERC Order dated 3 August, 2018 in Case No. 117 of 2017. TPC-D has submitted the invoices of power sold to NUPLLP and the same has been verified. Further, the Commission has also compared the price of sale of surplus power by TPC-D vis-à-vis the Market Clearing Price (MCP) prices of power traded at IEX. The average MCP prices prevailed at Rs. 2.71/kWh, Rs. 2.85/kWh and Rs. 2.93/kWh for the months of October, November and December, 2019 respectively. The sale of surplus power is observed at a rate higher than these MCP rates. Accordingly, the OLA sale is considered as submitted by TPC-D.

#### **Standby Power:**

- 4.42 Further, it was observed that **TPC-D had purchased 2.58 MUs of Standby power at a price of Rs. 3.90/kWh mainly during the month of December, 2019.** On response to clarification sought against the same TPC-D stated that it had procured aforesaid Standby Power from MSEDCL due to outage of Unit 8 of TPC-G. TPC-D also replied that the power from all the contracted sources was fully utilised before scheduling the above mentioned standby power.



4.43 With reference to the price of Standby power purchase, TPC-D replied that it is yet to receive final bills for the power purchase from MSEDCL. However, for the purpose of booking power purchase cost it has provisionally considered the price of Rs.3.90/kWh which is lower than the per unit average power purchase cost approved (Rs. 4.27/kWh) for TPC-D in MTR Order. Further, the Commission in its recent MYT Order has also approved the Standby Charges as submitted by TPC-D during provisional Truing up of FY 2019-20. In view of above, the Commission has considered the Standby Charges in Q3 of FY 2019-20. However, TPC-D is required to submit the detailed reconciliation of Standby Charges on the basis of final bills at the time of final truing up of FY 2019-20.

4.44 Based on above, on an overall basis **the key reason for variation in APPC is due to variation in fuel prices, absence of new cheaper sources of power in total RE portfolio, additional purchase of REC to fulfil RPO, purchase of standby power, etc.** Accordingly, the Commission allows the average power purchase cost of **Rs. 4.21/kWh** for the month of October, 2019, **Rs. 4.34/kWh** for the month of November, 2019 and **Rs. 3.97/kWh** for the month of December, 2019 as compared to MTR approved price of **Rs. 4.26/kWh** as shown in the Tables above. The APPC is marginally lower in the month of October, 2019 whereas it is marginally higher in the month of November, 2019 mainly due to higher REC purchase in the month of November, 2019. Further, APPC in the month of December, 2019 is substantially lower mainly due to absence of REC purchase cost during the said month.

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

5.1 The Commission has worked out the average power purchase cost for the months of Q3 FY2020. The same has been compared with the average power purchase cost approved by the Commission in Tariff Order dated 12 September, 2018 and arrived at differential per unit rate at which ZFAC is to be passed on to the consumers.

5.2 The following Table shows the ZFAC worked out by the Commission on account of difference in fuel and power purchase cost for the month of October, 2019 to December, 2019.

S. No.	Particulars	Units	Oct, 2019	Nov, 2019	Dec, 2019
1	Average power purchase cost approved by the Commission	Rs./kWh	4.26	4.26	4.26
2	Actual average power purchase cost	Rs./kWh	4.21	4.34	3.97
3	Change in average power purchase cost (=2 -1)	Rs./kWh	(0.06)	0.07	(0.29)



S. No.	Particulars	Units	Oct, 2019	Nov, 2019	Dec, 2019
4	Net Power Purchase	MU	422.89	394.21	390.62
5	<b>Change in fuel and power purchase cost (=3 x 4/10)</b>	<b>Rs. Crore</b>	(2.45)	2.88	(11.48)

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

6.1 Adjustment factor for over recovery/under recovery (B) for the period of October, 2019 to December, 2019, the adjustment factor to be added/reduced is 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	12.00*	17.69*	2.57
1.2	Incremental cost in Month n-4 actually recovered in month n-2	Rs. Crore	7.02	16.25	(1.06)
1.3	(over-recovery)/under-recovery (=1.1 - 1.2)	Rs. Crore	4.98	1.44	3.62
2.0	Carried forward adjustment for over-recovery/under-recovery attributable to application of ceiling limit for previous month	Rs. Crore	0.00	0.00	0.00
3.0	<b>Adjustment factor for over-recovery/under-recovery (1.3+2.0)</b>	<b>Rs. Crore</b>	4.98	1.44	3.62

\*Considered as per previous post facto approval

6.2 TPC-D in its submission had considered incremental cost allowed to be recovered as Rs. 6.86 Crore and Rs. 17.00 Crore for the month of October and November, 2019 respectively. TPC-D had considered the above values as per its own computation of FAC pertaining to previous quarter. However, the Commission in its post facto approval of previous quarter has rectified certain errors and accordingly, has considered incremental cost allowed to be recovered for the month of October and November as Rs. 12.00 Crore and Rs. 17.69 Crore, respectively, as mentioned in above Table.

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

7.1 The following Table shows the month wise interest rate and amount worked out as Carrying cost for under/over recovery for the month of October, 2019 to December, 2019.

S. No.	Particulars	Units	Oct, 2019	Nov, 2019	Dec, 2019
1	Adjustment factor for over-recovery/under-recovery	Rs. Crore	4.98	1.44	3.62



S. No.	Particulars	Units	Oct, 2019	Nov, 2019	Dec, 2019
2	Applicable Interest rate	%	9.55%	9.50%	9.40%
3	Carrying cost for over-recovery/under-recovery	Rs. Crore	0.04	0.01	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.No.	Particulars	Units	Approved in Tariff Order	Cumulative		
				up to Oct-19	up to Nov-19	up to Dec-19
1	Net Energy input at Distribution Voltages	MU	2567.96	1760.15	1994.80	2223.87
2	Energy sales (metered) at Distribution voltages	MU	2541.77	1746.54	1970.12	2200.42
3	Distribution Loss (=1-2)	MU	26.190	13.61	24.69	23.45
4	Distribution Loss as % of net energy input (=3/1)	%	1.02%	0.77%	1.24%	1.05%
5	Excess Distribution Loss = [Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	0.000	0.65	0.09



S.No.	Particulars	Units	Approved in Tariff Order	Cumulative		
				up to Oct-19	up to Nov-19	up to Dec-19
6	<b>Disallowance of FAC due to excess Distribution Loss</b>	<b>Rs. Crore</b>	-	0.000	0.008	0.00

8.3 As seen from the above Table, cumulative distribution loss is 0.77% for the month of October, 2019, 1.24% for November, 2019 and 1.05% for the month of December, 2019. The cumulative distribution loss was observed higher than the approved Distribution Loss of 1.02% in November and December, 2019. Hence, there is excess distribution loss of 0.646 MU and 0.099 MU in November and December, 2019 respectively. Accordingly, corresponding amount on account of excess distribution loss has been disallowed from allowable FAC during the respective period.

## 9. Summary of Allowable ZFAC

9.1 The summary of the FAC amount as approved by the Commission for the month of October, 2019 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
<b>1.0</b>	<b>Calculation of ZFAC</b>				
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	-2.449	2.876	-11.476
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	0.040	0.011	0.028
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	4.975	1.438	3.622
<b>1.4</b>	<b>ZFAC = F+C+B</b>	<b>Rs. Crore</b>	<b>2.566</b>	<b>4.325</b>	<b>-7.826</b>
<b>2.0</b>	<b>Calculation of FAC Charge</b>				
2.1	Energy Sales within the License Area	MU	395.813	365.014	370.821
2.2	Excess Distribution Loss	MU	0.000	0.646	0.099
2.3	ZFAC per kWh	Rs./kWh	0.065	0.118	(0.211)
2.4	Cap at 20% of variable component of tariff	Rs./kWh	1.166	1.166	1.166
2.5	FAC Charge allowable (Minimum of 2.3 and 2.4)	Rs./kWh	0.065	0.118	(0.211)
<b>3.0</b>	<b>Recovery of FAC</b>				



S. No.	Particulars	Units	Oct, 2019	Nov, 2019	Dec, 2019
3.1	Allowable FAC	Rs. Crore	2.566	4.325	(7.826)
3.2	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.5)/10]	Rs. Crore	0.00	0.008	0.00
<b>4.0</b>	<b>Total FAC based on category wise and slab wise allowed to be recovered</b>	<b>Rs. Crore</b>	<b>2.566</b>	<b>4.317</b>	<b>(7.826)</b>
<b>5.0</b>	<b>Carried forward FAC for recovery during future period</b>	<b>Rs. Crore</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

- 9.2 It can be seen from the above Table that standalone FAC for the months of October, November and December, 2019 is Rs. 2.566 Crore, Rs. 4.317 Crore and Rs (7.826) Crore, respectively. Based on total energy sales and excess distribution losses, FAC per unit has been working out as Rs. 0.065/kWh, Rs. 0.118/kWh and Rs. (0.211)/kWh for the months of October, November and December, 2019, respectively.
- 9.3 As against the above, TPC-D in its initial FAC submission has worked out standalone FAC for the months of October, November and December, 2019 as Rs. (2.613) Crore, Rs. 3.629 Crore and Rs (13.045) Crore, respectively. The per unit FAC as worked out by TPC-D were Rs. (0.066)/kWh, Rs. 0.099/kWh and Rs. (0.352)/kWh for the months of October, November and December, 2019, respectively. The variation in standalone FAC and per unit FAC as computed by the Commission and as submitted by TPC-D is mainly on account of variation in computation of adjustment factor (i.e., difference in FAC allowed to be recovered and actually recovered by the Licensee). Being post facto approval, certain rectification of errors and allowance/disallowance pertaining to previous quarter's FAC approval has resulted into variation in adjustment factor.
- 9.4 Further, from the initial FAC submission of TPC-D, it was observed that although for the month of December 2019, TPC-D has worked out per unit FAC as Rs. (0.352)/kWh, but it has not levied the same to the consumers. In response to query, TPC-D vide its data gap reply stated that it has estimated positive FAC for the immediate next month, i.e., January, 2020. TPC-D further stated that variation in tariff is magnified when there is negative FAC leading to reduction in tariff during a particular month and positive FAC in the immediate next month thereby increasing the tariff. There is a general and reasonable expectation of the consumers that once the tariff is approved by the Commission, to the extent possible, it should remain consistent during the year and there should not be huge variations due to FAC. Therefore, in order to avoid tariff shock to the consumers, TPC-D had charged FAC rate of Rs. 0.00/kWh instead of calculated FAC of Rs. (0.35)/kWh for the month of December, 2019. In this regard, the Commission is of the view that the FAC formula





specified in the MYT Regulations provides for the capping on per unit FAC, i.e., the monthly ZFAC shall not exceed 20% of the variable component of Tariff. Therefore, the concern of TPC-D that positive FAC will lead to tariff shock is already taken care in Regulation itself. Licensee shall compute and levy FAC as per the principle/procedure laid down in the Regulations only. Hence, the Commission does not find any merit in approach taken by TPC-D. Accordingly, the Commission has worked out computation of FAC as per procedure and formula specified in the MYT Regulations.

- 9.5 Further, based on above **TPC-D was to refund Rs.(3.51) Crore cumulatively for the last two months of quarter, however, as against this TPC-D has actually worked out FAC recovery of Rs. 3.63 Crore. Hence, there is an over-recovery of amount Rs. 7.14 Crore. Accordingly, TPC-D is required to re-fund FAC of Rs. 7.14 Crore to the 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.

## 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 following Table shows per unit ZFAC charged to the consumers of TPC-D for the billing month of December, 2019 to February, 2020.

S. No	Consumer Category	Slabs	ZFAC to be levied in billing month of		
			Dec'19	Jan'20	Feb'20
			(Rs./kWh)	(Rs./kWh)	(Rs./kWh)
<b>(A)</b>	<b>LT Category</b>				
1	LT 1 – BPL	0 – 30	-0.031	0.051	0.00
2	LT 1 - Residential S1	0 – 100	-0.018	0.026	0.00
3	LT 1 - Residential S2	101 – 300	-0.046	0.069	0.00
4	LT 1 - Residential S3	301 – 500	-0.079	0.125	0.00
5	LT 1 - Residential S4	> 501	-0.109	0.173	0.00
6	LT II Commercial (A)	0 - 20 kW	-0.072	0.117	0.00
7	LT II Commercial (B)	20–50 kW	-0.076	0.116	0.00
8	LT II Commercial (C)	> 50 kW	-0.090	0.135	0.00
9	LT III (A) - LT Industries	0 - 20 kW	-0.072	0.112	0.00
10	LT III (B) - LT Industries	> 20 kW	-0.073	0.110	0.00
11	LT IV - Public Water Works	all units	-0.066	0.102	0.00
12	LT V - Advt & Hoardings	all units	-0.091	0.134	0.00
13	LT VI - Street Lights	all units	-0.078	0.117	0.00
14	LT VII (A) - Temporary Supply –Religious	all units	-0.054	0.084	0.00
15	LT VII (B) - Temporary Supply –Others	all units	-0.087	0.129	0.00
16	LT VIII - Crematorium and Burial Grounds	all units	-0.040	0.059	0.00
17	LT IX (A) - Public Service – Govt. Hospitals & Educational Institutes	all units	-0.060	0.095	0.00
18	LT IX (B) - Public Service – Others	all units	-0.079	0.116	0.00
<b>(B)</b>	<b>HT Category</b>				0.00
19	HT - I Industry	all units	-0.084	0.126	0.00
20	HT - II Commercial	all units	-0.088	0.132	0.00
21	HT - III Group Housing Society (Residential)	all units	-0.079	0.119	0.00
22	HT - IV Public Water Works	all units	-0.070	0.105	0.00



S. No	Consumer Category	Slabs	ZFAC to be levied in billing month of		
			Dec'19	Jan'20	Feb'20
			(Rs./kWh)	(Rs./kWh)	(Rs./kWh)
23	HT-V Railways, Metro & Monorail	all units	-0.066	0.100	0.00
24	HT-VI (A) Public Service – Govt. Hospitals & Educational Institutes	all units	-0.078	0.118	0.00
25	HT-VI (B) Public Service- Others	all units	-0.085	0.127	0.00
26	HT-VII Temporary Supply	all units	-0.084	0.125	0.00
27	HT VIII - EV Charging Stations	all units		0.079	0.00

## 11. Summary

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

Particular	Month	Claimed	Approved	Remarks
FAC (Rs. Cr.)	October'19	(2.61)	2.57	<b>(Rs. (3.51) Cr.- Rs. 3.63 Cr.)</b> =Rs. (7.14) Cr. Refundable
	November'19	3.63	4.32	
	December'19	0.00	(7.83)	
FAC per Unit	October'19	(0.07)	0.06	
	November'19	0.10	0.12	
	December'19	0.00	(0.21)	

11.2 As shown in above table, the cumulative FAC for the last two months of quarter approved by Commission stand at Rs. (3.51) crore, however, as against this TPC-D has actually recovered Rs. 3.63 Crore. Hence, there is an over-recovery of amount Rs. 7.14 Crore. Since FY 2019-20 is already over, the 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.

