

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

**(October '20 –December '20)**

**FINAL REPORT**

**Submitted to**

**Jaipur Vidyut Vitran Nigam Limited**

**Ajmer Vidyut Vitran Nigam Limited**

**Jodhpur Vidyut Vitran Nigam Limited**

**Rajasthan**

**January - 2021**

***Table of Contents***

Background..... 3  
Description..... 5

## 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 2019-20 was issued by the Hon'ble Commission on 6<sup>th</sup> February 2020 and was applicable from February 2020 onwards until the next tariff order. Hence, the approved figures from the Tariff Order for FY 2019-20 have been considered for July, August and September 2020.
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 second quarter of FY 2020-21 (July'20-September'20) which is used to determine the Fuel Surcharge for third quarter of FY 2020-21 (period from October '20 to December '20), against the RERC approved weighted average variable cost in the Tariff Order for FY 2019-20 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 2019-20			Power Purchase (July-Sept '20)		
		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
<b>A</b>	<b>NTPC</b>						
	ANTA GTPS	30	12	4.00	33	9	2.82
	AURIYA GTPS	28	12	4.29	13	6	4.47
	Bhadla II	434	145	3.33	110	37	3.33
	DADRI GTPS	116	49	4.22	32	11	3.30
	Unchahar I	47	21	4.47	23	8	3.42
	Unchahar II	35	19	5.43	39	14	3.70
	Unchahar III (unit 5)	29	15	5.17	29	10	3.50
	Unchahar IV	128	58	4.53	99	33	3.35
	FARAKKA STPS	43	15	3.49	12	3	2.81
	KAHALGAON II (U 1)	109	23	2.11	34	7	2.13
	KAHALGAON-2 STPS	465	95	2.04	115	23	2.02
	RIHAND STPS (unit 1 & 2)	595	80	1.34	163	24	1.50
	RIHAND 2 STPS	553	74	1.34	191	29	1.54
	RIHAND STPS III	805	110	1.37	233	37	1.57
	SINGRAULI STPS	1662	231	1.39	489	70	1.43
	NCTPS II	5	4	8.00	0	2	0.00
	NSM Bundled	3466	1007	2.91	824	252	3.06
	Talchar STPS	0	0	0.00	51	14	2.69
	Meja	37	12	3.24			0.00
	Prior Period				0	14	0.00
	<b>Sub-Total (A)</b>	<b>8587</b>	<b>1982</b>	<b>2.31</b>	<b>2490</b>	<b>603</b>	<b>2.42</b>

Weighted Avg variable Cost of all sources of power purchase (Rs/kWh)							
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		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
<b>B</b>	<b>Lignite Based plant</b>						
	Barsingsar (Neyveli Lignite Power)	1251	156	1.25	323	35	1.08
	Rajwest Total	5231	1308	2.50	1645	451	2.74
	Prior Period				0	11	
	<b>Sub-Total (B)</b>	<b>6482</b>	<b>1464</b>	<b>2.26</b>	<b>1968</b>	<b>497</b>	<b>2.52</b>
<b>C</b>	<b>NPCIL</b>						
	NAPP 1&2	335	71	2.13	80	16	2.01
	RAPP-I & II	1013	235	2.32	101	22	2.19
	RAPP-III& IV	1088	253	2.33	262	57	2.19
	RAPP-V & VI	689	187	2.71	153	39	2.57
	Prior Period				0	0	
	<b>Sub-Total (C)</b>	<b>3125</b>	<b>747</b>	<b>2.39</b>	<b>596</b>	<b>135</b>	<b>2.27</b>
<b>D</b>	<b>State Gen. &amp; Others</b>						
	KTPS (Unit 1 to 7) Total	5940	1842	3.10	934	301	3.23
	STPS (Unit 1 to 6) Total	4938	1776	3.60	184	66	3.60
	Ramgarh TPS	839	234	2.79	147	38	2.59
	Ramgarh project stage 3 unit 4						
	Dholpur GTPP (U-1, U-2, U-3)	9	6	6.67	104	66	6.34
	Chhabra-I-IV	6429	1534	2.39	1525	467	3.06
	Chhabra-V&VI	5684	1211	2.13	1673	389	2.33
	Kalisind Unit 1&2	4945	1340	2.71	1221	316	2.58
	Others				0	0	0.00
	<b>Sub-Total (D)</b>	<b>28784</b>	<b>7943</b>	<b>2.76</b>	<b>5788</b>	<b>1644</b>	<b>2.84</b>
<b>E</b>	<b>Indira Gandhi (jhajjar -unit 1&amp; 2) (Aravali Power)</b>	0	0	0.00	0	0	0.00
	Prior Period				0	0	
	<b>Total</b>				<b>0</b>	<b>0</b>	
<b>F</b>	<b>COASTAL GUJARAT (MUNDRA)</b>	1967	372	1.89	659	131	1.99
	Prior Period				0	0	
	<b>Total</b>				<b>659</b>	<b>131</b>	<b>1.99</b>
<b>G</b>	<b>ADANI POWER RAJASTHAN LTD.</b>	7421	1914	2.58	2224	589	2.65
	Prior Period				0	0	
	<b>Total</b>				<b>2224</b>	<b>589</b>	<b>2.65</b>
<b>H</b>	<b>SASAN POWER LTD.</b>	2855	360	1.26	773	100	1.30
	Prior Period				0	2	

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 2019-20			Power Purchase (July-Sept '20)		
		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
	<b>Total</b>				<b>773</b>	<b>102</b>	<b>1.32</b>
<b>I</b>	<b>NVVN Bundled Power</b>	2314	785	3.39	589	217	3.69
	Prior Period				0	0	
	<b>Total</b>				<b>589</b>	<b>217</b>	<b>3.69</b>
<b>J</b>	<b>PTC (DB Power)</b>	2085	365	1.75	557	101	1.82
	Prior Period				0	-6	
	<b>Total</b>				<b>557</b>	<b>95</b>	<b>1.72</b>
<b>K</b>	<b>PTC (Maruti)</b>	1243	181	1.46	380	76	2.00
	Prior Period				0	0	
	<b>Total</b>				<b>380</b>	<b>76</b>	<b>2.00</b>
<b>L</b>	<b>NCES</b>						
	Wind Farms	5694	1905	3.35	2159	726	3.36
	Solar	4116	1177	2.86	599	125	2.09
	Bio-Mass	480	228	4.75	106	50	4.77
	<b>Sub-Total (M)</b>	<b>10290</b>	<b>3310</b>	<b>3.22</b>	<b>2863</b>	<b>901</b>	<b>3.15</b>
	<b>TOTAL</b>	<b>75153</b>	<b>19422</b>	<b>2.58</b>	<b>18887</b>	<b>4991</b>	<b>2.64</b>
	<b>Weighted Avg Variable Cost (Rs./kWh)</b>		<b>2.58</b>			<b>2.64</b>	

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 2019-20 is lower than the actual weighted average cost for the second quarter of FY 2020-21 (July'20 to September'20). Hence, fuel surcharge is recoverable in the third quarter (October'20 to December'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.*

*Ip (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 3<sup>rd</sup> quarter of FY 2020-21 (Oct'20 to Dec'20) is computed as follows:

S. No.	Fuel Surcharge for Quarter 3 (Oct'20-Dec'20)	Units	July-Sept'20
1	Weighted Avg variable cost of all sources of power purchase during previous Quarter	Rs/kWh	2.64
2	Base weighted avg variable cost as approved	Rs/kWh	2.58
3	Power Purchase during Previous Quarter (July'20 - Sept'20)	MU	18887
4	Energy Sold during Previous Quarter (July'20 - Sept'20)	MU	16825
5	Under Recovery of FS during the previous quarter	Rs Lakhs	0
<b>6</b>	<b>FSA for Quarter 3 of FY 2020-21</b>	<b>Rs/kWh</b>	<b>0.07</b>

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

Approved by RERC		FY 2019-20
Total Quantum (MU)		84479
Total Variable Cost (Rs Cr)		22738
Total Fixed Cost (Rs Cr)		11245
Total Power Purchase Cost (Rs Cr)		33983
<b>Weighted avg. Power Purchase Cost (Rs/kWh)</b>		<b>4.02</b>

### Conclusion:

8. According to the calculations presented, the fuel surcharge for the third quarter (Oct'20 to Dec'20) of FY 2020-21 is computed as Rs. 0.07/unit. This is less than the average ceiling limit of 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 2019-20).
9. Accordingly, the fuel surcharge of Rs. 0.07/kWh will be recoverable for third quarter of FY 2020-21.