

Fuel Surcharge for Second Quarter of FY 2018-19

(July'18-September'18)

FINAL REPORT

Submitted to

Ajmer Vidyut Vitran Nigam Limited

Ajmer

September- 2018

Table of Contents

Background	3
Description	4

Background

1. In term of the Regulation 88 of the RERC Tariff Regulation 2014, AVVNL is 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 AVVNL on quarterly basis as fuel surcharge.
2. The said provision under the RERC Tariff Regulations, 2014 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:

$$FS = C/E \quad \text{Rs./kWh}$$

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.”

Note:

- *Quarter referred under this formula shall correspond to financial quarter (s) viz Q1 (Apr. to Jun) Q.2 (Jul to Sept), Q3 (Oct to Dec) and Q4 (Jan to Mar).*
- *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.*
- *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.*
- *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.*
- *The rate of Fuel Surcharge shall be worked out in Rs./kWh rounded off next second decimal place.*
- *The Fuel Surcharge per unit for any quarter shall not exceed 10% of weighted average power purchase cost approved by the Commission, or such other ceiling as may be stipulated by the Commission from time to time.*
- *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 Hon'ble Commission vide its ARR/Tariff order dated 2nd November 2017 for FY 2017-18 had approved the sources, quantum and cost of the power to be procured, which has been considered for calculation for the approved weighted average variable cost. 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 previous Tariff Order have been considered for calculation for April and May 2018 and the approved figures from the Tariff Order for FY 2018-19 have been considered for June 2018.
2. In terms of the Regulation 88 of the RERC Tariff Regulations 2014, 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 2018-19 (Apr'18-Jun'18) which is used to determine the fuel Surcharge for second quarter (period from July'18 to September'18), 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)									
Sl. No.	Sources of Power Purchase	Approved Power Purchase for AVVNL for FY 2017-18		Approved Power Purchase for AVVNL for FY 2018-19		Power Purchase (Apr'18-May'18)		Power Purchase (Jun'18)	
		Net Generation	Total variable Cost	Net Generation	Total variable Cost	Net Generation	Total Variable Cost	Net Generation	Total Variable Cost
		(MU)	(Rs. Cr.)	(MU)	(Rs Cr)	(MU)	(Rs Cr)	(MU)	(Rs Cr)
A	NTPC								
	ANTA GTPS	34.00	10.00	13.00	6.00	1.00	0.29	0.03	0.02
	AURIYA GTPS	12.00	4.00	9.00	6.00	0.00	0.00	0.30	0.10
	Bhadla	7.00	2.00	116.00	39.33	22.06	7.35	10.98	3.66
	DADRI GTPS	54.00	15.00	40.00	14.00	3.34	0.94	2.57	0.91
	FARAKKA STPS	15.00	4.00	12.00	4.00	2.05	0.82	1.43	0.31
	KAHALGAON II (U 1)	31.00	8.00	29.00	7.00	4.85	1.20	4.04	0.85
	KAHALGAON-2 STPS	146.00	34.00	140.00	33.00	27.98	6.58	13.40	2.69
	RIHAND STPS (unit 1 & 2)	153.00	25.00	214.00	27.00	22.40	1.34	17.34	2.22
	RIHAND 2 STPS	202.00	32.00	228.00	27.00	38.12	4.13	13.65	1.49
	RIHAND STPS III	231.00	38.00	262.00	32.00	42.86	4.58	23.39	3.34
	NSM Bundled			491.00	139.00			72.77	23.79
	SINGRAULI STPS	592.00	87.00	586.00	77.00	76.72	7.02	53.63	6.89
	Unchahar I	17.00	5.00	27.00	7.00	5.65	1.12	7.56	2.23
	Unchahar II	37.00	11.00	51.00	12.00	8.45	0.65	8.62	2.56

Weighted Avg variable Cost of all sources of power purchase (Rs/kWh)									
Sl. No.	Sources of Power Purchase	Approved Power Purchase for AVVNL for FY 2017-18		Approved Power Purchase for AVVNL for FY 2018-19		Power Purchase (Apr'18-May'18)		Power Purchase (Jun'18)	
		Net Generation	Total variable Cost	Net Generation	Total variable Cost	Net Generation	Total Variable Cost	Net Generation	Total Variable Cost
		(MU)	(Rs. Cr.)	(MU)	(Rs Cr)	(MU)	(Rs Cr)	(MU)	(Rs Cr)
	Unchahar III (unit 5)	25.00	7.00	31.00	7.00	3.06	0.01	2.48	0.74
	NCTPS II	4.00	1.00	11.00	1.00	0.00	-1.90	2.65	1.00
	Prior Period					0.00	6.12	0.00	0.50
	Sub-Total (A)	1560.00	283.00	2260.00	438.33	258.55	40.27	234.86	53.28
B	Lignite Based plant								
	Giral TPS	0.00	0.00			-0.68	-0.10	0.00	0.00
	Barsingar (Neyveli Lignite Power)	356.00	56.00	406.00	50.00	46.48	5.28	26.37	3.10
	Rajwest Total	1631.00	341.00	1697.00	365.00	306.65	64.97	165.42	39.39
	Prior Period					0.00	0.10	0.00	-5.25
	Sub-Total (B)	1987.00	397.00	2103.00	415.00	352.45	70.24	191.79	37.25
C	NPCIL								
	NAPP 1&2	92.00	16.00	95.00	16.67	12.49	6.22	5.15	1.10
	RAPP-I & II	241.00	47.33	377.00	74.00	50.86	25.72	28.13	6.54
	RAPP-III& IV	301.00	58.67	306.00	60.00	54.98	24.09	26.63	6.19
	RAPP-V & VI	148.00	35.33	190.00	45.33	22.62	12.05	16.83	4.55
	Prior Period					0.00	0.62	0.00	0.01
	Sub-Total (C)	782.00	157.33	968.00	196.00	140.95	68.70	76.75	18.38
D	State Gen. & Others								
	STPS (Unit 1 to 6)	1127.00	429.00	1235.00	425.00	306.48	92.67	226.38	77.92
	KTPS (Unit 1 to 7)	1856.00	561.00	1761.00	491.00	345.74	101.50	214.34	62.47
	Ramgarh TPS	121.00	22.00	103.00	23.00	17.35	4.21	8.74	1.95
	Dholpur GTPP	27.00	9.00	67.00	33.00	0.00	-0.12	1.67	0.77
	Chhabra-I & II	857.00	204.00	772.00	178.00	170.75	41.35	79.38	19.19
	Chhabra-III	424.00	98.00	318.00	74.00	87.63	21.20	45.20	10.68
	Chhabra Phase 3 Unit IV	437.00	101.00	439.00	102.00	57.74	14.81	20.37	4.71
	Kalisind Unit 1	956.00	245.00	871.00	236.00	151.72	41.98	97.82	26.50
	Kalisind Unit II	592.00	151.00	826.00	224.00	126.80	35.45	0.00	0.00
	Ramgarh project stage 3 unit 4	262.00	81.00	283.00	82.00	46.49	13.37	24.50	7.16
	Others					0.00	0.00	0.00	4.78
	Sub-Total (D)	6659.00	1901.00	6675.00	1868.00	1310.70	366.42	718.41	216.14
E	Indira Ghandi (Jhajjar - unit 1& 2) (Aravali Power)	2.00	1.00	1.00	0.00	0.00	0.01	0.00	0.00
F	COASTAL GUJARAT (MUNDRA) unit 1, 2 and 3	708.00	103.00	661.00	99.00	103.56	16.25	45.71	7.54
G	ADANI POWER RAJASTHAN LTD.	2204.00	484.00	1481.00	309.00	190.19	33.22	88.16	71.18

Weighted Avg variable Cost of all sources of power purchase (Rs/kWh)									
Sl. No.	Sources of Power Purchase	Approved Power Purchase for AVVNL for FY 2017-18		Approved Power Purchase for AVVNL for FY 2018-19		Power Purchase (Apr'18-May'18)		Power Purchase (Jun'18)	
		Net Generation	Total variable Cost	Net Generation	Total variable Cost	Net Generation	Total Variable Cost	Net Generation	Total Variable Cost
		(MU)	(Rs. Cr.)	(MU)	(Rs Cr)	(MU)	(Rs Cr)	(MU)	(Rs Cr)
H	SASAN POWER LTD.	724.00	111.00	751.00	100.00	146.97	20.30	74.44	9.21
J	NVVN Bundled Power	674.00	253.00	633.00	225.00	199.46	61.46	0.00	0.00
K	PTC (DB Power)	140.00	23.00	518.00	91.00	91.00	15.43	47.61	10.89
L	PTC (Maruti)	35.00	6.00	510.00	91.00	85.41	15.04	28.14	5.19
M	Chhabra TPS St - 1 Ph -3 (Unit - 5)			609.00	130.00			0.00	0.00
N	Chhabra TPS St - 1 Ph -3 (Unit - 6)			609.00	130.00				
O	RAPP Unit 7&8 (2*700) NPCIL			1159.00	234.00				
P	Tnda STPP Stage II (2*660 MW)			165.00	45.00				
Q	Unchahar IV (1*1500 MW) NTPC			8.00	2.00			0.00	0.00
R	NCES								
	Wind Farms	1405.00	466.00	1670.00	548.67	197.94	64.17	118.50	40.33
	Bio-Mass	223.00	98.67	286.00	130.00	18.48	8.44	9.22	4.22
	Solar	814.00	250.00	1288.00	418.67	15.95	6.76	7.51	3.18
	CPPs	0.00	0.00			0.00	0.00	0.00	0.00
	Sub-Total (E)	2442.00	814.67	3244.00	1097.33	232.36	79.36	135.24	47.73
	TOTAL (without bilateral trading)	17917.00	4534.00	22355.00	5470.67	3111.59	786.70	1641.10	476.78
S	Other Short term source								
	Bilateral Trading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sub-Total (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	GRAND TOTAL	17917.00	4534.00	22355.00	5470.67	3111.59	786.70	1641.10	476.78
	Weighted Avg Variable Cost (Rs./kWh)		2.53		2.45		2.53		2.91

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 2018-19 (Apr'18 to Jun'18). Hence, fuel surcharge is recoverable in the second quarter (period July'18-September'18) of FY 2018-19.

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:

$$FS = \frac{C}{E} \text{ Rs./kWh}$$

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."

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

6. The Fuel Surcharge for the first quarter of FY 2018-19 (April'18 to June'18) was -0.11 Rs/kWh, which was not recoverable during the desired period. The weighted average variable cost as approved by the Hon'ble Commission was 2.53 Rs/kWh in its tariff order for FY 2017-18, which was more than the cumulative actual weighted variable cost i.e. 2.44 Rs/kWh month of January'18-March'18.
7. The fuel surcharge for the second quarter of FY 2018-19 (July'18-September'18) is computed as follows:

Sl. No.	Fuel Surcharge for 2nd Quarter (Jul'18 - Sep'18)	Units	Apr-May'18	Jun'18
1	Weighted Avg variable cost of all sources of power purchase during previous Quarter	Rs/kWh	2.53	2.91
2	Base weighted avg variable cost as approved	Rs/kWh	2.53	2.45
3	Power Purchase during Previous Quarter (Apr'18 - Jun'18)	MU	3111.59	1641.10
4	Energy Sold during previous quarter (Apr'18 - Jun'18)	MU	2678.79	1465.46
5	FSA for 2nd Quarter of FY 2018-19	Rs/kWh	0.18	

8. 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 2017-18	FY 2018-19
Total Quantum (MU)	19790	24511

Approved by RERC	FY 2017-18	FY 2018-19
Total Variable Cost (Rs Cr)	5301	6540
Total Fixed Cost (Rs Cr)	2110	2474
Total Power Purchase Cost (Rs Cr)	7411	9014
Weighted avg Power Purchase Cost (Rs/kWh)	3.74	3.68

Conclusion:

9. As per above calculation the fuel surcharge of Rs. 0.18/ unit is computed for the second quarter (July'18 to September'18) of FY 2018-19, which is less than the average ceiling limit of Rs. 0.37/kWh approved by the Hon'ble commission (i.e. 10% of the weighted average power purchase cost approved by the Hon'ble Commission in its Tariff Order for FY 2018-19). The fuel surcharge of 0.18 Rs/kWh will be recoverable for second quarter of FY 2018-19 (July'18 to September'18).