



National Electric Power Regulatory Authority Islamic Republic of Pakistan

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Registrar

No. NEPRA/R/TRF-362/K-Electric-2016/5008-12

March 10, 2023

Chief Executive Officer
K-Electric Limited (KEL)
KE House, Punjab Chowrangi,
39 – B, Sunset Boulevard, Phase-II
Defence Housing Authority, Karachi.

Subject: Decision of the Authority in the matter of Monthly Fuel Charges Adjustment of K-Electric Limited for the month of January 2023 and Notification (S.R.O. 328(I)/2023 dated 10.03.2023) Thereof

Enclosed please find herewith a copy of decision of the Authority in the matter of fuel charges adjustment for the month of January 2023 in respect of K-Electric Limited, along with Notification (S.R.O. 328(I)/2023 dated 10.03.2023) thereof (total 10 Pages). This is for information and further necessary action.

2. While effecting the Fuel Adjustment Charges, K-Electric Ltd. shall keep in view and strictly comply with the orders of the court(s), if any, notwithstanding this order.

Enclosure: As above (Decision along Notification is also available on NEPRA's website)


(Engr. Mazhar Iqbal Ranjha)

Copy to: (alongwith copy of subject Decision):

1. Secretary, Ministry of Energy, Power Division, 'A' Block, Pak Secretariat, Islamabad.
2. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
3. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.
4. Secretary, Privatization Commission, 4th Floor, Kohsar Block, Constitution Avenue, New Secretariat, Islamabad

**DECISION OF THE AUTHORITY IN THE MATTER OF MONTHLY FUEL CHARGES
ADJUSTMENTS OF K-ELECTRIC LIMITED FOR THE MONTH OF JANUARY 2023**

1. Pursuant to the provisions of Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act 1997, and as per the mechanism for monthly, quarterly and annual adjustments provided in the tariff determination of K-Electric Limited (herein referred to as "K-Electric or KE") dated July 05, 2018, duly notified in the official Gazette vide SRO No. 576(I)/2019 dated May 22, 2019, the Authority has to review and revise the approved tariff on monthly, quarterly and annual adjustments.

2. As per the mechanism provided in the determination, impact of change in KE's own generation fuel cost component due to variation in fuel prices, generation mix & volume shall be passed on to the consumers directly in their monthly bills in the form of Fuel Charges Adjustment (FCA). Similarly, impact of change in the fuel component of Power Purchase Price (PPP) due to variation in fuel prices & energy mix shall also be passed on to consumers through monthly FCA.

3. However, the impact of monthly variations in million rupees in K-Electric's own generation's fuel cost component as well power purchase price to the extent of targeted T&D losses, not taken into account in the monthly FCAs, shall be adjusted on quarterly basis.

4. Pursuant to notification of the determined MYT, K-Electric filed its initial monthly FCA request for January 2023 and, later, revised as under;

Month	Mln Rs.	Rs./kWh
Jan-23	2,773	2.699

Hearing

5. Since the impact of any adjustments has to be made part of the consumer end tariff, therefore, the Authority, in order to provide an opportunity of hearing to all the concerned and meet the ends of natural justice, decided to conduct a hearing in the matter.

6. The Authority scheduled hearing in the matter of FCA of K-Electric for the month of January 2023 on February 28, 2023 at NEPRA Tower and through ZOOM. Notices in this regard were published in the newspaper on February 18, 2023 and also uploaded on NEPRA's website along-with adjustment requests filed by K-Electric.

7. Following issues relevant with the monthly FCA were framed for discussion during the hearing:

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- i. Whether the requested Fuel Price Variation is justified?
- ii. Whether K-Electric has followed the merit order while giving dispatch to its power plants as well as power purchases from external sources?

8. The hearing was attended by representatives of K-Electric including its financial and technical team. Representatives from Media and General Public also attended the hearing. KE in its FCA request submitted that calculation for the current month is based on CPPA-G's requested fuel cost component for the current month and is subject to adjustment based on the final determination of XWDISCOs FCA for the current month by NEPRA.

9. The Authority noted that the Power purchase agreement was signed between NTDCL and K-Electric on January 26, 2010 for five years for sale/purchase of 650 MW on basket rates. Subsequently, a decision was made by the Council of Common Interest (CCI) in its meeting held on November 08, 2012 with respect to the modalities for withdrawal of electric power from NTDCL by the Petitioner, wherein it was decided to reduce the supply of energy by 300MW from NTDCL to K-Electric. However, the aforementioned decision of the CCI has been impugned by way of suits /petitions by K-Electric in the Honorable High Court of Sindh at Karachi. No new agreement has been signed between K-Electric and NTDCL till date, and K-Electric is continuing to draw energy from the National Grid, which at present is around 1100 MW.

10. K-Electric, in its adjustment requests, has certified that it despatches as per Economic Merit Order from its own generation units (with the available fuel resources) and import from external sources. It also certified that the cost of fuel and power purchase claims do not include any amount of late payment surcharge/mark-up/interest.

11. Mr. Usman Ali, a commentator, submitted during the hearing that the rates of Tapal and Gul Ahmad power plants are too high.

12. Mr. Zeeshan, a commentator, inquired the rate of K-Electric' own generation and the rate of CPPA-G's generation to which he was apprised by representatives of KE.

13. Mr. Arif, a commentator, submitted during the hearing that KE should receive more energy from CPPA-G since it is cheaper than KE's own generation. He further submitted that the Authority should encourage cheaper energy to incorporate it into KE's system.



14. Mr. Rayyan, a commentator, submitted during the hearing that cheaper solar and wind energy should be brought to tackle the rising prices. He also asked why KE's own expensive generation is being operated when cheaper generation can be explored from external sources.

15. K-Electric provided the plant wise generation statistics sheet, signed by K-Electric. The plant wise statistic sheets provide information in terms of Plant Capacity, Actual Units Generated, Actual Auxiliary consumption, Net Generation and Bus Bar sent outs, Actual Heat Rates, fuel consumption & cost of Fuel and Generation cost per unit. In addition K-Electric also provided copies of invoices raised by Fuel Suppliers and copies of invoices raised by IPPs.

16. Here it is pertinent to mention that the Authority in the FCA decision for September 2022, had directed K-Electric to ensure that supply of RLNG be diverted to other power plants only when it meets the criteria for economic merit order.

17. The Authority based on the information, data and record provided by K-Electric, has analyzed the FCA claim of K-Electric and issue wise discussion is given hereunder;

Issue: Whether the requested Fuel price variations are justified?

K-Electric Own Generation

18. K-Electric has provided information in terms of plant capacity, actual units generated, actual auxiliary consumption, net generation and bus bar sent outs, actual heat rates, fuel consumption & cost of fuel and generation cost per unit. While going through the data / information provided by K-Electric regarding fuel cost of energy from its own power plants, the Authority's observations are as under;

19. K-Electric, as required under the MYT, carried out heat rate test of KCCPP. Pursuant thereto, the Authority, in its decision dated 02.09.2020 decided as under;

"i. For the period from July 2016 to May 2019, the heat rate i.e. 8,250.06 Btu/kWh - net HHV, corresponding to 41.36% efficiency is approved with no further adjustment for degradation and partial loading allowed.

ii. For the period from June 2019 to June 2023, the heat rate i.e. 8,377.032 Btu/kWh - net HHV, corresponding to 40.732% efficiency is approved. This heat rate will be applicable for the control period on flat basis, without any additional adjustment for other parameters.

iii. KE is required to conduct maintenance including Major Overhaul of its plants / units as per prudent utility practices and recommendations of OEM.



iv. In case of non-requirement of Gas compressors - the relevant capacity and Heat rates would be adjusted. For such a scenario, relevant capacity and heat rates calculated during the present tests would be used.”

20. Here it is pertinent to mention that Authority vide order dated August 4, 2022 have approved 3rd party Heat Rate Test for 248 MW KCCPP on HSD and has revised the heat rate based on Gas/RLNG as well. Based on the above, heat Rate of 8,477 BTU/kWh for KCCPP operation of Gas/RLNG has been used as per the decision dated August 4, 2022.

21. The Authority observed that K-Electric has requested a Rs.92.3 million amount for operation of KCCPP on HSD during current month.

22. For KGTPS and SGTPS plants, pursuant to the heat rate tests conducted by K-Electric, the Authority approved the following Heat Rates for these plants vide decisions dated 18.01.2021, against the already allowed Heat Rates of 8,738 for KGTPS and 8,746 for SGTPS in the MYT;

Heat Rate for July 2016 – June 2019

Requested by KE:

Plant	Net HHV Heat Rate (Btu/kWh) at RSC	Corresponding Efficiency
KGTPS	9276 ¹	36.78%

1. Average of 7 year Heat Rate (FY 2017-23) corresponding to 50% loading (2 sections in CC mode)

Allowed:

Plant	Net HHV Heat Rate (Btu/kWh) at RSC		Corresponding Efficiency
KGTPS	100% loading	9041.66	37.74%
	75% loading	9092.66	37.527%

Heat Rate for July 2019 – June 2023

Requested by KE:

Plant	Net HHV Heat Rate (Btu/kWh) at RSC	Corresponding Efficiency
KGTPS	9276 ¹	36.78%

1. Average of 7 year Heat Rate (FY 2017-23) corresponding to 50% loading (2 sections in CC mode)

Allowed:

Plant	Net HHV Heat Rate (Btu/kWh) at RSC		Corresponding Efficiency
KGTPS	100% loading	9048.22	37.71%
	75% loading	9099.212	37.499%

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Heat Rate for July 2016 ~ June 2019

Requested by KE:

Plant	Net HHV Heat Rate (Btu/kWh) at RSC	Corresponding Efficiency
SGTPS	9264 ¹	36.83%

1. Average of 7 year Heat Rate (FY 2017-23) corresponding to 50% loading (2 sections in CC mode)

Allowed:

Plant	Net HHV Heat Rate (Btu/kWh) at RSC		Corresponding Efficiency
SGTPS	100% loading	9045.93	37.72%
	75% loading	9064.794	37.642%

Heat Rate for July 2019 ~ June 2023

Requested by KE:

Plant	Net HHV Heat Rate (Btu/kWh) at RSC	Corresponding Efficiency
SGTPS	9264 ¹	36.83%

1. Average of 7 year Heat Rate (FY 2017-23) corresponding to 50% loading (2 sections in CC mode)

Allowed:

Plant	Net HHV Heat Rate (Btu/kWh) at RSC		Corresponding Efficiency
SGTPS	100% loading	9077	37.59%
	75% loading	9095.92	37.512%

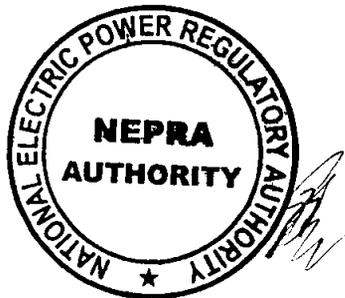
23. K-Electric filed review motions against the above decisions for both KGTPS and SGTPS. The Authority vide decision dated 05.11.2021 dismissed the review Motion in the matter of KGTPS. In view thereof, and keeping in view the loading position of KGTPS in the current month, the heat rate of 9,099.212 BTU/kWh is allowed to KGTPS.

24. For SGTPS, the Review Motion has been decided, based on which, KE in its request has used a heat rate of 9,148.663 BTU/kWh, in line with the Authority's decision. The same has been considered for the purpose of instant adjustment.

25. For BQPS-I, K-Electric has conducted the heat rate test, which has been decided by the Authority, the adjustment has been made based on the approved Heat Rate.

26. During the month of January 2023, K-Electric has claimed energy for BQPS-II with the following energy sent out, auxiliaries & heat rates used by K-Electric

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Description		Units Generated	Requested Auxiliaries %	Requested Heat Rate BTU/kWh
Bin Qasim II - 560 MW with one compressor	Indeginous Gas	16.97	4.54%	8,238.42
Bin Qasim II - 560 MW with no compressor (PLL)	LNG	21.52	2.97%	8,100.85
Bin Qasim II - 560 MW with one compressor (SSGC)	LNG	23.14	4.54%	8,238.42
Bin Qasim II - 560 MW with one compressor (PLL)	LNG	30.69	4.54%	8238.420

27. KE's submissions regarding BQPS-II have been considered by the Authority on provisional basis, subject to adjustment, if required, once the required NEPRA Technical decision in the matter are taken by NEPRA.

28. The generation reported by K-Electric in its adjustment requests have been checked from the plant wise generation statistics sheet; the units sent out have been worked out based on the Authority's allowed Auxiliaries. The units sent out so worked out are in agreement with the sent outs claimed by K-Electric in its adjustment requests.

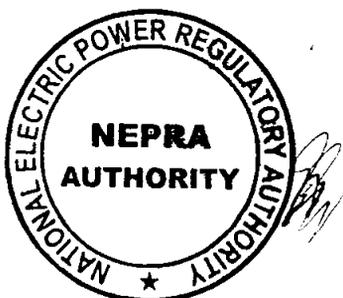
Power Purchase Price- Fuel Cost

29. While going through the data / information provided by K-Electric regarding fuel cost of energy purchased from external sources, the Authority's observations are as under;

30. The Authority observed that K-Electric is being directed to provide CV test reports for both Tapal and Gul Ahmed Power Plants. KE has submitted CV test report of Tapal and Gul Ahmed from HDIP & SGS lab and used the average of the two reports in the FCA request. The Authority has considered the higher of the two CVs which has resulted in negative adjustment of Rs.468,008 and Rs.112,077 for Tapal and Gul Ahmed power plants respectively.

31. Regarding cost of energy purchased from CPPA-G during the current month, K-Electric has used the rate of Rs.11.7269/kWh, however, the Authority's approved fuel cost component, in the matter of XWDISCOs for the current month is Rs.11.0320/kWh. In view thereof, while working out the instant FCA of K-Electric, rate approved by the Authority for XWDISCOs for the month under review has been incorporated for the energy purchased by K-Electric from CPPA-G during the month. This has resulted in decrease in total fuel cost by around Rs.468 million.

32. The Authority vide decision dated 04.06.2021, based on the Heat Rate tests conducted for SNPC and SNPC-II, revised their net capacities and Heat Rates. The Authority revised the net capacity and Heat Rate of SNPC-I as 51.154 MW and 8194.25 Btu/kWh - net HHV equivalent to 41.90% efficiency. Similarly, net capacity and Heat Rate of SNPC-II have been



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revised as 51.526 MW and 8,143.699 Btu/kWh - net HHV equivalent to 41.64% efficiency. The Authority afterwards vide decision dated 21.09.2021, granted interim relief to SNPC and SNPC-II, in relevant tariff components i.e. Fuel Cost components and Capacity charge components of generation tariff, on account of revision in heat rates and net capacities. As per the decision dated 21.09.2021, FCC of both SNPC and SNPC-II have been revised as Rs.4.0971/kWh and Rs.4.0718/kWh respectively, based on the revised heat rates and reference gas price of Rs.500/MMBTU.

33. Here it is also pertinent to mention that the Authority determines the FCC of SNPC and SNPC-II, as & when required, owing to change in gas prices. KE in its request has claimed FCCs of Rs.7.0224/kWh for SNPC I & Rs.6.9791/kWh for SNPC II, in line with the decision dated 20.06.2022 for both for SNPC and SNPC-II. The same has been considered in the instant adjustment on provisional basis.

34. The cost of BQPS-III has been worked out using an auxiliary of 2.047% based on HHV combined cycle efficiency 6,381 BTU/kWh, at 100% load. This has resulted in a total cost of Rs.3,076 million for operation of BQPS-III on RLNG in the current month, which is accordingly being allowed. The cost is being allowed strictly on provisional basis, subject to final determination of price etc.

35. The Petitioner in its request has also included 3.948 GWh for the Net Metering units procured during January 2023. The Authority has considered this energy as part of the FCA for the month of January 2023.

Issue: Whether K-Electric has followed the merit order while giving dispatch to its power plants as well as power purchases from external sources?

36. The Authority carried out an in-house analysis of the data provided by K-Electric for the month, to work out the financial impact due to deviation from EMO.

37. Regarding the financial impact due to underutilization of efficient plants namely KCCP, KGTPS & SGTPS etc on account of lower gas pressure, a letter was issued to KE on September 16, 2021, whereby, it was directed to resolve its gas pressure/lower gas quantity issues within thirty (30) days. In response, KE has informed that it is in the process of resolving the lower gas pressure issue, however, there are certain meetings with stakeholders that will take place in due course of time. As of now, no GSA has been finalized between KE and SSGC despite the directions of the Authority.



38. It is pertinent to mention here that KE vide its FCA claim for January 2023 had requested for the release of Rs.546 million, withheld on account of EMO violations for the period from June 2021 to September 2022. As such, the claimed amount of Rs.546 million has been withheld from the FCA claim of KE for January 2023 until the issue is finalized.

39. In view of the aforementioned discussion and after incorporating the above discussed adjustments, the Authority has decided to allow the following positive FCA for the month of January 2023, to be passed on to the consumers in their monthly bills of February 2023;

Description		Unit	Dec-22	Jan-23
Fuel Cost	Own Generation	Rs. Mln	7,142	5,322
	External Purchases	Rs. Mln	7,057	8,827
	Deviation from EMO	Rs. Mln	-	-
	Previous Adjustment	Rs. Mln	-	-
	Total	Rs. Mln	14,199	14,149
Total Units	Own Generation	GWh	331	253
	External Purchases	GWh	846	775
	Total	GWh	1,177	1,027
Fuel Cost Component (FCC)	Own Generation	Rs./kWh	6.0663	5.1801
	External Purchases	Rs./kWh	5.9942	8.5917
	Deviation from EMO	Rs./kWh	-	-
	Previous Adjustment	Rs./kWh	-	-
	Total	Rs./kWh	12.0605	13.7718
Fuel Charges Adjustment (FCA)	Own Generation	Rs./kWh		(0.8862)
	External Purchases	Rs./kWh		2.5975
	Deviation from EMO	Rs./kWh		-
	Previous Adjustment	Rs./kWh		-
	Total	Rs./kWh		1.7113
Variation in Fuel Cost	Total	Rs. Mln		1,758

40. Here it is pertinent to mention that the impact of monthly FCA, which is not passed on to certain categories of consumers, would be accounted for in the quarterly adjustments.

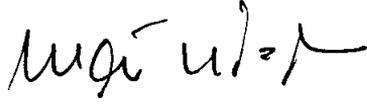
41. In the light of above, the Authority hereby directs K-Electric that the positive FCA of January 2023 as worked out above;

- a. Shall be applicable to all the consumer categories except Electric Vehicle Charging Stations (EVCS) and lifeline consumers of K-Electric.
- b. Shall be shown separately in the consumers' bills on the basis of units billed to the consumers in the respective month to which the adjustment pertains.

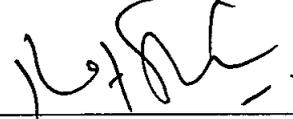


- c. K-Electric shall reflect the fuel charges adjustment in respect of January 2023, in the billing month of March 2023.
- d. While effecting the Fuel Adjustment Charges, K-Electric shall keep in view and strictly comply with the orders of the courts notwithstanding this order.

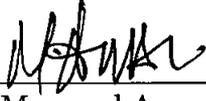
AUTHORITY



Mathar Niaz Rana (nsc)
Member



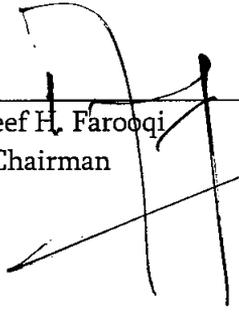
Rafique Ahmed Shaikh
Member



Engr. Maqsood Anwar Khan
Member



Amina Ahmed
Member



Tauseef H. Farooqi
Chairman



10/3/23

National Electric Power Regulatory Authority



NOTIFICATION

Islamabad, the 10th day of March 2023

S.R.O. 228 (I)/2023.- Pursuant to Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 as amended through Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act 2011 and as per the mechanism for monthly, quarterly and annual adjustments provided in the Tariff Determination of K-Electric Ltd. dated July 05, 2018 duly notified in the official Gazette vide SRO No. 576(I)/2019 dated May 22, 2019. National Electric Power Regulatory Authority (NEPRA) makes and notifies the following adjustment in the approved tariff on account of variation in fuel charges for the month of January 2023 in respect of K-Electric Limited:

FCA to be calculated on the basis of billing for the Month of	Rs./kWh	Charged in Consumer Bills to be issued in the Billing Month of
January 2023	1.7113	March 2023

2. The positive FCA of January 2023:
 - a) Shall be applicable to all the consumer categories except Electric Vehicle Charging Stations (EVCS) and lifeline consumers of K-Electric.
 - b) Shall be shown separately in the consumers' bills on the basis of units billed to the consumers in the respective month to which the adjustment pertains.
 - c) K-Electric shall reflect the fuel charges adjustment in respect of January 2023. in the billing month of March 2023.
3. While effecting the Fuel Adjustment Charges, K-Electric Ltd. shall keep in view and strictly comply with the orders of the courts notwithstanding this order.


10/03/23
(Engr. Mazhar Iqbal Ranjha)
Registrar

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