

**Fuel Surcharge for First Quarter of FY 2020-21**

**(April'20-June'20)**

**FINAL REPORT**

**Submitted to**

**Jaipur Vidyut Vitran Nigam Limited**

**Ajmer Vidyut Vitran Nigam Limited**

**Jodhpur Vidyut Vitran Nigam Limited**

**Rajasthan**

**June - 2020**

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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 in the tariff order for the concerned quarter 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 until next tariff order for the FY 2019-20 was issued. ARR & Tariff Order for the FY 2019-20 was issued on 6<sup>th</sup> February 2020 and the same was applicable for the Rajasthan Discoms since 1<sup>st</sup> February 2020. Hence, the approved figures from the Tariff Order for FY 2018-19 and FY 2019-20 have been considered for January 2020 and February & March 2020 respectively.
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 fourth quarter of FY 2019-20 (Jan'20-Mar'20) which is used to determine the Fuel Surcharge for first quarter of FY 2020-21 (period from Apr'20 to June'20), against the RERC approved weighted average variable cost in the Tariff Orders for FY 2018-19 and FY 2019-20 is attached below as an **Annexure-A**.
4. As it can be inferred from the **Annexure-A** above that the weighted average power purchase cost as approved by the Commission in the Tariff Order for FY 2018-19 and FY 2019-20 is lower than the actual weighted average cost for the fourth quarter of FY 2019-20 (Jan '19 to Mar '19). Hence, fuel surcharge is recoverable in the first quarter (April'20-June'20) of FY 2020-21.

### 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:*

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

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.

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

Based on the above-mentioned formula, fuel surcharge is computed as submitted in **Table 1** below.

6. The fuel surcharge for the first quarter of FY 2020-21 (April'20-June'20) is computed as follows:

**Table 1: Computation of Fuel Surcharge**

S. No.	Fuel Surcharge for Quarter 1 (Apr'20-Jun'20)	Units	Jan '20	Feb-Mar'20
1	Weighted Avg variable cost of all sources of power purchase during previous Quarter	Rs/kWh	2.89	2.71
2	Base weighted avg variable cost as approved	Rs/kWh	2.45	2.58
3	Power Purchase during Previous Quarter (Jan'20 - Mar'20)	MU	6518	12359
4	Energy Sold during Previous Quarter (Jan'20 - Mar'20)	MU	16249	
5	Under Recovery of FS during the previous quarter	Rs Lakhs	0	0
6	<b>FSA for Quarter 1 of FY 2020-21</b>	<b>Rs/kWh</b>	<b>0.27</b>	

7. The power purchase quantum and cost approved by the Hon'ble Commission in Tariff Order for FY 2018-19 and FY 2019-20 is as follows:

**Table 2: Approved Power Purchase**

Approved by RERC	FY 2018-19	FY 2019-20
Total Quantum (MU)	87722	84479
Total Variable Cost (Rs Cr)	23394	22738
Total Fixed Cost (Rs Cr)	8836	11245
Total Power Purchase Cost (Rs Cr)	32230	33983
<b>Weighted avg Power Purchase Cost (Rs/kWh)</b>	<b>3.67</b>	<b>4.02</b>

**Conclusion:**

8. According to the calculations presented, the fuel surcharge for the first quarter (April'20 to June'20) of FY 2020-21 is computed as Rs. 0.27/unit. This is less than the average ceiling limit of Rs. 0.55/kWh and Rs. 0.60/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 & FY 2019-20).
9. Accordingly, the fuel surcharge of Rs. 0.27/kWh will be recoverable for first quarter of FY 2020-21 (April'20 to June'20).

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			Approved Power Purchase for Rajasthan for FY 2019-20			Power Purchase (January'20)			Power Purchase (February-March'20)		
		Net Generation	Total variable Cost	Variable Cost/Unit	Net Generation	Total variable Cost	Variable Cost/Unit	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	(MU)	(Rs Cr)	Rs./Unit	(MU)	(Rs Cr)	Rs./Unit
<b>A</b>	<b>NTPC</b>												
	ANTA GTPS	48	22	4.58	30	12	4.00	0	0	0.00	0	0	
	AURIYA GTPS	31	21	6.77	28	12	4.29	0	0	0.00	12	5	3.80
	Bhadla II	413	140	3.39	434	145	3.33	33	11	3.33	71	24	3.33
	DADRI GTPS	142	49	3.45	116	49	4.22	4	2	3.74	37	12	3.26
	Unchahar I	97	25	2.58	47	21	4.47	12	4	3.45	18	6	3.30
	Unchahar II	181	42	2.32	35	19	5.43	17	6	3.75	40	14	3.47
	Unchahar III (unit 5)	112	26	2.32	29	15	5.17	9	3	3.91	20	7	3.50
	Unchahar IV	28	7	2.50	128	58	4.53	27	9	3.48	69	22	3.20
	FARAKKA STPS	42	13	3.10	43	15	3.49	4	2	5.16	7	4	5.63
	KAHALGAON II (U 1)	103	26	2.52	109	23	2.11	10	2	2.27	22	5	2.29
	KAHALGAON-2 STPS	501	118	2.36	465	95	2.04	48	10	2.15	89	19	2.17
	RIHAND STPS (unit 1 & 2)	764	95	1.24	595	80	1.34	21	3	1.34	92	12	1.36
	RIHAND 2 STPS	813	97	1.19	553	74	1.34	51	7	1.34	105	14	1.36
	RIHAND STPS III	937	115	1.23	805	110	1.37	63	8	1.36	123	17	1.37
	SINGRAULI STPS	2094	275	1.31	1662	231	1.39	144	20	1.41	268	36	1.33
	NCTPS II	39	3	0.77	5	4	8.00	0	0	0.00	4	1	1.38
	NSM Bundled	1755	495	2.82	3466	1007	2.91	301	86	2.87	602	175	2.91
	Talchar STPS				0	0	0.00	25	6	2.49	50	13	2.50
	Meja				37	12	3.24	0	0	0.00	0	0	0.00
	Prior Period							0	0	0.00	0	-22	0.00
	<b>Sub-Total (A)</b>	<b>8100</b>	<b>1569</b>	<b>1.94</b>	<b>8587</b>	<b>1982</b>	<b>2.31</b>	<b>767</b>	<b>181</b>	<b>2.36</b>	<b>1631</b>	<b>363</b>	<b>2.23</b>
<b>B</b>	<b>Lignite Based plant</b>												
	Barsingsar (Neyveli Lignite Power)	1450	178	1.23	1251	156	1.25	152	17	1.12	240	32	1.32

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			Approved Power Purchase for Rajasthan for FY 2019-20			Power Purchase (January'20)			Power Purchase (February-March'20)		
		Net Generation	Total variable Cost	Variable Cost/Unit	Net Generation	Total variable Cost	Variable Cost/Unit	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	(MU)	(Rs Cr)	Rs./Unit	(MU)	(Rs Cr)	Rs./Unit
	Rajwest Total	6060	1303	2.15	5231	1308	2.50	467	111	2.38	947	237	2.50
	Prior Period							0	8		0	0	
	<b>Sub-Total (B)</b>	<b>7510</b>	<b>1481</b>	<b>1.97</b>	<b>6482</b>	<b>1464</b>	<b>2.26</b>	<b>619</b>	<b>136</b>	<b>2.20</b>	<b>1187</b>	<b>269</b>	<b>2.26</b>
<b>C</b>	<b>NPCIL</b>												
	NAPP 1&2	338	59	1.76	335	71	2.13	31	7	2.14	59	13	2.14
	RAPP-I &II	1345	263	1.96	1013	235	2.32	116	27	2.33	205	48	2.33
	RAPP-III& IV	1095	215	1.96	1088	253	2.33	86	20	2.33	179	42	2.33
	RAPP-V & VI	678	163	2.40	689	187	2.71	56	15	2.71	76	21	2.70
	RAPP-VII & VIII	4139	837	2.02			0.00						
	Prior Period							0	0		0	0	
	<b>Sub-Total (C)</b>	<b>7595</b>	<b>1537</b>	<b>2.02</b>	<b>3125</b>	<b>747</b>	<b>2.39</b>	<b>288</b>	<b>69</b>	<b>2.38</b>	<b>518</b>	<b>122</b>	<b>2.36</b>
<b>D</b>	<b>State Gen. &amp; Others</b>												
	KTPS (Unit 1 to 7) Total	6289	1753	2.79	5940	1842	3.10	608	265	4.36	1109	359	3.23
	STPS (Unit 1 to 6) Total	4411	1517	3.44	4938	1776	3.60	381	227	5.96	709	271	3.82
	Ramgarh TPS	368	82	2.23	839	234	2.79	65	22	3.37	129	41	3.19
	Ramgarh project stage 3 unit 4	1010	294	2.91									
	Dholpur GTPP (U-1, U-2, U-3)	239	119	4.98	9	6	6.67	0	0	0.00	0	0	0.00
	Chhabra-I-IV	5458	1263	2.31	6429	1534	2.39	531	193	3.63	1127	274	2.43
	Chhabra-V&VI	4348	926	2.13	5684	1211	2.13	596	127	2.13	1031	260	2.52
	Kalisind Unit 1	6062	1643	2.71	4945	1340	2.71	455	117	2.58	1205	322	2.67
	Others							0	0	0.00	0	0	0.00
	<b>Sub-Total (D)</b>	<b>28185</b>	<b>7597</b>	<b>2.70</b>	<b>28784</b>	<b>7943</b>	<b>2.76</b>	<b>2636</b>	<b>950</b>	<b>3.61</b>	<b>5310</b>	<b>1527</b>	<b>2.87</b>
<b>E</b>	<b>Indira Ghandi (jhajjar -unit 1&amp; 2) (Aravali Power)</b>	4	1	2.50	0	0	0.00	0	0	0.00	0	0	0.00
	Prior Period							0	0		0	0	



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			Approved Power Purchase for Rajasthan for FY 2019-20			Power Purchase (January'20)			Power Purchase (February-March'20)		
		Net Generation	Total variable Cost	Variable Cost/Unit	Net Generation	Total variable Cost	Variable Cost/Unit	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	(MU)	(Rs Cr)	Rs./Unit	(MU)	(Rs Cr)	Rs./Unit
	<b>Total</b>							<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	
<b>F</b>	<b>COASTAL GUJARAT (MUNDRA)</b>	2361	353	1.50	1967	372	1.89	167	31	1.84	348	66	1.91
	Prior Period							0	0		0	0	
	<b>Total</b>							<b>167</b>	<b>31</b>	<b>1.84</b>	<b>348</b>	<b>66</b>	<b>1.91</b>
<b>G</b>	<b>ADANI POWER RAJASTHAN LTD.</b>	5289	1103	2.09	7421	1914	2.58	769	201	2.61	824	232	2.81
	Prior Period							0	0		0	38	
	<b>Total</b>							<b>769</b>	<b>201</b>	<b>2.61</b>	<b>824</b>	<b>269</b>	<b>3.27</b>
<b>H</b>	<b>SASAN POWER LTD.</b>	2681	357	1.33	2855	360	1.26	251	32	1.27	481	60	1.24
	Prior Period							0	0		0	0	
	<b>Total</b>							<b>251</b>	<b>32</b>	<b>1.27</b>	<b>481</b>	<b>60</b>	<b>1.24</b>
<b>I</b>	<b>NVVN Bundled Power</b>	2260	803	3.55	2314	785	3.39	163	39	2.36	409	138	3.39
	Prior Period							0	0		0	0	
	<b>Total</b>							<b>163</b>	<b>39</b>	<b>2.36</b>	<b>409</b>	<b>138</b>	<b>3.39</b>
<b>J</b>	<b>PTC (DB Power)</b>	1850	324	1.75	2085	365	1.75	211	44	2.10	340	99	2.92
	Prior Period							0	8		0	3	
	<b>Total</b>							<b>211</b>	<b>53</b>	<b>2.50</b>	<b>340</b>	<b>102</b>	<b>3.01</b>
<b>K</b>	<b>PTC (Maruti)</b>	1820	325	1.79	1243	181	1.46	127	25	1.94	236	109	4.61
	Prior Period							0	0		0	-15	
	<b>Total</b>							<b>127</b>	<b>25</b>	<b>1.94</b>	<b>236</b>	<b>94</b>	<b>3.99</b>
<b>L</b>	<b>Tanda STPP</b>	<b>590</b>	<b>160</b>	<b>2.71</b>				<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	

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			Approved Power Purchase for Rajasthan for FY 2019-20			Power Purchase (January'20)			Power Purchase (February-March'20)		
		Net Generation	Total variable Cost	Variable Cost/Unit	Net Generation	Total variable Cost	Variable Cost/Unit	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	(MU)	(Rs Cr)	Rs./Unit	(MU)	(Rs Cr)	Rs./Unit
<b>M</b>	<b>NCES</b>												
	Wind Farms	5963	1960	3.29	5694	1905	3.35	379	129	3.40	657	224	3.41
	Solar	4600	1495	3.25	4116	1177	2.86	103	23	2.19	347	83	2.39
	Bio-Mass	1022	465	4.55	480	228	4.75	37	17	4.76	71	34	4.73
	<b>Sub-Total (M)</b>	<b>11585</b>	<b>3919</b>	<b>3.38</b>	<b>10290</b>	<b>3310</b>	<b>3.22</b>	<b>519</b>	<b>169</b>	<b>3.25</b>	<b>1076</b>	<b>341</b>	<b>3.17</b>
	<b>TOTAL</b>	<b>79830</b>	<b>19529</b>	<b>2.45</b>	<b>75153</b>	<b>19422</b>	<b>2.58</b>	<b>6518</b>	<b>1884</b>	<b>2.89</b>	<b>12359</b>	<b>3351</b>	<b>2.71</b>
	<b>Weighted Avg Variable Cost (Rs./kWh)</b>		<b>2.45</b>			<b>2.58</b>			<b>2.89</b>			<b>2.71</b>	