

Calculations in accordance with the Fuel Surcharge Formula in Paragraph A of Schedule - 7B of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 read with applicable Regulations

Calculation of MVCA for the Month of June 2022

Parameters	Details	Reference / Basis	Unit	Amount
a) Values from the Orders dated 03.02.2022 in Case No: TP - 77 / 18-19				
e_{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 32 of the Order dated 03.02.2022	MU	10480
pp_{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 92 of the Order dated 03.02.2022	Rs.	28892238000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 92 of the Order dated 03.02.2022	Rs.	15903340000
pp_{cost_ex}	Fuel cost / power purchase cost allowed for sale to person other than licensee and consumers in the Tariff Order		Rs.	
TL	Normative transmission loss in %	Not applicable	%	
DL	Normative distribution loss in %	Item 11, Para 4.7.1, Page 33 of the Order dated 03.02.2022	%	14.30
b) Values for the period from the beginning of the year up to the Applicable Month				
E_p	Total power purchase against bill	Annexure 1	MU	1108.537
E_G	Total sent out from own generation	Annexure 4	MU	1086.596
E_x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	33.678
E_{p_PSP}	Net Power drawal for pumping energy of Pumped Storage Project	Not applicable	MU	-
UI_{in}	Net power drawal in UI mode	Annexure 6	MU	9.256
UI_{out}	Net power exported in UI mode	Annexure 6	MU	-
CTU_{loss}	Loss through Inter-state transmission system for import of power from different sources	Not applicable	MU	
PP_{cost}	Total adjusted cost of power purchase from different sources	Annexure 1	Rs.	7478235271
FC	Total fuel cost of generation	Annexure 4	Rs.	3209235182
UI_{cost_in}	Power purchase cost for UI_{in}	Annexure 6	Rs.	164222590
$R-E_x$	Revenue earned on account of part of variable cost only due to Energy sold against E_x	Annexure 4	Rs.	90628954
$R-UI_{out}$	Revenue earned due to power exported in UI mode	Annexure 6	Rs.	-
c) Value to be taken from the Order of Adhoc Variable Cost or Adhoc Power Purchase Cost				
$Adhoc_V_{cost}$	Adhoc Variable Cost or Adhoc Power Purchase Cost	Not applicable	Rs./kWh	-

Calculations in accordance with the Fuel Surcharge Formula in Paragraph A of Schedule - 7B of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 read with applicable Regulations

Calculation of MVCA for the Month of June 2022

d) Values to be taken for the balance period of the year				
P_{proj}	Projected power purchase cost for the balance period of the year beyond the month under consideration for the balance energy projected to be procured	Annexure 3	Rs.	26162194372
FC_{proj}	Projected Fuel cost for the generating stations of the Licensee for the balance period of the year beyond the month under consideration	Annexure 5	Rs.	14224063818
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	5131.037
$E_{P_PSP_proj}$	Projected net drawal of pumping energy of pump storage project for the balance period of the year	Not Applicable		-
E_{G_proj}	Projected ex-bus generation to be supplied from own generating station for the balance period of the year	Annexure 5	MU	5092.525
E_{x_proj}	Projected energy to be sold to person other than consumer and licensee including swap out for the balance period of the year from the month under consideration to the end of the year		MU	-
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	-
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_P + E_G + U_{lin} + E_{proj} + E_{G_proj}$	MU	12427.951
$Tot_{ENR_consumer}$	Total energy supplied for the consumers and licensee	$Tot_{ENR} - U_{out} - E_x - E_{x_proj} - (E_{P_PSP} + E_{P_PSP_proj}) / (1 - TL)$	MU	12394.273
MVC	Total variable cost	$PP_{cost} + FC + U_{costin} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	51796102233
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs.	51705473280
E_{SC}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	10621.892
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2021-22 upto the month under consideration	Annexure 8	Rs.	558151000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{SC} \times 10^6)$	Rs./kWh	4.8678
$mvc_{consumer}$	Variable cost considered in the Order dated 03.02.2022 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	44795578000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 03.02.2022 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.2744
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	59.00

* MVCA charged from April 2019 has been subsumed into tariff pursuant to MYT Order issued on 3 February 2022. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).

Values to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				
			HEL	Cogeneration	Renewable	Supplemental	TOTAL
<i>Power Purchase Quantum</i>							
April 2022	MVCA Worksheet for May 2022	MU	385.317	10.495	63.476	101.828	561.116
May 2022	Annexure 2	MU	376.235	6.355	22.384	142.447	547.421
E_p (Total)		MU	761.553	16.850	85.860	244.274	1108.537
<i>Cost of Power Purchase</i>							
April 2022	MVCA Worksheet for May 2022	Rs	2057179994	32817617	725203670	1170823602	3986024883
May 2022	Annexure 2	Rs	2052879840	21079679	208111889	1210138980	3492210389
PP_{cost} (Total)		Rs	4110059834	53897296	933315559	2380962583	7478235271

Power purchase cost of Haldia Energy Limited has been submitted in accordance with bills raised by Haldia Energy Limited.

Power Purchase details for the month of May 2022

Power Purchase Cost Analysis

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	376.235
Power Purchase Cost			
Energy Charge	Rs.	B	1043789942
Fixed Charge	Rs.	C	818571673
MFCA	Rs.	D	56954254
Other Charges *	Rs.	E	133563971
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	2052879840

Note: Power purchase cost of Haldia Energy Limited has been submitted in accordance with bills raised by Haldia Energy Limited.

Particulars	Unit	Derivation	Cogeneration	Renewable	Exchange	Short Term Power	Overall
Power Purchase Quantum & cost							
Chargeable Units (Annexure 1)	MU	A	6.355	22.384	119.497	22.950	171.185
Cost of Other Power Purchase (Annexure 1)	Rs.	B	21079679	208111889	1133711603	76427378	1439330549

* Includes amount relating to past period in terms of order dated 25.06.2021 respectively

Values in terms of Order in Case Nos : TP - 77 / 18 - 19 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Renewable	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	3340.144	89.951	4.164	1696.778
Projected Power Purchase cost	Rs.	P_{proj}	18445495555	298379130	31396560	7386923127

Projected values are considered in terms of Regulations. Projected rate for Power purchase cost of Haldia Energy Limited has been submitted in accordance with bills raised by Haldia Energy Limited.

Values to be considered for ex-bus generation for the period up to the month under consideration

Particulars	Reference / Basis	Unit	Amount		
			Budge Budge	Southern	Total
<i>Generation Quantum</i>					
April 2022	MVCA Worksheet for May 2022	MU	480.110	82.551	562.662
May 2022	Annexure 5	MU	438.427	85.508	523.935
E_G (Total)		MU	918.537	168.059	1086.596
<i>Fuel Cost of Generation</i>					
April 2022	MVCA Worksheet for May 2022	Rs	1282582419	290974463	1573556882
May 2022	Annexure 5	Rs	1318462264	317216036	1635678300
FC (Total)		Rs.	2601044683	608190499	3209235182

Kindly refer to the Note under the worksheet for the month

Energy sold to persons other than own consumers and WBSEDCL including permissible losses

Particulars	Reference / Basis	Unit	Amount		
			Budge Budge	Southern	Total
<i>Quantum</i>					
April 2022	MVCA Worksheet for May 2022	MU	31.713	-	31.713
May 2022	Annexure 5	MU	1.965	-	1.965
E_x (Total)		MU	33.678	-	33.678
<i>Revenue</i>					
April 2022	MVCA Worksheet for May 2022	Rs	84718209	-	84718209
May 2022	Annexure 5	Rs	5910744	-	5910744
R-E_x (Total)		Rs.	90628954	-	90628954

Kindly refer to the Note under the worksheet for the month

* Furnished on the basis of energy settled during the year.

Cost of fuel for the month of May 2022 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	481.788	93.965	575.752
Auxiliary Consumption	B	MU	43.361	8.457	51.818
Energy sent out	$C = A - B$	MU	438.427	85.508	523.935
Permitted Heat Rate	D	kCal/kWh generated	2470	2900	
Permitted Oil Consumption	E	ml/kWh	1.30	2.10	
Heat Value of Oil	F	kCal/Litre	9531	9521	
Heat Value of Coal	G	kCal/Kg	3726	4790	
Overall Permitted Heat	$H = A * D$	GCal	1190016	272497	
Permitted Heat from Oil	$I = F * A * E / 10^3$	GCal	5969	1879	
Permitted Heat from Coal	$J = G - I$	GCal	1184047	270618	
Permitted Oil Consumption	$K = (I / F) * 10^3$	KL	626	197	
Permitted Coal Consumption	$L = J / G / .9925 * 10^3$	Tonne	320170	56928	
Cost of Oil per KL	M	Rs./KL	50000	63000	
Cost of Coal per Tonne	N	Rs./Tonne	4020	5354	
Cost of Oil	$O = K * M$	Rs.	31300000	12411000	43711000
Cost of Coal	$P = L * N$	Rs.	1287162264	304805036	1591967300
Cost of Fuel	$Q = O + P$	Rs.	1318462264	317216036	1635678300
Energy sold to persons other than own consumers and WBSSEDCL including permissible losses	A1	MU	1.965		1.965
Cost of Units sold to persons other than consumers	$R = A1 / C * Q$	Rs.	5910744		5910744
Net Fuel Cost	$S = Q - R$	Rs.	1312551520	317216036	1629767556

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 3 February 2022.

Values in terms of Order in Case Nos : TP -77 / 18 - 19 to be considered for projected values of ex-bus generation for balance period of the year in terms of applicable Regulations

Station	Particulars	Unit	Budge Budge	Southern	Overall
Projected Ex-bus generation	E_{G_proj}	MU	4373.511	719.014	5092.525
Projected fuel cost of generation	FC_{proj}	Rs.	11677274370	2546789448	14224063818

Projection considers effect of Coal Price Notification No. CIL/M&S/Pricing:194 dated 27 November 2020 and BCCL/M&S/SA/20/362 dated 20 October 2020

UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2022	MVCA Worksheet for May 2022	MU	5.444464
May 2022	Annexure 7	MU	3.811607
UI_{in} (Total)		MU	9.256071
<i>Amount Payable</i>			
April 2022	MVCA Worksheet for May 2022	Rs	117384702
May 2022	Annexure 7	Rs	46837888
$UI\ cost_{in}$ (Total)		Rs.	164222590

UI charge details for the Month of May 2022

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	6	(-) 109.353520	(-) 109.685227	0.331707	8611989
2	7	(-) 114.361606	(-) 114.738087	0.376481	2368489
3	8	(-) 135.005693	(-) 136.579492	1.573799	20415426
4	9	(-) 132.997429	(-) 134.536404	1.538975	15585339
Adjustment on account of DSM Charges for Week 4		-	-	(-) 0.009355	(-) 143355
Total (Annexure 6)				3.811607	46837888

Computation of Δ_{adj} **Annexure 8**

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	940.566
Energy Sales for remaining period	B	MU	9681.327
Energy Sales	$C = A + B (E_{SC})$	MU	10621.892
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	51147322280
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	4020353805
Cost recoverable through balance period	$F = D - E$	Rs.	47126968475
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	4.8678
Underrecovery at Rs.4.8678 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	558151647
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	558151000

Kindly refer to the Note under the worksheet for the month