महाराष्ट्र विद्युत नियामक आयोग

Maharashtra Electricity Regulatory Commission

Date: 6 May 2022

f. No. MERC/FAC/2022-23/205

To,

The Managing Director

Tata Power Company Ltd.
Dharavi Receiving Station
New Shalimar Industrial Estate
Matunga, Mumbai – 400 019

Subject:

Prior Approval of Fuel Adjustment Charges (FAC) submission of TPC-D for

the month of February, 2022.

Reference:

1. TPC-D's FAC submission dated 15 March, 2022 for prior approval of FAC

for the month of February, 2022.

2. Data gaps communicated to TPC-D vide email dated 19 March, 2022.

3.TPC-D's response to data gaps on 25 March, 2022, 30 March, 2022 and 01

April, 2022.

Sir,

Upon vetting the FAC calculations for the month of February, 2022 as mentioned in the above reference, the Commission has accorded approval for charging FAC of **Rs. 53.90 Crore.** However, the said amount after adjustment from the existing FAC Fund is Rs 16.02 Crore and the same is being carried forward and will be accumulated for next three-month period i.e. up to the month of April 2022 as per letter dated 5 April, 2022 issued by the Commission and accordingly the FAC chargeable to consumers is as shown in the table below:

Month	FAC Amount (Rs. Crore)
February, 2022	0 (Zero)



Yours faithfully,

(Prafulla Varhade) Director (EE), MERC

Encl: Annexure A: Detailed Vetting Report for the month of February, 2022.



Detailed Vetting Report
Date: 6 May 2022

PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF FEBRUARY, 2022

Subject:

Prior Approval of Fuel Adjustment Charges (FAC) submission of TPC-D for

the month of February, 2022.

Reference:

TPC-D's FAC submission dated 15 March, 2022, 25 March, 2022, 30 March,

2022 and 01 April, 2022 for prior approval of FAC for the month of February,

2022.

1. FAC submission by TPC-D:

1.1 TPC-D has submitted FAC submissions for the month of February, 2022 as referred above. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by TPC-D against the data gaps issued, the Commission has accorded prior approval to TPC-D for FAC amount of Rs. 53.90 Crore for the month of February,2022. The approved FAC amount is being adjusted from the FAC Fund and the balance amount of Rs 16.02 Crore is being carried forward and will be accumulated for next three-month period i.e., up to the month of April, 2022 as per letter dated 5 April, 2022 issued by the Commission. At the end of the three-month period, the Commission will allow the recovery of cumulative amount for three-month period equally over the next three-month period during prior approval of the third month along with carrying cost.

2. Background

- 2.1 On 30 March, 2020, the Commission has issued Tariff Order for TPC-D, (Case No .326 of 2019) for True-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. Revised Tariff has been made applicable from 1 April, 2020.
- 2.2 In the Tariff Order, the Commission has stipulated methodology of levying FAC as follows:

"6.7.15 Stabilising variation in consumer bill on account of FAC

Therefore, using its powers for Removing Difficulty under Regulation 106 of the MYT Regulations, 2019, the Commission is making following changes in the FAC mechanism specified under Regulation 10 of the MYT Regulations, 2019:



a. Distribution Licensee shall undertake computation of monthly FAC as per Regulation 10 of the MYT Regulations, 2019 except for treatment to be given to negative FAC as follows:

- (i) Negative FAC amount shall be carried forward to the next FAC billing cycle with holding cost;
- (ii) Such carried forward negative FAC shall be adjusted against FAC amount for the next month and balance negative amount shall be carried forward to subsequent month with holding cost;
- (iii) Such carry forward of negative FAC shall be continued till the accumulated negative FAC becomes 20% of monthly tariff revenue approved by the Commission in Tariff Order. In case of TPC-D, such limit shall be Rs. 50 crore. Any accumulated amount above such limit shall be refunded to consumers through FAC mechanism;
- (iv) In case such FAC Fund is yet to be generated or such generated fund is not sufficient to adjust against FAC computed for given month, then Distribution Licensee can levy such amount to the consumers through FAC mechanism.

In order to maintain transparency in management and use of such FAC Fund, the Distribution Licensee shall maintain monthly account of such FAC fund and upload it on its website for information of stakeholders. Further, till date, the Distribution Licensees have been levying FAC up to the prescribed limit of 20% of variable component of tariff without prior approval in accordance with the MYT Regulations, 2015, and submitting the FAC computations on a quarterly basis within 60 days of the close of each quarter, for post facto approval. However, as the Commission has created a FAC fund as stated above to address the increase in fuel prices and power purchase costs, the Commission has modified the FAC mechanism such that the Distribution Licensees shall submit the FAC computations on a monthly basis for prior approval, irrespective of whether FAC is chargeable in a month or whether some amount is accruing to the Fund on account of negative FAC. This will ensure that the FAC mechanism is implemented with the changes as desired by the Commission, and the consumers are not levied FAC without prior approval.

The details of the FAC as per the Regulations, shall be submitted by the 15th of the every month prior to the month in which the FAC is proposed to be levied and the Commission will endeavour to decide on the same within 10 days so that the same can be levied from the 1st of the subsequent month. This prior approval will facilitate the addressing of any difficulties that may arise in giving effect to this fund. All the details will be submitted by the Distribution Licensee as is being done for approval of FAC on post facto basis. Thus, the FAC to the consumers shall now be levied with prior approval of the Commission"

2.3 Vide its letter dated 20 April, 2020, the Commission communicated the excel formats along with the checklist to file FAC submissions for prior approval to all Distribution



Licensees. The Commission also directed all Distribution Licensees to file FAC submissions by 15th of every month prior to the month for which the FAC is proposed to be levied for prior approval.

2.4 Accordingly, TPC-D has filed FAC submissions for the month of February, 2022 for prior 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 are as shown in the table below:

	Approved by the	Monthly	Actual Sales*	
Consumer Category	Commission* (MU)	Approved* - (MU)	February 2022 (MU)	
	(I)	(II=I/12)	(III)	
EHV – Industry	214.59	17.88	58.64	
HT I - Industry	877.46	73.12	66.42	
EHV- Commercial	106.22	8.85	6.60	
HT II - Commercial	392.15	32.68	25.40	
HT III - Group Housing Society (Residential)	8.47	0.71	3.43	
HT IV - Railways/Metro/Monorail				
22/33 kV	69.79	5.82	5.16	
HT V - Public Services	Salan			
a) Govt. Edu. Inst. & Hospitals	13.61	1.13	1.36	
b) Others	215.26	17.94	14.93	
HT VIII - EV Charging Stations	0.00	0.00	1.15	
LT I (A)- Residential (BPL)	0.00	0.00	0.00	
LT I (B)- Residential	1953.46	162.79	114.12	
LT II - LT Commercial				
(A)- upto 20 kW	243.44	20.29	10.28	
(B) $>$ 20 kW and $<$ 50 kW	125.12	10.43	5.16	
(C) - 50 kW	358.01	29.83	18.73	
LT III (A) - Industry $< 20 \text{ kW}$	29.86	2.49	2.57	
LT III (B) - Industry > 20 kW	200.66	16.72	14.08	
LT IV - Public Services				
a) Govt. Edu. Inst. & Hospitals	26.42	2.20	0.42	
b) Others	7.01	0.58	1.42	
LT V - EV Charging Stations	0.10	0.01	0.05	
* Approved and Actual Sales includes the dis-	4841.64	403.47	349.93	

^{* -} Approved and Actual Sales includes the direct sales and changeover sales of TPC-D



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

It is observed that the total sales for February, 2022 is 349.93 MU which is 13.27% lower than approved monthly sales of 403.47 MU. With respect to overall consumption of TPC-D, HT category consumption is 183.08 MU is on a higher side by 15.78% as compared to approved monthly HT energy sales of 158.15 MU and the reduction has been noticed by 31.99% on LT side whereby the actual sales are 166.85 MU as compared to approved monthly LT energy sales of 245.34 MU. The major variation was observed in EHV industry sales in view of open access purchase by EHV industry category consumers were lower in the month of February 22 as compared to other months implying that majority requirement has been met through TPC-D. Also, there is overall reduction in sales due to seasonal impact and lower number of days in the month.

3.2 The comparison of estimated sales and sales based on actual meter reading for the month of February 22 is as given below:

Particulars	Actual - MU	Estimated - MU	Total	% sales based on Estimated Reading
February-22	349.73	0.20	349.93	0.06%

It is observed that the assessed sales percentage is marginal at 0.06% in February, 22.

3.3 Further, comparison of sales for April, 21 to February, 22 as compared to last year are as shown below:





Particulars	LT - Residential (MU)	LT Others (MU)	HT (MU)	Total (MU)
Apr-20	133.52	36.3	85.05	254.87
Apr-21	189.42	54.2	144.05	387.67
May-20	139.51	21.32	95.69	256.52
May-21	200.72	49.95	137.77	388.44
Jun-20	210.41	24.35	102.05	336.81
Jun-21	190.84	52.00	142.39	385.23
Jul-20	236.58	41.81	123.7	402.09
Jul-21	169.41	56.51	155.57	381.49
Aug-20	182.7	47.46	133.91	364.07
Aug-21	165.06	58.24	162.11	385.41
Sep-20	156.65	51.78	152.02	360.46
Sep-21	156.41	59.33	178.26	394.00
Oct-20	166.2	59.56	164.41	390.17
Oct-21	166.2	66.52	200.92	433.64
Nov-20	163.10	53.10	149.71	365.92
Nov-21	173.10	65.00	208.17	446.27
Dec-20	143.14	64.29	158.26	365.69
Dec-21	146.89	62.75	185.66	395.30
Jan-21	122.38	48.91	167.45	338.75
Jan-22	120.63	54.75	181.82	357.21
Feb-21	125.05	53.92	163.63	342.6
Feb-22	114.12	52.72	183.08	349.93
Apr 20 – Feb 21	1779.24	502.80	1495.88	3777.95
Apr 21 – Feb 22	1792.81	631.97	1879.80	4304.58

The Commission observes that sales in HT category for the month of February, 22 is higher than last year. Overall sales for February, 22 are slightly lower as compared with previous months (Jan/Dec) due to seasonal variation. However, on a cumulative basis from Apr-21 to Feb-22, the total sales are higher by 13.94% as compared to same period last year.

4. Power Purchase Details

- 4.1 The Commission has approved following sources in the Tariff Order for power purchase by TPC-D.
 - a) Tata Power Company Ltd. (TPC-G)
 - b) Renewable Energy (Solar and Non-Solar)
 - c) Short Term Sources (Bilateral and Power Exchange).

In addition to the aforesaid, there may be some variation in real time which will be settled

through Deviation Settlement Mechanism approved by the Commission.

4.2 Summary of Power Purchase for TPC-D is as follows:

Sr. No.	Particular			Compliance		
1	Sources of approved Power Purchase	TPC-D has po	urchased po	wer from appr	oved sources.	
2	Merit Order Dispatch	1			cheduling of power and	
3	Fuel Utilization Plan	Existing contracts expired in July 2020. TPC-G has entered into new coal contracts for 2.2 MT for 2 years further extendable by 2 years as per directions of the Commission in TPC-G MYT Order through Competitive Bidding. Further, APM Gas Contract				
4	Deviation Quantum	with GAIL has been for the period 7 July, 2021 to 6 July, 2026. TPC-D has overdrawn 7.41 MU as compared to the Schedule.				
5	Sale of Surplus Power		ld 4.34 MU	at Rs. 7.85/kW	Wh thereby benefitting its	
6	Power Purchase		Purchase		U as against approved	
7	Source wise Power Purchase	Source Name	Approved (MU)	Actual (MU)	Proportion of each Source in Actual Purchase	
		TPC-G	320.31	224.33	60.60%	
		RE Sources	31.15	43.93	11.87%	
		Short Term	67.81	98.86	26.71%	
13		Deviation & Sale	47	3.06	0.83%	
		Total	419.27	370.18	100%	
8	Power Purchase: Section 62 of Electricity Act, 2003	has been verif 2019. As part of ve verification of	ied from the rification of operational	TPC MYT Of f energy charge parameters, fi	med by TPC-D, the same order in Case No. 326 of ges claimed by TPC-D, fuel cost, GCV etc. vis-à- s carried out.	
9	RE Purchase	vis the MYT Order/Tariff Regulations is carried out. Solar Cost and Solar MU verified as per Invoice. Non-Solar MU considered as submitted by TPC-D based on the meter reading data/scheduled energy (bilateral purchase) with a direction to submit invoice in next FAC submission.				
10	Short Term Power Purchase		wer purchas	e by TPC-D ha	as been verified from the	

- 4.3 TPC-D has purchased power of 370.18 MU as against approved 419.27 MU from the sources approved by the Commission.
- 4.4 The following table show the variation in average power purchase cost (Rs/kWh) for the

month of February, 2022 submitted by TPC-D as compared to average power purchase cost approved in Tariff Order:

	Tariff Order Dated 30.03.2020 FY 2021-22 Approved			Actual for February, 2022			
Particulars	Net Purchase - Monthly*	Cost - Monthly	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost	
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh	
TPC-G	320.31	142.52	4.45	224.33	159.63	7.12	
RE Sources	31.15	18.23	5.85	43.93	17.05	3.88	
Short Term	67.81	24.13	3.56	98.86	40.72	4.12	
Deviation Quantum and Cost	-	-	-	7.41	3.14	4.24	
Sale of Power	-	-	-	(4.34)	(3.41)	7.85	
Total	419.27	184.88	4.41	370.18	217.14	5.87	

^{*} Although, power purchase quantum is not approved on monthly basis, the monthly quantum is arrived at based on yearly approved quantum and shown for comparison purpose only

5. Power Purchase Cost

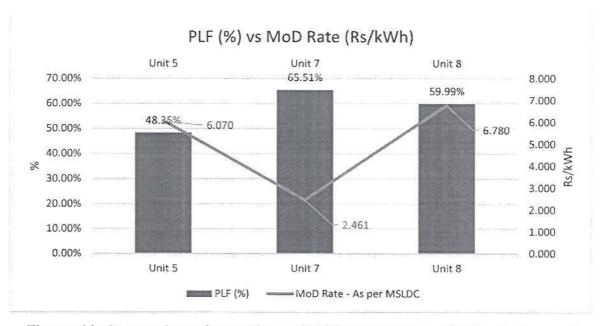
5.1 The Commission has sought detailed bills/invoices for all of the power purchase sources in order to verify the claim of TPC-D with regards to average power purchase cost for the month of February, 2022. The Commission has verified the Net Purchase, Variable Cost, Fixed Charge and the Power Purchase Cost from the relevant bills/invoices received for all purchasing sources. TPC-D has purchased power from approved sources as per the Tariff Order.

TPC-G

5.2 TPC-G Units 7 and 8 have declared Availability of more than 99% whereas Unit 5 declared Availability is 83.19% which is lower than the normative Availability of 85%. In response to data gaps raised by the Commission pertaining to lower availability of Unit 5, TPC submitted that Unit 5 was on planned outage from 28 January 2022 to 02

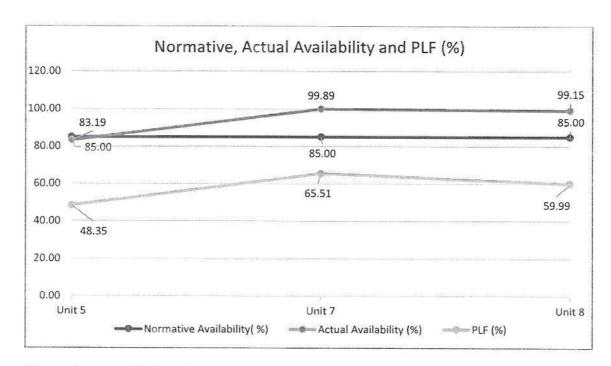
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February 2022 (i.e., for 6 days), high pressure feed water heaters were out of service due to leakage for 4 days, forced outage was taken for attending sampling line leakage for 2 days and Unit 5 tripped due to grid disturbance on 27 February, 2022. Further, the PLF of Unit 5, 7 and 8 was lower at 48.35%. 65.51% and 59.99% respectively. In response to data gaps raised by the Commission for lower PLF, TPC submitted that PLF of Unit-5 and Unit-8 is lower due to lower system demand and Unit 7 PLF is lower due to reserve shutdown during period from 23.02.2022 (02:22Hrs) to 27.02.2022 (10:56 hrs) and 27.02.2022 (16:38 hrs) to 01.03.2022 (00:00 hrs) as alternative cheaper source was made available when daily APM Gas availability fell below the required value to run the plant at technical minimum and RLNG consumption was required. TPC further submitted that BEST & TPC-D have taken the decision to avoid RLNG consumption in Unit-7 and to schedule power from Unit-7 on APM only to protect consumer's interest with a reasonable and competitive tariff. Further, BEST and TPC-D had provided consent to schedule power from Unit-7 only on APM. The Commission notes the submission of TPC. The graph showing the comparison of Variable Cost in MoD Stack and monthly PLF for TPC-G thermal/gas units is given below:

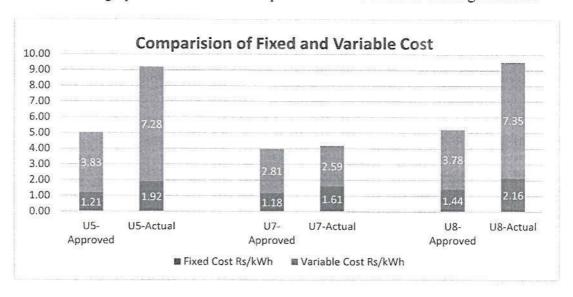


The graphical comparison of normative availability and actual availability for the month of February, 2022 is as given below:





The entire monthly fixed cost was payable in line with MYT Regulations, 2019 as the cumulative plant availability of Units 7 and 8 were higher than the normative availability of 85%. It is observed that Unit-5, Unit-7 and Unit-8 have lower PLF resulting in higher fixed cost per unit than approved by the Commission. Also, the Variable Cost of the Units 5 and 8 was substantially higher than the approved cost mainly due to higher prices of imported coal. The comparison of Actual and Approved Fixed and Variable Cost of Units as shown in the graph below shows the impact of fixed cost due to actual generation.



5.3 The Availability of TPC-G units as compared to last year is as given below:

TPC-G Units	Availability – February 2022	Availability - February 2021
Unit 5	83.19%	53.75%
Unit 7	99.89%	98.48%
Unit 8	99.15%	100%



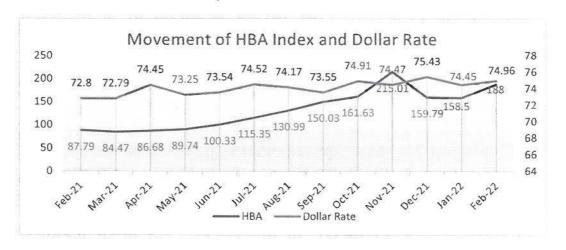
- 5.4 The Commission has observed that TPC-D has purchased 224.33 MU from TPC-G as against monthly approved quantum of 320.31 MU. TPC-D has purchased 43.67 MU of hydro power which is lower than the approved quantum of 59.17 MU due to lower system demand, whereas balance quantum of 180.65 MU is purchased from TPC-G Unit 5, 7 and 8 as against approved quantum of 261.13 MU. Further, the Commission has verified that the payment of Fixed Charges for all the Thermal/Gas Units as well as Hydro Units have been worked out based on the cumulative availability as per the provisions of MYT Regulations, 2019.
- 5.5 The Commission in its Order dated 30 March, 2020 in Case No 300 of 2019 in respect of Fuel Utilisation Plan of TPC-G as held as follows:
 - "7.17.7 Regarding the imported coal, it is submitted that Thermal Generating Station at Trombay needs ultra-low sulphur, low ash and Mid GCV coal to adhere with the stringent environment norms. Since, PPAs were not finalised during the year 2019 and there was uncertainty with respect to future tie-ups, the coal tie-ups were done only for a period of one year. The long term contract with Adaro is valid till 2020. Also, annual contract with Kideco and with Avra are valid upto July 31, 2020.
 - 7.17.8 Regarding further fuel arrangement, the Commission notes the TPC-G's submission that, existing PPAs are valid till March 31, 2024 and hence, it is exploring the options to tie up Coal on annual basis or on term basis, to get competitive prices for the required quantity in the best interest of consumers.
 - 7.17.9 As regards Gas Contract, the Commission notes that existing APM gas Contract with GAIL is valid upto December 31, 2020. TPC-G submitted that it will be approaching GAIL for renewal of the contracts for further period as per usual practice.
 - 7.17.10 It is the primary responsibility of Generating Companies to ensure supply of fuel for operation of the plant However, the Commission, in the present Order, has reviewed the fuel arrangement to ensure the availability of plant. Further, TPC-G has tied up its capacity with BEST and TPC-D, which are supplying power to Consumers in Mumbai city. The Commission notes that TPC-G has entered into Fuel Supply arrangement for shorter period in view of uncertainty of PPAs. The existing Coal contracts are valid upto July & August 2020 and Gas Contract upto December 2020. There is limited time available for entering into Fuel Supply contract. Hence, the Commission directs TPC-G to enter into fuel supply contracts or arrangement so as to ensure the supply of fuel till the validity of PPA, i.e., upto March 31, 2024 through transparent process of Competitive Bidding. Further, TPC-G is directed to submit its Status report, on arrangement of Fuel Supply for future period, to the Commission within three (3) months from the date of this Order."
- 5.6 TPC-G's existing contracts for coal purchase expired in July 2020. Vide its letter dated 8 July, 2020, TPC-G informed that it has entered into coal contracts for 2.2 Million MT for two years from 1 August, 2020 onwards and further extendable by two years through



competitive bidding. The Commission notes that the purchase of coal has been from the contracts entered into by TPC-G. The existing contracts which were approved by the Commission in the MYT Order as part of Fuel Utilisation Plan have expired and new contract have been entered through Competitive Bidding. Accordingly, the new contracts for purchase of imported coal will now be considered as part of Fuel Utilisation Plan. TPC-D has also signed contract with GAIL for supply of APM Gas for the period 7 July, 2021 to 6 July, 2026.

- 5.7 The APPC for TPC-G, which generates power on Imported Coal, Domestic Natural Gas (under APM mechanism), Oil (LSHS), imported RLNG and hydro has been worked out at Rs. 7.12/kWh as against the approved rate of Rs. 4.45/kWh.
- The landed cost of coal for energy charge computation as claimed by TPC-G is Rs 12,707.14/MT as compared to approved rate of Rs. 6907.09/MT. It can be seen that the actual landed price is higher as compared to approved rate in the Tariff Order. In response to query raised by the Commission in respect of higher rate of TPC-G, TPC-D submitted that TPC-G's thermal power plant at Trombay is operated under 100% Indonesian coal. The price of this coal is based on HBA Index, which is internationally accepted. Since few months, HBA Index has gone up substantially (e.g. HBA Index for November'21- 215.01\$/MT, December'21- 159.79\$/MT, January'22 - 158.5\$/MT and February'22 - 188\$/MT) and as an effect imported coal prices have gone up, owing to which Trombay Cost of Generation has increased in month of February, 22. TPC-D has submitted that it has explored the availability of cheaper power and purchased power from IEX through DAM, RTM and GDAM (Solar and Non-Solar) for meeting the demand during the day, at comparatively lower rate (95.15 MU were purchased at Rs 4.07/kWh) and also TPC-D entered into IEX linked contract with M/s Dhariwal Industries Limited with discount of Rs. 0.30/kWh which amounts to savings of Rs. 33 Lakhs in power purchase cost compared to equivalent purchase from exchange. The Commission observes that TPC has not purchased coal in the month of February 22. In response to data gap raised TPC submitted that as a fallout of Indonesian Government's export ban in January 22, market experienced heavy vessel congestion at load port. Though the vessel laycans were in place for February 22 receipt, in view of delayed vessel availability, the loading of vessel got delayed at load port resulting into no receipt of shipments in February 22. However, in view of availability of adequate coal stock at Trombay, the power generation continued without any interruption. The Commission observes that there has been increasing trend in the imported coal price primarily attributed to demand supply position of the global coal market which is reflected in the HBA index for the last few months. Although HBA index was the lower in January, 22 as compared to December, 21, it is seen that HBA index is almost 2 times as compared to January, 21. Further, there is a marginal increase in the dollar rate in the month of February, 22 as compared to January, 22. It is also observed that the price of APM Gas was Rs 15,295.45/SCM in February, 22 which is less than the approved rate of Rs.17,653.75/SCM as approved in MYT Order. However, the Commission notes that prices of APM Gas have increased from Rs. 10,851.59/SCM prevailing in the month of September, 21 to Rs. 15,295.45/SCM. This is due to increase in notified APM gas price from \$1.79/MMBTU to \$2.90/MMBTU from October 21 by Ministry of Petroleum and Natural Gas, Government of India.

5.9 TPC-G mainly procures imported coal from Indonesian market. As per the Contract, the coal reference price is HBA index i.e., Harga Batubara Acuan for Indonesian coal which is set by Ministry of Energy and Mineral Resources (Indonesia). The Commission has 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. The graph below shows the trend of HBA index which is considered by TPC-G for energy charge calculations. It can be observed that the HBA index has witnessed substantial increase from February, 2021. HBA Index has after peak of 215.01\$/MT in November 21 has decreased to 188 \$/MT in February 2022.



- * HBA indices at 6,322 kcal/kg GAR coal with 8% total moisture, 15% ash as received and 0.8% sulphur
- \$ Dollar Rate source www.x-rates.com (Average rate for the month for representation purpose and may not be a reference rate at which Coal is procured)
- 5.10 The Commission has also sought coal purchase bills considered for February, 2022. The Commission has scrutinised the bills submitted and computed the purchase price of coal for the month of February, 2022 as shown in Table below:

Date	Invoice QTY	GCV	НВА	Correction as per FSA	Invoice Rate	Coal Cost	Freight Rate	BF Correction	Freight Payable	Total Co	oal Cost
1	MT	kcal/kg	S/MT	\$/MT	S/MT	S	S/MT	\$/MT	\$	S	S/MT
а	b	e c	d	e	f	g	h	i		k	1
01-Jan-22	60810	4677	158.50	63.07	95.43	5803098	10.57	0.80	691410	6494508	106.8
Total	60810	4677	158.50	63.07	95.43	5803098	10.57	0.80	691410	6494508	106.8

5.11 TPC-D has submitted the detailed coal computation for the coal purchase considered in February, 2022 and also the reconciliation of coal cost considered in Form F12 along with each coal invoice. The coal cost is arrived on the basis of Goods Receipt Note (GRN) in the SAP system which is dependent on the rate of coal purchase (in Rs./MT or USD/MT) considered at the time of coal order (PO) booking. However, the coal cost



mentioned in the coal invoice is as per the base price of coal purchase (in Rs./MT or USD/MT) arrived on the basis of actual gross calorific value, Moisture content, Ash content, Sulphur content, HBA indices etc. Once the invoice is booked in the SAP system after GRN of full coal quantity of a shipment, the cost as per coal invoice gets booked against each shipment in the SAP system in order to make payment to the supplier. To facilitate this, the difference between coal cost in Goods Receipt Note (GRN) and coal cost in the invoice is booked as adjustment entry in the SAP. Hence, the coal inventory gets valued ultimately at the invoice values and at the coal purchase rate (in Rs./MT or USD/MT) prevailing on the date of billing.

- 5.12 Further, as the coal purchase during a month is generally not utilised in the same month, hence, there is a variation in above computed coal price vis-à-vis coal price as considered by TPC-G for energy charge calculations. The cost of coal for energy charge computation pertains to coal consumed during the respective months which is arrived based on the actual cost of coal inventory as well as the purchased coal cost received in the coal yard. In response to data gaps raised by the Commission, TPC submitted that the coal GRN was punched in 2 parts i.e., 55,652.98 MT in January, 22 and rest 5,157.02 MT in February, 22 and hence the entire fuel handling cost was absorbed on residual quantity (5,157.02 MT booked in February, 22). Accordingly, the coal consumption cost for February, 22 based on the actual cost of coal inventory as well as the purchased coal cost received in the coal yard is Rs 12,194.32/MT.
- 5.13 Apart from above, the Commission has also sought for third party sampling report for GCV verifications. TPC-G has submitted the third-party sampling certificate for the respective period. The Commission has verified the document submitted and found to be in order. TPC-G has also considered the stacking loss as per norms approved by the Commission while computing the Energy Charges.
- 5.14 It is observed that there is difference in coal cost considered in Form 11 and Form 12. TPC-D submitted that the difference in the cost is due to Foreign exchange variation due to difference in dollar rate at the time of booking of Purchase Order and the actual payment made to vendor and the employee cost. Accordingly, the coal consumption cost considered by the Commission as per Form 11 is as given below:

Particulars	Units	TPC Submission	As Approved
Form F12 - Coal Consumption Cost	Rs/MT	12,194.32	12,194.32
Foreign Exchange Rate Variation	Rs/MT	466.50	466.50
Employee Cost	Rs/MT	46.32	46.32
Form F11 - Coal Consumption Cost	Rs/MT	12,707.14	12,707.14

- 5.15 In view of the above, the Commission has considered APPC of Rs 7.12/kWh as against approved rate of Rs. 4.45/kWh for power purchased from TPC-G for the month of February, 2022.
- 5.16 Variation in power purchase expenses from TPC-G can be divided on account of change in quantum and per unit rate as follows:

	Increase in Expenses for	power purchase from TPC-G	(Rs. Crore)
Month	On Account of change Quantum of Power Purchase	On Account of change in Per Unit rate of Power Purchase	Total
February 2022	(42.71)	59.82	17.11

Out of above, variation on account of increased per unit rate is only considered for FAC computation.

Renewable Sources

- 5.17 TPC-D has tied up non-solar generation (Wind) of 108 MW and 178.06 MW of solar to meet its Renewable Purchase Obligation. The Commission in the Tariff Order has approved the said purchase for non-solar and solar energy at average rate of Rs. 4.15/kWh and Rs. 9.10/kWh respectively. Further, the Commission has also approved non-solar and solar REC's at Floor Price of Rs.1.00/kWh for approximately 382 MU towards shortfall in meeting RPO.
- 5.18 TPC-D had purchased non-Solar RE (7.07 MU) and Solar RE (36.85 MU) power during the month of February, 2022. TPC-D has purchased solar energy from its long term contracts (36.81 MU). It has submitted invoices for solar energy purchase of 36.81 MU and the said solar purchase is as per invoice submitted by TPC-D. Accordingly, the total purchase of 36.81 MU at the rate of Rs 3.62/kWh is considered by the Commission in FAC computation. In respect of non-solar, TPC-D has submitted that it is yet to receive credit notes (invoices) for the wind power procured from various generators during February, 2022 and accordingly wind power purchase has been considered based on the monthly meter reading data (6.19 MU) at rate of Rs. 4.91/kWh. The Commission has considered the total non-solar energy of 6.19 MU at the rate of Rs 4.91/kWh as submitted by TPC-D. However, TPC-D is directed to submit the invoices of non-solar wind energy purchase during the FAC submission of next month for verification. TPC-D has also purchased additional Solar (0.04 MU) and non-Solar power (0.88 MU) from IEX through G-DAM at Rs 7.54/kWh. The Commission has considered total Solar and non-Solar energy of 0.93 MU at the rate of Rs 7.54/kWh as submitted by TPC-D.
- 5.19 The Commission observes that TPC-D has purchased total 43.93 MU of RE power during the month of February, 2022. The average power purchase cost from RE sources is Rs. 3.88/kWh as compared to approved rate of Rs. 5.85/kWh mainly due to fact that REC's have not been purchased by TPC-D. Accordingly, the Commission has considered RE purchase as submitted by TPC-D.
- 5.20 Variation in power purchase expenses from RE Sources can be divided on account of change in quantum and per unit rate as follows:



1.16 多 图 图	Increase in Expenses for	power purchase from RE So	ources (Rs. Crore)
Month	On Account of change Quantum of Power Purchase	On Account of change in Per Unit rate of Power Purchase	Total
February 2022	7.48	(8.65)	(1.18)

Out of above, variation on account of increased per unit rate is only considered for FAC computation.

Short Term Purchase

- 5.21 With regards to short term purchase, TPC-D has purchased 98.86 MU at average rate of Rs. 4.12/kWh as compared to approved rate of Rs. 3.56/kWh to meet its demand.
- 5.22 TPC-D purchased 95.15 MU from Power Exchange at rate of Rs 4.07/kWh and 3.52 MU from at Rs. 4.95/kWh have been purchased from Dhariwal Industries Ltd (DIL) on day ahead as and when required basis with power purchase rates at discount of Rs.0.30/kWh on the price discovered through IEX. Accordingly, the Commission has considered the short-term purchase by TPC-D.
- 5.23 In addition to the aforesaid, TPC-D has also purchased 0.19 MU of standby power from MSEDCL. In response to data gaps raised by the Commission, TPC-D submitted that invoice for standby power is yet to be received from MSEDCL. However, TPC-D has provisionally considered the rate as per costliest power purchased by MSEDCL for that duration. Accordingly, the Commission has considered the said purchase of 0.19 MU at Rs 0.25 Crore.
- 5.24 Variation in power purchase expenses from Short Term Sources can be divided on account of change in quantum and per unit rate as follows:

建筑 经上上	Increase in Expenses for	power purchase from Short	Term (Rs. Crore)
Month	On Account of change Quantum of Power Purchase	On Account of change in Per Unit rate of Power Purchase	Total
February 2022	11.05	5.54	16.59

Deviation Quantum and Cost

5.25 With regards to the Deviation Settlement Mechanism (DSM) quantum and charges. TPC-D considered deviation quantum of 8.12 MU for Rs. 0.23 Crore, whereas according to the invoices raised by MSLDC, the deviation quantum is 7.41 MU at Rs. 3.14 Crore in February 22. In response to data gaps raised by the Commission, TPC-D submitted that it has considered RE schedule available on MSLDC website, whereas DSM bills have been issued by MSLDC by considering RE actuals. Further, TPC-D submitted that drawl in MU considered by MSLDC is a combination of direct sales, changeover sales



(scheduled) and Open access sale, whereas, the drawl considered by TPC-D in FAC submission is the total billed sales exclusive of open access sales. In line with this, TPC-D have requested MSLDC for revision of DSM bills. The Commission is of the view that since TPC-D has requested MSLDC for revision of DSM bills, the adjustment will be done as per revision in DSM bills in future FAC approval as and when revised DSM bills are submitted by TPC-D. Accordingly, the Commission has considered the DSM quantum and cost as per invoice raised by MSLDC.

5.26 It was observed that TPC-D has overdrawn 7.41 MU during the month of February, 2022. The said deviation quantum is arrived after grossing up T⋄D periphery quantum to G⋄T periphery by considering the normative transmission loss of 3.18%. Accordingly, the deviation quantum (7.41 MU) and cost (Rs 3.14 Crore) has been considered as per provisional weekly invoice raised by MSLDC for the period 1 February, 2022 to 28 February, 2022. In view of the same, the Commission has considered total deviation quantum of 7.41 MU (Over drawl) for Rs 3.14 Crore at Rs 4.24/kWh. Further, it is observed that TPC-G has not considered DSM and ADSM charges for calculation of energy charges as well as fixed charges. Also, TPC-D has considered only DSM charges and not considered ADSM charges for calculation of cost towards deviation quantum.

Sale of Power

5.27 TPC-D has done sale of surplus power to the extent of 4.34 MU during the month at Rs. 7.85/kWh. With such a sale of power TPC-D has earned revenue of Rs. 3.41 Crore. TPC-D has managed to sell the surplus power at a rate higher than the average power purchase cost of TPC Unit 5 and Unit 7, thus lowering the APPC and benefitting the consumers. Hence, the Commission has considered the actual quantum and revenue against surplus sale.

Approved Cost of Power Purchase

5.28 In view of the above, the overall cost approved in the Tariff Order and actual for the month of February, 2022 considered by the Commission is as shown below:

Particulars	Source	Power Purchase Quantum (MU)	Fixed Cost (Rs. Crore)	Fixed Cost (Rs./kWh)	Variable Cost (Rs. Crore)	Variable Cost (Rs. /kWh)	Total Cost (Rs. Crore)	APPC (Rs. /kWh)
TDC.C	Approved	320.31	39.36	1.23	103.16	3.22	142.52	4.45
TPC-G	Actual	224.33	41.02	1.83	118.61	5.29	159.63	7.12
Renewable	Approved	31.15		-	18.23	5.85	18.23	5.85
including REC	Actual	43.93		-	17.05	3.88	17.05	3.88
Short Term	Approved	67.81	-		24.13	3.56	24.13	3.56
	Actual	98.86		-	40.72	4.12	40.72	4.12
	Approved			-			1.7	



Particulars	Source	Power Purchase Quantum (MU)	Fixed Cost (Rs. Crore)	Fixed Cost (Rs./kWh)	Variable Cost (Rs. Crore)	Variable Cost (Rs. /kWh)	Total Cost (Rs. Crore)	APPC (Rs. /kWh)
Deviation Quantum	Actual	7.41			3.14	4.23	3.14	4.24
Sale of	Approved	7		-	-	- 1	• 2	16 pt
Surplus Power	Actual	(4.34)		•	(3.41)	7.85	(3.41)	7.85
Total	Approved	419.27	39.36	0.94	145.52	3.47	184.88	4.41
	Actual	370.18	41.02	1.11	176.12	4.76	217.14	5.87

5.29 Considering the above, the Commission allows the average power purchase cost of Rs. 5.87/kWh for the month of February, 2022 as shown in Table above. The variation in power purchase cost is mainly on account of higher cost of TPC-G, lower cost of RE Power purchase, surplus sale and deviation quantum. The actual purchase for same month in FY 2020-21 i.e., February, 2021 was 349.68 MU and power purchase cost was Rs. 147.36 Crore with APPC of Rs. 4.21/kWh.

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

- 6.1 The Commission has worked out the average power purchase cost for the month of February, 2022 as shown in above table. The same has been compared with the average power purchase cost approved by the Commission in Tariff Order dated 30 March, 2020 and accordingly arrived at differential per unit rate at which Z_{FAC} is to be passed on to the consumers.
- 6.2 The following table shows the Z_{FAC} worked out by the Commission on account of difference in fuel and power purchase cost for the month of February, 2022.

S. No.	Particulars	Units	February 2022
1	Average power purchase cost approved by the Commission	Rs./kWh	4.41
2	Actual average power purchase cost	Rs./kWh	5.87
3	Change in average power purchase cost (=2 -1)	Rs./kWh	1.46
4	Net Power Purchase	MU	370.18
5	Change in fuel and power purchase cost (=3 x 4/10)	Rs. Crore	53.90

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

7.1 The adjustment for over recovery/under recovery has to be done for the (n-4) month as per provisions of MYT Regulations, 2019. As FAC levied for the month of October, 2021 was nil, there would not be any adjustment factor for the month of February, 2022 while computing the allowable FAC.

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

8.1 As explained in the above paragraph in absence of any adjustment factor for previous month, there is no carrying cost which is to be allowed in FAC for the month of February, 2022.

9. Disallowance due to excess Distribution Loss

9.1 Regulation 10.8 of MYT Regulations, 2019 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 Z_{FAC} 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 Z_{FAC} 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 annual sliding distribution losses of the Distribution Licensee exceed the level approved by the Commission, the amount of Z_{FAC} corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total Z_{FAC} recoverable"

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

S. N	Particulars	Unit s	Approve d in Tariff Order	February 2022- Actual	Actual Cumulati ve (April 2021 to February 2022	Annual Sliding Distribution Loss (Mar 2021 to Feb 2022)
1	Net Energy Input at Distribution Voltage	MU	3401.69	196.99	2469.32	2696.82
2	TPC-D Retail Sales (excluding sales at 110/132 kV level)	MU	3366.99	193.92	2446.89	2668.36
3	Distribution Loss (1 - 2)	MU	34.7	3.075	22.301	28.46
4	Distribution Loss as % of net energy input (3/1)	%	1.02%	1.56%	0.90%	1.06%
5	Excess Distribution Loss = [Actual Distribution Loss (4) - Distribution loss approved] x Net Energy Input (1)	MU	-	1.07	-	0.07



S. N	Particulars	Unit s	Approve d in Tariff Order	February 2022- Actual	Actual Cumulati ve (April 2021 to February 2022	Annual Sliding Distribution Loss (Mar 2021 to Feb 2022)
6	Disallowance of FAC due to excess Distribution Loss	Rs. Cro re	-	-	-	0.003

- 9.2 It is seen that standalone distribution loss for the month of February, 22 is 1.56% which is higher than approved loss i.e., 1.02%. In response to the query raised by the Commission, TPC-D submitted that in monthly distribution loss computation, input energy is considered for calendar month and energy billed in the month (output energy) does not correspond to exact calendar month on account of billing cycle spread across consecutive months. However, such variations normalise when we consider cumulative losses for the year. It is observed that cumulative loss of 0.90% upto February, 22 is lower than approved loss whereas annual sliding distribution loss (Mar 21 to Feb 22) of 1.06% is higher than approved loss of 1.02%.
- 9.3 The Commission notes that estimated sales for the month of February, 2022 is only 0.06% of the total sales i.e. 0.20 MU. The comparison of Distribution Loss for April, 2021 to February, 2022 as compared to previous years is as given below:

Particulars	FY2021-22	FY2020-21	FY2019-20
Approved Loss	1.02%	1.02%	1.02%
April	1.08%	7.46%	1.46%
May	2.60%	14.85%	-0.37%
June	-0.52%	-1.86%	2.12%
July	1.55%	-2.65%	5.20%
August	0.65%	0.86%	-5.47%
September	0.54%	1.53%	2.16%
October	2.62%	-0.48%	0.33%
November	-0.11%	0.45%	4.72%
December	-0.66%	0.69%	-0.54%
January	0.53%	2.26%	1.72%
February	1.56%	1.90%	1.38%
Cumulative Upto February	0.90%	2.03%	1.11%

- 9.4 It is observed that annual sliding Distribution Loss of 1.06% is higher than the approved loss of 1.02%. Accordingly, the Commission has disallowed Rs 0.003 Crore towards excess Distribution Loss for the month of February, 2022.
- 10. Summary of Allowable ZFAC



10.1 The summary of the FAC amount as approved by the Commission for the month of February, 2022 is as shown in the Table below:

S. No.	Particulars	Units	February 2022 - As per TPC	February 2022– As Approved
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	50.68	53.90
1.2	Carrying cost for over- recovery/under-recovery (C)	Rs. Crore	0.00	0.00
1.3	Adjustment factor for over- recovery/under-recovery (B)	Rs. Crore	0.00	0.00
1.4	$Z_{FAC} = F + C + B$	Rs. Crore	50.68	53.90
2.0	Calculation of Per Unit FAC			
2.1	Energy Sales within the License Area	MU	349.93	349.93
2.2	Excess Distribution Loss	MU	0.07	0.07
2.3	Zfac per kWh	Rs./kWh	0.37	0.46
3.0	Allowable FAC			Series Se
3.1	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.3)/10]	Rs. Crore	0.003	0.003
3.2	FAC allowable [1.4-3.1]	Rs. Crore	50.68	53.90
4.0	Utilization of FAC Fund			
4.1	Opening Balance of FAC Fund	Rs. Crore	(37.76)	(37.76)
4.2	Holding Cost on FAC Fund	Rs. Crore	(0.13)	(0.13)
4.3	Z _{FAC} for the month (Sr. N. 3.2)	Rs. Crore	50.68	53.90
4.4	Closing Balance of FAC Fund	Rs. Crore	12.79	16.02
4.5	Z _{FAC} leviable/refundable to consumer	Rs. Crore	12.79	0.00
5.0	Total FAC based on category wise and slab wise allowed to be recovered in the billing month of April 22	Rs. Crore	12.79	0.00
6.0	Carried forward FAC for recovery during future period (4.5-5.0)	Rs. Crore	0.00	0.00



10.2 It can be seen from the above table that standalone FAC for the month of February, 2022 is Rs. 53.90 Crore. As the FAC is positive, the said amount will be adjusted from the FAC Fund. Accordingly, the total FAC Amount to be recovered is Rs 16.02 Crore. The approved amount is higher than claimed by TPC-D as the Commission has considered DSM charges and quantum as per invoice raised by MSLDC.

11. Recovery from Consumers:

11.1 Regulation 10.9 of MYT Regulations, 2019 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:—

 Z_{FACCat} (Rs/kWh) = [Z_{FAC} / (Metered sales + Unmetered consumption estimates + Excess distribution losses)] * k * 10, Where:

 $Z_{FAC\ Cat} = Z_{FAC\ component\ for\ a\ particular\ Tariff\ category/sub-category/consumption\ slab\ in\ 'Rupees\ per\ kWh'\ terms;$

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 Z_{FAC} 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 Z_{FAC} 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..."

- 11.2 The Commission allows the FAC amount of Rs. 53.90 Crore for the month of February, 2022 to be added to the FAC Fund.
- 11.3 The Commission in its approval for the month of January, 2022 has directed TPC-D to carry forward the approved FAC amount of Rs. (37.76) Crore to be accumulated as FAC

- Fund to be carried forward to the next billing cycle with holding cost. The opening balance of FAC fund along with holding cost is Rs. (37.88) Crore.
- 11.4 Accordingly, considering the approved FAC amount of Rs. 53.90 Crore for the month of February, 2022 and the same after being adjusted from the FAC find of Rs. (37.88) Crore, the total balance amount to be recovered is Rs. 16.02 Crore. The said amount of Rs 16.02 Crore is being carried forward and will be accumulated for next three-month period i.e up to the month of April, 2022 as per letter dated 5 April, 2022 issued by the Commission. At the end of the three-month period, the Commission will allow the recovery of cumulative amount for three-month period equally over the next three-month period during prior approval of the third month along with carrying cost.
- 11.5 In view of the above, the per unit Z_{FAC} for the month of February, 2022 to be levied on the consumers of TPC-D in the billing month of April, 2022 is Nil.

