

Mr. Syed Safeer Hussain,
Registrar,
National Electric Power Regulatory Authority,
NEPRA Tower, Attaturk Avenue (East),
Sector G-5/1,
Islamabad.

Ref No. KE/BPR/NEPRA/2020/177
February 14, 2020

Subject: Monthly Cost Variation for the month of January 2020 under Multi-Year Tariff 2017 – 2023

Dear Sir,

This is with reference to the mechanism for monthly and quarterly variations provided in the Multi-Year Tariff Determination of K-Electric Limited (KE) dated July 5, 2018 (MYT), notified vide SRO No. 576 (I)/2019 dated May 22, 2019.

In this regard, please find enclosed calculation of monthly variation for the month of January 2020 along with relevant supports, for Authority's approval. Please note that the calculation for the month of January 2020 is based on CPPA-G's latest fuel cost determined by NEPRA for the month of October 2019 and it is subject to adjustment based on the determination for January 2020 to be issued by NEPRA.

Summary of monthly variation as per the mechanism given in MYT is as follows:

Month	Variation Amount (PKR Million)	Variation per unit (PKR / kWh)
Jan-20	637	0.657

Economic Dispatch Order

KE dispatches as per Economic Merit Order from its own generating units (with the available fuel resources) and import from external sources. It is also certified that the cost of fuel and power purchase claim does not include any amount of late payment surcharge / mark-up / interest. All the requisite details including generation statistic sheets and invoices are enclosed.

Heat Rate

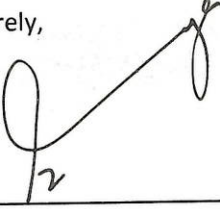
In the MYT, NEPRA has determined provisional Heat rates for KE's generating plants and has directed KE to conduct fresh Heat rate test for its plants, based on which final Heat rates will be determined by NEPRA.

In this regard, NEPRA has issued its decision on Heat rate for BQPS – II plant on January 1, 2020 and accordingly the calculations are based on Heat rates determined therein.

Further, Heat rate test of KCCP, KGTPS and SGTPS Plants have been conducted during June and July 2019, and heat rate test of BQPS-I plant has been conducted in November 2019. The working for required adjustment will be submitted to NEPRA after determination of final Heat rates for these plants based on the test results.

KE would humbly request NEPRA for expeditious processing of pending monthly variations for July 2019 to December 2019 and quarterly tariff variations for the period April 2019 to September 2019.

Sincerely,



Ayaz Jaffar Ahmed
Director – Finance & Regulations

Enclosed:

- Calculation sheet of monthly variation – January 2020
- Supporting Documents for January 2020

K Electric Limited

SUMMARY OF REQUIRED ADJUSTMENT ON ACCOUNT OF VARIATION IN COST OF FUEL AND POWER PURCHASES

DESCRIPTION		Unit	Dec-19	Jan-20
			Reference	Current
A)	Cost of fuel:			
	Cost of fuel - KE	a	4,835.576	4,790.487
	Cost of fuel - Power Purchases		3,579.172	3,833.183
	Total		8,414.748	8,623.670
B)	Units Sent Out			
	Units Sent Out - KE	b	441.728	373.696
	Units - Power purchases		579.279	595.393
	Total		1,021.007	969.089
C)	Cost per unit			
	Cost of fuel - KE	c = a/b	4.736	4.943
	Cost of fuel - Power Purchases		3.506	3.955
	Average		8.242	8.899
D)	Variation per unit			
	Cost of fuel - KE	d	Rs./kWh	0.207
	Cost of fuel - Power Purchases		Rs./kWh	0.450
	Total Fuel Cost Adjustment		Rs./kWh	0.657
E)	Total Fuel Cost Adjustment		Ps/kWh	65.71
F)	Variation amount			
	Cost of fuel - KE	e = d x	Mill Rs.	200.800
	Cost of fuel - Power Purchases	b (total)	Mill Rs.	436.013
	Total Fuel Cost Adjustment		Mill Rs.	636.813

Work Sheet- Generation Fuel Cost Variation

DESCRIPTION		Dec-19	Jan-20
		Reference	Current
1	<u>UNITS SENT OUT</u>		
	1a <u>UNITS SENT OUT ON FURNACE OIL</u>		
	i <u>Bin Qasim - I</u>		
	Unit 1	GWh	-
	Unit 2	GWh	-
	Unit 3	GWh	12.658
	Unit 4	GWh	0.842
	Unit 5	GWh	0.946
	Unit 6	GWh	1.698
		GWh	14.311
		GWh	-
		GWh	2.353
	Total units sent out on furnace oil - Bin Qasim - I	GWh	35.672
			18.452
			75.660
	1b <u>UNITS SENT OUT ON GAS</u>		
	i <u>Bin Qasim - I</u>		
	Unit 1	GWh	-
	Unit 2	GWh	-
	Unit 3	GWh	9.588
	Unit 4	GWh	0.130
	Unit 5	GWh	1.020
	Unit 6	GWh	0.173
		GWh	0.204
		GWh	0.600
		GWh	-
		GWh	0.170
	Total units sent out on gas - Bin Qasim - I	GWh	9.080
			1.073
			19.892
	ii Bin Qasim II - 560 MW	GWh	172.947
	iii Korangi Town Gas Turbine II	GWh	1.171
	iv Site Gas Turbine II	GWh	2.985
	v Korangi CCPP	GWh	19.471
		GWh	-
	Total units sent out on gas - KE	GWh	197.646
			100.376
	1c <u>UNITS SENT OUT ON LNG</u>		
	i <u>Bin Qasim - I</u>		
	Unit 1	GWh	-
	Unit 2	GWh	-
	Unit 3	GWh	30.925
	Unit 4	GWh	0.164
	Unit 5	GWh	3.291
	Unit 6	GWh	0.219
		GWh	0.657
		GWh	0.759
		GWh	-
		GWh	0.215
	Total units sent out on LNG - Bin Qasim - I	GWh	29.287
			1.357
			64.159
	ii Bin Qasim II - 560 MW	GWh	201.874
	iii Korangi Town Gas Turbine II	GWh	1.043
	iv Site Gas Turbine II	GWh	2.709
	v Korangi CCPP	GWh	18.647
		GWh	-
	Total units sent out on LNG - KE	GWh	225.630
			197.660
	Total units sent out KE	GWh	441.728
			373.696
2	<u>HEAT RATE AT BUS BAR</u>		
	i <u>Bin Qasim - I</u>		
	Unit 1	Btu/kWh	10,802
	Unit 2	Btu/kWh	10,802
	Unit 3	Btu/kWh	10,650
	Unit 4	Btu/kWh	10,996
	Unit 5	Btu/kWh	10,996
	Unit 6	Btu/kWh	10,899
		Btu/kWh	10,899
		Btu/kWh	10,304
		Btu/kWh	10,304
		Btu/kWh	10,249
		Btu/kWh	10,249
	ii Bin Qasim II - 560 MW	Btu/kWh	8,381
	iii Korangi Town Gas Turbine II	Btu/kWh	8,381
	iv Site Gas Turbine II	Btu/kWh	8,738
	v Korangi CCPP	Btu/kWh	8,738
		Btu/kWh	8,746
		Btu/kWh	8,746
		Btu/kWh	8,497
		Btu/kWh	8,497

Work Sheet- Generation Fuel Cost Variation

DESCRIPTION		Dec-19	Jan-20	
		Reference	Current	
3	<u>Calorific Value - Furnace Oil</u>	Btu/kg	40,351	40,351
4	<u>FUEL PRICES</u>			
4a	Fuel Price - Gas	Rs./MMBTU	824	824
4b	Fuel Price - Furnace Oil	Rs./Mton	57,777	57,877
4c	Fuel Price - Furnace Oil	Rs./MMBTU	1,432	1,434
4d	Fuel Price - LNG	Rs./MMBTU	1,682	1,624
5	<u>COST OF FUEL</u>			
	5a <u>Furnace oil</u>			
	i <u>Bin Qasim - I</u>			
	Unit 1	Mill Rs.	-	-
	Unit 2	Mill Rs.	-	193.358
	Unit 3	Mill Rs.	13.263	404.269
	Unit 4	Mill Rs.	14.757	26.541
	Unit 5	Mill Rs.	211.143	-
	Unit 6	Mill Rs.	34.530	524.404
	Total Cost of Furnace Oil - Bin Qasim - I	Mill Rs.	273.692	1,148.572
	5b <u>Gas</u>			
	i <u>Bin Qasim - I</u>			
	Unit 1	Mill Rs.	-	-
	Unit 2	Mill Rs.	-	84.141
	Unit 3	Mill Rs.	1.178	9.244
	Unit 4	Mill Rs.	1.555	1.829
	Unit 5	Mill Rs.	5.095	-
	Unit 6	Mill Rs.	1.434	76.685
	Total Cost of Gas - Bin Qasim - I	Mill Rs.	9.262	171.899
	ii Bin Qasim II - 560 MW	Mill Rs.	1,194.326	539.297
	iii Korangi Town Gas Turbine II	Mill Rs.	8.429	1.556
	iv Site Gas Turbine II	Mill Rs.	21.509	15.663
	v Korangi CCPP	Mill Rs.	136.326	-
	Total Cost of Gas - KE	Mill Rs.	1,369.851	728.415
	5c <u>LNG</u>			
	i <u>Bin Qasim - I</u>			
	Unit 1	Mill Rs.	-	-
	Unit 2	Mill Rs.	-	534.707
	Unit 3	Mill Rs.	3.042	58.744
	Unit 4	Mill Rs.	4.017	11.621
	Unit 5	Mill Rs.	13.160	-
	Unit 6	Mill Rs.	3.702	487.327
	Total Cost of LNG - Bin Qasim - I	Mill Rs.	23.921	1,092.399
	ii Bin Qasim II - 560 MW	Mill Rs.	2,846.352	1,709.880
	iii Korangi Town Gas Turbine II	Mill Rs.	15.339	10.131
	iv Site Gas Turbine II	Mill Rs.	39.863	101.089
	v Korangi CCPP	Mill Rs.	266.557	-
	Total Cost of LNG - KE	Mill Rs.	3,192.033	2,913.499
	Total cost of fuel - KE	a Mill Rs.	4,835.576	4,790.487
6	Variation in Cost of Fuel - KE			
	6a Units Sent Out - KE	GWh	441.728	373.696
	6b Units - Power Purchases	GWh	579.279	595.393
	Total Units Sent Out	b GWh	1,021.007	969.089
	6c Cost per unit	c = a/b Rs./kWh	4.736	4.943
	6d Variation per unit (Cost of Fuel - KE)	Rs./kWh		0.207
	6e Variation amount (Cost of Fuel - KE)	Mill Rs.		200.800

Work Sheet- Power Purchase Cost Variation

DESCRIPTION		Dec-19	Jan-20	
		Reference	Current	
1 POWER PURCHASES				
a	KANUPP	GWh	19.538	44.083
b	TAPAL	GWh	23.585	27.090
c	GUL AHMED	GWh	12.750	10.584
d	CPPA-G	GWh	373.535	392.406
e	ANOUD POWER	GWh	4.262	4.209
f	INT IND (IIL)	GWh	6.372	4.526
g	FFBL	GWh	34.734	16.769
h	SNPC	GWh	55.842	45.034
i	OURSUN	GWh	6.684	7.312
j	CPPA-G - 150 MW	GWh	37.341	35.792
k	GHARO SOLAR	GWh	4.635	7.588
TOTAL		GWh	579.279	595.393
2 COST OF POWER PURCHASES - FUEL COST				
a	KANUPP - Note 1	Mill Rs.	213.970	598.507
b	TAPAL	Mill Rs.	263.722	292.487
c	GUL AHMED - Note 2	Mill Rs.	144.433	118.987
d	CPPA-G - Note 3	Mill Rs.	1,988.514	2,088.973
e	ANOUD POWER	Mill Rs.	45.044	46.857
f	INT IND (IIL)	Mill Rs.	63.808	45.323
g	FFBL	Mill Rs.	251.387	121.366
h	SNPC	Mill Rs.	409.509	330.143
i	OURSUN	Mill Rs.	-	-
j	CPPA-G - 150 MW - Note 3	Mill Rs.	198.786	190.541
k	GHARO SOLAR	Mill Rs.	-	-
TOTAL		Mill Rs.	3,579.172	3,833.183
3 FUEL COST / UNIT				
a	KANUPP	Rs./kwh	10.951	13.577
b	TAPAL	Rs./kwh	11.182	10.797
c	GUL AHMED	Rs./kwh	11.328	11.242
d	CPPA-G	Rs./kwh	5.324	5.324
e	ANOUD POWER	Rs./kwh	10.570	11.134
f	INT IND (IIL)	Rs./kwh	10.013	10.013
g	FFBL	Rs./kwh	7.238	7.238
h	SNPC	Rs./kwh	7.333	7.331
i	OURSUN	Rs./kwh	-	-
j	CPPA-G - 150 MW	Rs./kwh	5.324	5.324
k	GHARO SOLAR	Rs./kwh	-	-
4 VARIATION IN COST OF FUEL - POWER PURCHASES				
4a	Cost of Fuel - Power Purchases	a Mill Rs.	3,579.172	3,833.183
Units Sent out:				
	Units Sent Out - KE	GWh	441.728	373.696
	Units - Power Purchases	GWh	579.279	595.393
4b	Total Units Sent Out	b GWh	1,021.007	969.089
4c	Cost per unit	c = a/b Rs./kwh		3.955
4d	Variation per unit (Cost of Fuel - Power Purchases)	Rs./kwh		0.450
4e	Variation amount (Cost of Fuel - Power Purchases)	Mill Rs.		436.013

Note 1: Kanupp details are provisional as the invoice for the month is yet to be received.

Note 2: In Tariff determination of Gul Ahmed, NEPRA has used a reference Calorific Value (CV) for reference Fuel cost with direction to adjust the fuel cost with actual CV, subject to a minimum threshold. In this regard, KE has requested Gul Ahmed to provide evidence for actual CV which has been used for billing. However, evidence of actual CV for certain period is outstanding and meanwhile KE has made payment based on reference CV. Accordingly, the amounts are subject to adjustment based on evidence provided by Gul Ahmed for actual CV.

Note 3: CPPA-G's fuel cost for the month of January 2020 is based on NEPRA's determination of fuel cost for the month of October 2019 as the fuel cost for the month of January 2020 is yet to be determined.