

Fuel Surcharge for Second Quarter of FY 2019-20

(July'19-September'19)

FINAL REPORT

Submitted to

Jaipur Vidyut Vitran Nigam Limited

Ajmer Vidyut Vitran Nigam Limited

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Rajasthan

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Background

1. In term of the Regulation 88 of the RERC Tariff Regulation 2019, Rajasthan Discoms, namely JVVNL, AVVNL & JdVVNL, are allowed to recover the variation in the approved and actual variable cost of power purchased. The variation allowed has to be passed on to the consumers of the Discoms on quarterly basis as fuel surcharge.
2. The said provision under the RERC Tariff Regulations, 2019 with respect to the fuel surcharge is reproduced as below:

“88. Fuel Surcharge

“The Fuel Surcharge (FS) chargeable by the distribution licensee from its consumers for any quarter shall be computed as per the following formula:

$$FS = (C + Ip) / E \text{ (Rs. / kWh)}$$

Where

C (in Rs. Lakh) = {(Weighted Average Variable Cost of all sources of power purchase during previous quarter in Rs/kWh – Base Weighted Average Variable Cost of all sources of power purchase as approved under Tariff Order for the year under operation in Rs/kWh) x Corresponding Power Purchase from all sources during previous quarter in LU}

E (in Lakh Units) = Energy sold (metered plus estimated) during previous quarter.

Ip (In Rs. Lakh) = Under-recovery of fuel surcharge in the previous quarter.

Note:

(i) Quarter referred under this formula shall correspond to financial quarter (s) viz. Q1 (Apr. to Jun), Q2 (Jul to Sept), Q3 (Oct to Dec), and Q4 (Jan to Mar).

(ii) The variation in power purchase cost due to Charges for Deviations incurred by Distribution Licensee as per Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2014 as amended from time to time and Hydro based generation and other unapproved purchases shall not be covered under fuel surcharge adjustment.

(iv) For the generation stations/power purchase sources, which have single part tariff, 1/3 of the tariff shall be considered as fixed charge and 2/3 of the tariff shall be considered as energy charge for adjustment under this formula.

(v) The cost and quantum of power purchase shall be based on bills paid/credits received during the previous quarter irrespective of period to which it pertains and shall include arrears or refunds, if any, for previous period, not considered earlier.

(2) The rate of Fuel Surcharge shall be worked out in Rs./kWh rounded off to the next second decimal place.

(3) The Fuel Surcharge per unit for any quarter shall not exceed 15% of weighted average power purchase cost per unit approved by the Commission, or such other ceiling as may be stipulated by the Commission from time to time:

Provided that Distribution Licensee may file a separate Petition before the Commission for approval of recovery of the Fuel Surcharge over and above ceiling limit as specified above.

- *(4) The total Fuel Surcharge recoverable, as per the formula specified above, shall be recovered from the actual sales and in case of un-metered consumers, it shall be recoverable based on estimated sales to such consumers, calculated in accordance with such methodology as may be stipulated by the Commission.*

Description

1. The Tariff Order for FY 2018-19 was issued by the Hon'ble Commission on 28th May 2018 and was applicable from June 2018 onwards. Hence, the approved figures from the Tariff Order for FY 2018-19 have been considered for April, May and June 2019.
2. In terms of the Regulation 88 of the RERC Tariff Regulations 2019, the variation in power purchase cost due to UI and Hydro based generation and other unapproved purchases shall not be covered under fuel surcharge adjustment. Further, where the Generating Station/ Power purchase source has a single part tariff the tariff would be bifurcated into one-third as fixed charges and two-thirds as variable charges.
3. The calculation of actual weighted average variable cost for the first quarter of FY 2019-20 (Apr'19-Jun'19) which is used to determine the Fuel Surcharge for second quarter of FY 2019-20 (period from July'19 to September'19), against the RERC approved weighted average variable cost in the Tariff Order for FY 2018-19 is tabulated below:

Weighted Average Variable Cost:

Weighted Avg variable Cost of all sources of power purchase (Rs/kWh)							
S. No.	Sources of Power Purchase	Approved Power Purchase for Rajasthan for FY 2018-19			Power Purchase (April '19- June'19)		
		Net Generation	Total variable Cost	Variable Cost/Unit	Net Generation	Total Variable Cost	Variable Cost/Unit
		(MU)	(Rs. Cr.)	Rs./Unit	(MU)	(Rs Cr)	Rs./Unit
A	NTPC						
	ANTA GTPS	48.00	22.00	4.58	12.03	4.26	3.54
	AURIYA GTPS	31.00	21.00	6.77	0.46	0.17	3.76
	Bhadla II	413.00	140.00	3.39	119.16	39.72	3.33
	DADRI GTPS	142.00	49.00	3.45	40.65	14.20	3.49
	Unchahar I	97.00	25.00	2.58	18.18	6.02	3.31
	Unchahar II	181.00	42.00	2.32	12.77	4.75	3.72
	Unchahar III (unit 5)	112.00	26.00	2.32	11.36	3.97	3.49
	Unchahar IV	28.00	7.00	2.50	38.32	14.78	3.86
	FARAKKA STPS	42.00	13.00	3.10	9.40	2.22	2.37
	KAHALGAON II (U 1)	103.00	26.00	2.52	29.36	6.78	2.31
	KAHALGAON-2 STPS	501.00	118.00	2.36	114.75	24.96	2.17
	RIHAND STPS (unit 1 & 2)	764.00	95.00	1.24	178.67	24.40	1.37
	RIHAND 2 STPS	813.00	97.00	1.19	182.38	24.50	1.34
	RIHAND STPS III	937.00	115.00	1.23	211.24	27.99	1.33
	SINGRAULI STPS	2094.00	275.00	1.31	479.95	67.92	1.42
	NCTPS II	39.00	3.00	0.77	0.00	1.06	0.00
	NSM Bundled	1755.00	495.00	2.82	939.15	277.82	2.96
	Prior Period				0.00	8.73	0.00
	Sub-Total (A)	8100.00	1569.00	1.94	2397.82	554.26	2.31
B	Lignite Based plant						
	Barsingsar (Neyveli Lignite Power)	1450.00	178.00	1.23	302.62	33.87	1.12

Weighted Avg variable Cost of all sources of power purchase (Rs/kWh)							
S. No.	Sources of Power Purchase	Approved Power Purchase for Rajasthan for FY 2018-19			Power Purchase (April '19- June'19)		
		Net Generation	Total variable Cost	Variable Cost/Unit	Net Generation	Total Variable Cost	Variable Cost/Unit
		(MU)	(Rs. Cr.)	Rs./Unit	(MU)	(Rs Cr)	Rs./Unit
	Rajwest Total	6060.00	1303.00	2.15	1363.96	340.99	2.50
	Prior Period				0.00	81.78	
	Sub-Total (B)	7510.00	1481.00	1.97	1666.58	456.64	2.74
C	NPCIL						
	NAPP 1&2	338.00	59.33	1.76	84.48	17.96	2.13
	RAPP-I &II	1345.00	263.33	1.96	142.09	33.02	2.32
	RAPP-III& IV	1095.00	214.67	1.96	279.15	64.90	2.32
	RAPP-V & VI	678.00	162.67	2.40	153.38	41.46	2.70
	RAPP-VII & VIII	4139.00	836.67	2.02	0.00	0.00	
	Prior Period				0.00	0.28	
	Sub-Total (C)	7595.00	1536.67	2.02	659.10	157.62	2.39
D	State Gen. & Others						
	KTPS (Unit 1 to 7) Total	6289.00	1753.00	2.79	1575.02	419.65	2.66
	STPS (Unit 1 to 6) Total	4411.00	1517.00	3.44	909.16	287.73	3.16
	Ramgarh TPS	368.00	82.00	2.23	182.10	53.23	2.92
	Dholpur GTTP (U-1, U-2, U-3)	239.00	119.00	4.98	0.00	0.00	0.00
	Chhabra-I&II	2756.00	637.00	2.31	911.87	201.23	2.21
	Chhabra-III&IV	2702.00	626.00	2.32	804.39	177.15	2.20
	Chhabra-V	2174.00	463.00	2.13	752.94	157.56	2.09
	Chhabra-VI	2174.00	463.00	2.13	862.70	208.27	2.41
	Kalisind Unit 1	3110.00	843.00	2.71	959.68	238.30	2.48
	Kalisind Unit 2	2952.00	800.00	2.71	335.66	74.41	2.22
	Ramgarh project stage 3 unit 4	1010.00	294.00	2.91	0.00	0.00	0.00
	Others						0.00
	Sub-Total (D)	28185.00	7597.00	2.70	7293.52	1817.54	2.49
E	Indira Gandhi (jhajjar - unit 1& 2) (Aravali Power)	4.00	1.00	2.50	0.00	0.00	0.00
	Prior Period				0.00	0.00	
	Total				0.00	0.00	
F	COASTAL GUJARAT (MUNDRA)	2361.00	353.00	1.50	576.23	109.02	1.89
	Prior Period				0.00	0.97	
	Total				576.23	109.99	1.91
G	ADANI POWER RAJASTHAN LTD.	5289.00	1103.00	2.09	2021.85	525.49	2.60
	Prior Period					141.08	
	Total				2021.85	666.57	3.30

Weighted Avg variable Cost of all sources of power purchase (Rs/kWh)							
S. No.	Sources of Power Purchase	Approved Power Purchase for Rajasthan for FY 2018-19			Power Purchase (April '19- June'19)		
		Net Generation	Total variable Cost	Variable Cost/Unit	Net Generation	Total Variable Cost	Variable Cost/Unit
		(MU)	(Rs. Cr.)	Rs./Unit	(MU)	(Rs Cr)	Rs./Unit
H	SASAN POWER LTD.	2681.00	357.00	1.33	761.32	94.83	1.25
	Prior Period				0.00	2.79	
	Total				761.32	97.62	1.28
I	NVVN Bundled Power	2260.00	803.00	3.55	617.53	216.04	3.50
	Prior Period				0.00	0.00	
	Total				617.53	216.04	3.50
J	PTC (DB Power)	1850.00	324.00	1.75	603.97	138.13	2.29
	Prior Period				0.00	76.14	
	Total				603.97	214.27	3.55
K	PTC (Maruti)	1820.00	325.00	1.79	374.86	82.85	2.21
	Prior Period				0.00	0.00	
	Total				374.86	82.85	2.21
L	Tanda STPP	590.00	160.00	2.71	0.00	0.00	
M	RFF	182.00	37.00	2.03	46.00	16.45	3.58
N	NCES						
	Wind Farms	5963.00	1960.00	3.29	1241.15	416.57	3.36
	Solar	4600.00	1494.67	3.25	635.52	136.34	2.15
	Bio-Mass	1022.00	464.67	4.55	103.94	50.55	4.86
	Sub-Total (N)	11585.00	3919.33	3.38	1980.61	603.45	3.05
	TOTAL	80012.00	19566.00	2.45	18999.39	4993.31	2.63
	Weighted Avg Variable Cost (Rs./kWh)		2.45			2.63	

4. As it can be inferred from the table above that the weighted average power purchase cost as approved by the Commission in the Tariff Order for FY 2018-19 is lower than the actual weighted average cost for the first quarter of FY 2019-20 (April'19 to June'19). Hence, fuel surcharge is recoverable in the second quarter (July'19-September'19) of FY 2019-20.

Calculation of Fuel Surcharge:

5. As per the regulation "The Fuel Surcharge (FS) chargeable by the distribution licensee from its consumers for any quarter shall be computed as per the following formula:

$$FS = (C + Ip) / E \text{ (Rs. / kWh)}$$

Where

C (in Rs. Lakh) = $\{(Weighted\ Average\ Variable\ Cost\ of\ all\ sources\ of\ power\ purchase\ during\ previous\ quarter\ in\ Rs/kWh - Base\ Weighted\ Average\ Variable\ Cost\ of\ all\ sources\ of\ power\ purchase\ as\ approved\ under\ Tariff\ Order\ for\ the\ year\ under\ operation\ in\ Rs/kWh) \times Corresponding\ Power\ Purchase\ from\ all\ sources\ during\ previous\ quarter\ in\ LU\}$

E (in Lakh Units) = Energy sold (metered plus estimated) during previous quarter.

I_p (In Rs. Lakh) = Under-recovery of fuel surcharge in the previous quarter.

Based on the above-mentioned formula, fuel surcharge is computed.

6. The fuel surcharge for the second quarter of FY 2019-20 (July'19-September'19) is computed as follows:

S. No.	Fuel Surcharge for 2nd Quarter (July'19-Sept'19)	Units	Apr'19-Jun'19
1	Weighted Avg variable cost of all sources of power purchase during previous Quarter	Rs/kWh	2.63
2	Base weighted avg variable cost as approved	Rs/kWh	2.45
3	Power Purchase during Previous Quarter (Apr'19 - Jun'19)	MU	18999.39
4	Energy Sold during Previous Quarter (Apr'19 - Jun'19)	MU	14799.63
5	Under Recovery of FS during the previous quarter	Rs Lakhs	7769.29
6	FSA for 2nd Quarter of FY 2019-20	Rs/kWh	0.29

7. The power purchase quantum and cost approved by the Hon'ble Commission in Tariff Order for FY 2018-19 is as follows:

Approved by RERC	FY 2018-19
Total Quantum (MU)	87722
Total Variable Cost (Rs Cr)	23394
Total Fixed Cost (Rs Cr)	8836
Total Power Purchase Cost (Rs Cr)	32230
Weighted avg Power Purchase Cost (Rs/kWh)	3.67

Conclusion:

8. According to the calculations presented, the fuel surcharge for the second quarter (July'19 to Sept'19) of FY 2019-20 is computed as Rs. 0.29/ unit. This is less than the average ceiling limit of Rs. 0.55/kWh approved by the Hon'ble commission (i.e. 15% of the weighted average power purchase cost approved by the Hon'ble Commission in its Tariff Order for FY 2018-19).
9. Accordingly, the fuel surcharge of 0.29 Rs/kWh will be recoverable for second quarter of FY 2019-20 (July'19 to Sept'19).