

Petition for Approval of FPPC for the year 2019-20

Volume - 3

Appendix – Part B

Submitted to

**THE HON'BLE WEST BENGAL
ELECTRICITY REGULATORY COMMISSION**

by



**CESC HOUSE
CHOWRINGHEE SQUARE
KOLKATA 700 001**

2019-20

INDEX

Sl. No.	Contents	Pages
1.	MVCA Worksheets	2
2.	Fuel parameters – Station wise details	156
3.	Gist of FPPC Petition	171



CORP:SERV:2342

7 June 2019

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
FD-415A, Poura Bhawan (3rd Floor)
Sector III,
Bidhannagar
Kolkata - 700 106

Sir,

MVCA – May 2019

We enclose herewith MVCA calculations of CESC Limited for May 2019, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,



Executive Director
(Regulatory Affairs & Corporate Services)

Encl.



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 May 2019

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e_{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
pp_{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	507.474
E_G	Total sent out from own generation	Annexure 4	MU	501.554
E_x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	0.383
E_{p_PSP}	Net Power drawal for pumping energy of Pumped Storage Project	Not applicable	MU	-
U_{i_in}	Net power drawal in UI mode	Annexure 6	MU	1.641
U_{i_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.	2560349296
FC	Total fuel cost of generation	Annexure 4	Rs.	1426391648
$U_{i_cost_in}$	Power purchase cost for U_{i_in}	Annexure 6	Rs.	10375785
$R-E_x$	Revenue earned on account of part of variable cost only due to Energy sold against E_x	Annexure 4	Rs.	3109477
$R-U_{i_out}$	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 May 2019

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.	25224393943
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.	15075863320
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	4895.869
$E_{P_PSP_proj}$	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	5541.246
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	1.321
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	6188336
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_p + E_G + U_{in} + E_{proj} + E_{G_proj}$	MU	11447.785
$Tot_{ENR_consumer}$	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	11446.080
MVC	Total variable cost	$PP_{cost} + FC + U_{costin} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	44297373992
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs.	44288076179
E_{sc}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	9809.291
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration		Rs.	
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{sc} \times 10^6)$	Rs./kWh	4.5149
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	42.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	Annexure 2	MU	321 875	8 620	-	176 979	507.474
E_p (Total)		MU	321 875	8 620	-	176 979	507.474
<i>Cost of Power Purchase</i>							
April 2019	Annexure 2	Rs	1829437497	31130596	-	699781204	2560349296
PP_{cost} (Total)		Rs	1829437497	31130596	-	699781204	2560349296



Power Purchase details for the month of April 2019**Power Purchase Cost Analysis**

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	321 875
Power Purchase Cost			
Energy Charge	Rs.	B	892977518
Fixed Charge	Rs.	C	753083083
MFCA	Rs	D	48783245
Other Charges	Rs	E	134593650
Power Purchase cost (Annexure 1)	Rs	F= Sum(B:E)	1829437497

Particulars	Unit	Derivation	Cogeneration	Exchange	Short Term Power	Emergency Power (WBSEDCL)	Overall
Power Purchase Quantum							
Chargeable Units (Annexure 1)	MU	A	8 620	151.917	23.175	1.888	185.599
Cost of Other Power Purchase (Annexure 1)	Rs	B	31130596	574582252	110468838	14730113	730911800



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	3539.016	99.148	0.918	1256.787
Projected Power Purchase cost	Rs.	P_{proj}	19890856302	358065946	6100110	4969371585



Values in terms of Order in Case No : TP - 72 / 16 - 17 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 2019	Annexure 5	MU	460.597	40.957	501.554
E_G (Total)		MU	460.597	40.957	501.554
<i>Fuel Cost of Generation</i>					
April 2019	Annexure 5	Rs	1296483241	129908407	1426391648
FC (Total)		Rs.	1296483241	129908407	1426391648

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 2019	Annexure 5	MU	0.383	-	0.383
E_x (Total)		MU	0.383	-	0.383
<i>Revenue</i>					
April 2019	Annexure 5	Rs	3109477	-	3109477
R-E_x (Total)		Rs.	3109477	-	3109477

Kindly refer to the Note under the worksheet for the month



Cost of fuel for the month of April 2019 in terms of applicable Regulations

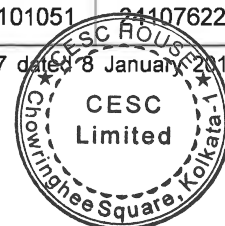
Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	506.150	45.008	551.158
Auxiliary Consumption	B	MU	45.554	4.051	49.604
Energy sent out	$C = A - B$	MU	460.597	40.957	501.554
Permitted Heat Rate	D	kCal/kWh generated	2470	2900	
Permitted Oil Consumption	E	ml/kWh	1.30	2.10	
Heat Value of Oil	F	kCal/Litre	9567	9563	
Heat Value of Coal (Annexure 8)	G	kCal/Kg	3656	5095	
Overall Permitted Heat	$H=A*D$	GCal	1250191	130524	
Permitted Heat from Oil	$I=F*A*E/10^3$	GCal	6295	904	
Permitted Heat from Coal	$J=G-I$	GCal	1243896	129620	
Permitted Oil Consumption	$K=(I/F)*10^3$	KL	658	95	
Permitted Coal Consumption	$L=J/G/.9925*10^3$	Tonne	342805	25633	
Cost of Oil per KL	M	Rs./KL	44000	51000	
Cost of Coal per Tonne (Annexure 8)	N	Rs./Tonne	3698	4879	
Cost of Oil	$O=K*M$	Rs.	28952000	4845000	33797000
Cost of Coal	$P=L*N$	Rs.	1267531241	125063407	1392594648
Cost of Fuel	$Q=O+P$	Rs.	1296483241	129908407	1426391648
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	0.383489		0.383489
Cost of Units sold to persons other than consumers	$R=A1/C*Q$	Rs.	1079441		1079441
Net Fuel Cost	$S=Q-R$	Rs.	1295403801	129908407	1425312208

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	4750.820	790.426	5541.246
Projected fuel cost of generation	FC_{proj}	Rs.	12665101051	2410762269	15075863320

Projection considers effect of Coal Price Notification No. CIL:S&M:GM(F)/Pricing 2018/07 dated 8 January 2018 and BCCL/S&M/SA/F-Pricing/13/572 dated 13 January 2017



UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	Annexure 7	MU	1.641239
UI_{in} (Total)		MU	1.641239
<i>Amount Payable</i>			
April 2019	Annexure 7	Rs	10375785
$UI\ cost_{in}$ (Total)		Rs.	10375785



UI charge details for the month of April 2019

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	1	(-) 103.168969	(-) 103.725050	0.556081	4336388
2	2	(-) 105.491621	(-) 105.640260	0.148639	1552635
3	3	(-) 125.430082	(-) 125.603110	0.173028	693963
4	4	(-) 128.632289	(-) 129.395780	0.763491	3792799
Total (Annexure 6)				1.641239	10375785



Coal Cost Details - CESC April 2019

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G4	6101	20834	4574	6.1%	5677
		G7	5201	29557	3197	8.6%	4363
		G8	4901	31084	2804	9.1%	3994
		G9	4601	1316	2087	0.4%	3664
		WIV		31361	3942	9.1%	3854
		WIV _{RCR, e-auction}		68310	4227	19.9%	3854
		NCW		3880	3197	1.1%	2878
	Captive	ROM and Washed		156464	1338	45.6%	3079
	Overall			342805	2665	100.0%	3656
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	1032		
Landed Cost				Rs / MT	3698		
Total Cost (Rs. Lakhs)				Rs Lakhs	12675		

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Southern Generating Station	Coal India Limited	G4	6101	16772	4558	65.4%	5677
		G8	4901	8861	2744	34.6%	3994
		Overall			25633	3931	100.0%
Transportation / Washing Charges/ Handling/KPT Charges etc.				Rs / MT	948		
Landed Cost				Rs / MT	4879		
Total Cost (Rs. Lakhs)				Rs Lakhs	1251		

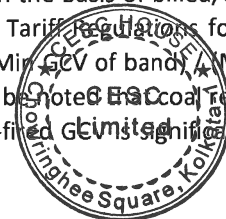
* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 70.73% have been considered for captive washed coal (finalised yield is 70.73%, for the latest available year, furnished through the FPPCA petition 2017-18)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G9: Interpolated UHV = (GCV-Min GCV of band) / (Max GCV of band - Min GCV of band) * (Max UHV of band - Min UHV of band) + Min UHV of band. It may be noted that coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as-fired GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.





**RP-Sanjiv Goenka
Group**

Growing Legacies



**CESC
LIMITED**
Enrging Lives - Since 1999

CORP:SERV:2345

6 July 2019

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
FD-415A, Poura Bhawan (3rd Floor)
Sector III,
Bidhannagar
Kolkata - 700 106

Sir,

MVCA – June 2019

We enclose herewith MVCA calculations of CESC Limited for June 2019, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,

Executive Director
(Regulatory Affairs & Corporate Services)

Encl.



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 2019

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e _{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
pp _{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	1159.657
E _G	Total sent out from own generation	Annexure 4	MU	1047.428
E _x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	0.539
E _{p-PSP}	Net Power drawal for pumping energy of Pumped Storage Project	Not applicable	MU	-
U _{i_in}	Net power drawal in UI mode	Annexure 6	MU	3.728
U _{i_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.	5790350828
FC	Total fuel cost of generation	Annexure 4	Rs.	2947931828
UI cost _{i_in}	Power purchase cost for U _{i_in}	Annexure 6	Rs.	24559864
R-E _x	Revenue earned on account of part of variable cost only due to Energy sold against E _x	Annexure 4	Rs.	3537512
R-U _{i_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 2019

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.	23314330084
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.	13556030478
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	4444.166
$E_{P_PSP_proj}$	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	5030.000
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	19.896
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	92302177
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_p + E_G + U_{in} + E_{proj} + E_{G_proj}$	MU	11684.980
$Tot_{ENR_consumer}$	Total energy supplied for the consumers and licensee	$Tot_{ENR} - U_{out} - E_{x_proj} - (E_{P_PSP} + E_{P_PSP_proj}) / (1 - TL)$	MU	11664.545
MVC	Total variable cost	$PP_{cost} + FC + U_{costin} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	45798447083
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs.	45702607394
E_{SC}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	9996.515
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 8	Rs.	165244000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{SC} \times 10^6)$	Rs./kWh	4.5719
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	48.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8.620	-	176.979	507.474
May 2019	Annexure 2	MU	365.755	9.829	0.350	276.249	652.183
E_p (Total)		MU	687.630	18.449	0.350	453.229	1159.657
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	Annexure 2	Rs	2001944420	35402097	2302383	1190352632	3230001532
PP_{cost} (Total)		Rs	3831381917	66532693	2302383	1890133836	5790350828



Power Purchase details for the month of May 2019Power Purchase Cost Analysis

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	365.755
Power Purchase Cost			
Energy Charge	Rs.	B	1014713825
Fixed Charge	Rs.	C	802503236
MFCA	Rs.	D	55382177
Other Charges	Rs.	E	129345182
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	2001944420

Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Short Term Power	Emergency Power (WBSEDCL)	Overall
Power Purchase Quantum								
Chargeable Units (Annexure 1)	MU	A	9.829	0.350	238.408	37.448	0.393	286.428
Cost of Other Power Purchase (Annexure 1)	Rs.	B	35402097	2302383	1004899066	182390889	3062678	1228057112



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	3212.500	90.000	0.833	1140.833
Projected Power Purchase cost	Rs.	P_{proj}	18068455808	324566364	5482021	4915825891



Values in terms of Order in Case No : TP - 72 / 16 - 17 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 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	Annexure 5	MU	494.647	51.227	545.874
E_G (Total)		MU	955.244	92.185	1047.428
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	Annexure 5	Rs	1362494008	159046172	1521540180
FC (Total)		Rs.	2658977249	288954579	2947931828

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 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	Annexure 5	MU	0.155	-	0.155
E_x (Total)		MU	0.539	-	0.539
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	Annexure 5	Rs	428035	-	428035
R-E_x (Total)		Rs.	3537512	-	3537512

Kindly refer to the Note under the worksheet for the month



Cost of fuel for the month of May 2019 in terms of applicable Regulations

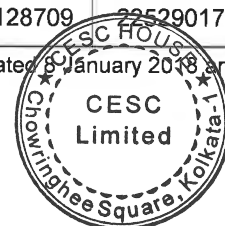
Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	543.568	56.294	599.862
Auxiliary Consumption	B	MU	48.921	5.066	53.988
Energy sent out	C = A - B	MU	494.647	51.227	545.874
Permitted Heat Rate	D	kCal/kWh generated	2470	2900	
Permitted Oil Consumption	E	ml/kWh	1.30	2.10	
Heat Value of Oil	F	kCal/Litre	9558	9558	
Heat Value of Coal (Annexure 9)	G	kCal/Kg	3709	4955	
Overall Permitted Heat	H=A*D	GCal	1342613	163252	
Permitted Heat from Oil	I=F*A*E/10^3	GCal	6754	1130	
Permitted Heat from Coal	J=G-I	GCal	1335859	162122	
Permitted Oil Consumption	K=(I/F)*10^3	KL	707	118	
Permitted Coal Consumption	L=J/G/.9925*10^3	Tonne	362889	32966	
Cost of Oil per KL	M	Rs./KL	44000	51000	
Cost of Coal per Tonne (Annexure 9)	N	Rs./Tonne	3669	4642	
Cost of Oil	O=K*M	Rs.	31108000	6018000	37126000
Cost of Coal	P=L*N	Rs.	1331386008	153028172	1484414180
Cost of Fuel	Q=O+P	Rs.	1362494008	159046172	1521540180
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	0.155396		0.155396
Cost of Units sold to persons other than consumers	R=A1/C*Q	Rs.	428035		428035
Net Fuel Cost	S=Q-R	Rs.	1362065973	159046172	1521112145

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	4312.500	717.500	5030.000
Projected fuel cost of generation	FC_{proj}	Rs.	11303128709	2252901769	13556030478

Projection considers effect of Coal Price Notification No. CIL:S&M:GM(F)/Pricing 2018/07 dated 6 January 2018 and BCCL/M&S/SA/18/142 dated 14 September 2018



UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	Annexure 7	MU	2.087139
UI_{in} (Total)		MU	3.728378
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	Annexure 7	Rs	14184079
$UI\ cost_{in}$ (Total)		Rs.	24559864



UI charge details for the month of May 2019

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	5	(-) 124.276740	(-) 124.743390	0.466650	1159738
2	6	(-) 146.710225	(-) 147.589910	0.879685	6290552
3	7	(-) 152.141841	(-) 152.786780	0.644939	4254783
4	8	(-) 155.614885	(-) 155.710750	0.095865	2479006
Total (Annexure 6)				2.087139	14184079



Computation of Δ_{adj}

Annexure 8

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	865.815
Energy Sales for remaining period	B	MU	9130.700
Energy Sales	$C = A + B (E_{SC})$	MU	9996.515
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	45537363394
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	3793136148
Cost recoverable through balance period	$F = D - E + J \text{ (including effect of } \Delta_{Adj})$	Rs.	41744227246
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	4.5719
Underrecovery at Rs.4.5719 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	165244420
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	165244000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC May 2019

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G4	6101	34191	4412	9.4%	5677
		G5	5801	23474	4104	6.5%	5238
		G8	4901	33341	2865	9.2%	3994
		G9	4601	5041	1988	1.4%	3664
		G10	4301	10343	1787	2.9%	3312
		WIV		38754	3798	10.7%	3854
	WIV _{RCR, e-auction}		38935	4093	10.7%	3854	
	Captive	ROM and Washed		178811	1516	49.3%	3041
	Overall			362889	2615	100.0%	3709
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	1054		
Landed Cost				Rs / MT	3669		
Total Cost (Rs. Lakhs)				Rs Lakhs	13314		

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Southern Generating Station	Coal India Limited	G4	6101	16373	4598	49.7%	5677
		G5	5801	3304	4299	10.0%	5238
		G7	5201	63	3212	0.2%	4363
	Overall			13226	2776	40.1%	3994
Transportation / Washing Charges/ Handling/KPT Charges etc.				Rs / MT	807		
Landed Cost				Rs / MT	4642		
Total Cost (Rs. Lakhs)				Rs Lakhs	1530		

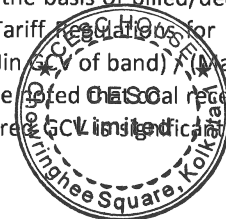
* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 70.73% have been considered for captive washed coal (finalised yield is 70.73%, for the latest available year, furnished through the FPPCA petition 2017-18)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G10: Interpolated UHV = (GCV-Min GCV of band) / (Max GCV of band - Min GCV of band) * (Max UHV of band - Min UHV of band) + Min UHV of band. It may be noted that Coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as-fired GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.



CORP:SERV:2350

7 August 2019

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
Plot No - AH/5, Premises No. MAR 16-1111
Action Area - 1A, New Town, Rajarhat
Kolkata – 700 163

Sir,

MVCA – July 2019

We enclose herewith MVCA calculations of CESC Limited for July 2019, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,



Executive Director
(Regulatory Affairs & Corporate Services)

Encl.



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 July 2019

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e _{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
pp _{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	1773.733
E _G	Total sent out from own generation	Annexure 4	MU	1563.036
E _x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	1.021
E _{p-PSP}	Net Power drawal for pumping energy of Pumped Storage Project	Not applicable	MU	-
U _{Iin}	Net power drawal in UI mode	Annexure 6	MU	11.876
U _{Iout}	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.	8845971552
FC	Total fuel cost of generation	Annexure 4	Rs.	4531757534
UI cost _{in}	Power purchase cost for U _{Iin}	Annexure 6	Rs.	42852023
R-E _x	Revenue earned on account of part of variable cost only due to Energy sold against E _x	Annexure 4	Rs.	171955018
R-U _{Iout}	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 July 2019

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.	21038501960
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.	12514177944
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	4007.035
$E_{P_PSP_proj}$	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	4535.246
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	19.888
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	92195506
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_P + E_G + U_{in} + E_{proj} + E_{G_proj}$	MU	11890.926
$Tot_{ENR_consumer}$	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	11870.018
MVC	Total variable cost	$PP_{cost} + FC + U_{costin} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	47463590013
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs.	47199439489
E_{SC}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	10172.605
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 8	Rs.	490329000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{SC} \times 10^6)$	Rs./kWh	4.6399
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unil_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	54.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8.620	-	176.979	507.474
May 2019	MVCA Worksheet for June 2019	MU	365.755	9.829	0.350	276.249	652.183
June 2019	Annexure 2	MU	360.686	10.163	0.268	242.959	614.076
E_p (Total)		MU	1048.316	28.612	0.618	696.188	1773.733
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	MVCA Worksheet for June 2019	Rs	2001944420	35402097	2302383	1190352632	3230001532
June 2019	Annexure 2	Rs	1962969746	36542961	1678589	1054429428	3055620723
PP_{cost} (Total)		Rs	5794351662	103075654	3980972	2944563264	8845971552



Power Purchase details for the month of June 2019Power Purchase Cost Analysis

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	360 686
Power Purchase Cost			
Energy Charge	Rs	B	1000650737
Fixed Charge	Rs.	C	779292409
MFCA	Rs.	D	54605076
Other Charges	Rs.	E	128421524
Power Purchase cost (Annexure 1)	Rs	F= Sum(B:E)	1962969746

Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Short Term Power	Overall
Power Purchase Quantum							
Chargeable Units (Annexure 1)	MU	A	10.163	0.268	185.742	57.217	253.390
Cost of Other Power Purchase (Annexure 1)	Rs.	B	36542961	1678589	773174168	281255260	1092650978



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	2896.516	81.148	0.751	1028.620
Projected Power Purchase cost	Rs.	P_{proj}	16277165140	292342378	4837452	4464156990



Values in terms of Order in Case No : TP - 72 / 16 - 17 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 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	MVCA Worksheet for June 2019	MU	494.647	51.227	545.874
June 2019	Annexure 5	MU	478.959	36.649	515.608
E_G (Total)		MU	1434.203	128.833	1563.036
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	MVCA Worksheet for June 2019	Rs	1362494008	159046172	1521540180
June 2019	Annexure 5	Rs	1458853007	124972699	1583825706
FC (Total)		Rs.	4117830256	413927278	4531757534

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 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	MVCA Worksheet for June 2019	MU	0.155	-	0.155
June 2019	Annexure 5	MU	0.482	-	0.482
E_x (Total)		MU	1.021	-	1.021
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	MVCA Worksheet for June 2019	Rs	428035	-	428035
June 2019	Annexure 5	Rs	168417506	-	168417506
R-E_x (Total)		Rs.	171955018	-	171955018

Kindly refer to the Note under the worksheet for the month



Cost of fuel for the month of June 2019 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	526.329	40.273	566.602
Auxiliary Consumption	B	MU	47.370	3.625	50.994
Energy sent out	C = A - B	MU	478.959	36.649	515.608
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	9569	9567	
Heat Value of Coal (Annexure 9)	G	kCal/Kg	3564	4296	
Overall Permitted Heat	H=A*D	GCal	1300032	116792	
Permitted Heat from Oil	I=F*A*E/10 ³	GCal	6547	809	
Permitted Heat from Coal	J=G-I	GCal	1293485	115983	
Permitted Oil Consumption	K=(I/F)*10 ³	KL	684	85	
Permitted Coal Consumption	L=J/G/.9925*10 ³	Tonne	365673	27202	
Cost of Oil per KL	M	Rs./KL	44000	51500	
Cost of Coal per Tonne (Annexure 9)	N	Rs./Tonne	3907	4433	
Cost of Oil	O=K*M	Rs.	30096000	4377500	34473500
Cost of Coal	P=L*N	Rs.	1428757007	120595199	1549352206
Cost of Fuel	Q=O+P	Rs.	1458853007	124972699	1583825706
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	0.482000		0.482000
Cost of Units sold to persons other than consumers	R=A1/C*Q	Rs.	1468115		1468115
Net Fuel Cost	S=Q-R	Rs.	1457384892	124972699	1582357591

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	3888.320	646.926	4535.246
Projected fuel cost of generation	FC_{proj}	Rs.	104912999255	2022878018	12514177944

Projection considers effect of Coal Price Notification No. CIL:S&M:GM(F)/Pricing 2018/07 dated 8 January 2018 and BCCL/M&S/SA/18/142 dated 14 September 2018



UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	MVCA Worksheet for June 2019	MU	2.087139
June 2019	Annexure 7	MU	8.147801
UI_{in} (Total)		MU	11.876179
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	MVCA Worksheet for June 2019	Rs	14184079
June 2019	Annexure 7	Rs	18292159
UI cost_{in} (Total)		Rs.	42852023



UI charge details for the month of June 2019

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	9	(-) 156.384323	(-) 156.747160	0.362837	(-) 101906
2	10	(-) 122.641104	(-) 123.822260	1.181156	3124546
3	11	(-) 157.164370	(-) 159.343680	2.179310	3865217
4	12	(-) 149.617718	(-) 150.412660	0.794942	689168
5	13	(-) 144.841394	(-) 148.470950	3.629556	10715134
Total (Annexure 6)				8.147801	18292159



Computation of Δ_{adj}

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	1894.206
Energy Sales for remaining period	B	MU	8278.399
Energy Sales	$C = A + B (E_{SC})$	MU	10172.605
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	46709110489
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	8298516094
Cost recoverable through balance period	$F = D - E$	Rs.	38410594394
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	4.6399
Underrecovery at Rs.4.6399 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	490329531
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	490329000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC June 2019

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G4	6101	9041	4399	2.5%	5677
		G5	5801	28355	4094	7.8%	5238
		G8	4901	17952	2644	4.9%	3994
		G10	4301	324	1791	0.1%	3312
		WIV		36528	3793	10.0%	3854
		G8 _{e-auction}	4901	13911		3.8%	3994
		G10 _{e-auction}	4301	9391		2.6%	3312
		WIV _{RCR, e-auction}		67383	4083	18.4%	3854
		NCW		36116	3037	9.9%	3422
	Captive	ROM and Washed		146672	1574	40.1%	2863
Overall				365673	2800	100.0%	3564
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	1107		
Landed Cost				Rs / MT	3907		
Total Cost (Rs. Lakhs)				Rs Lakhs	14288		

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Southern Generating Station	Coal India Limited	G4	6101	7140	4758	26.2%	5677
		G5	5801	1767	4374	6.5%	5238
		G8	4901	7642	2871	28.1%	3994
		WIV		1825	4060	6.7%	3854
		NCW		3409	3161	12.5%	3663
		G8 _{e-auction}		1789	4425	6.6%	3994
	Captive	ROM and Washed		3629	1400	13.3%	2726
	Overall				27202	3486	100.0%
Transportation / Washing Charges/ Handling/KPT Charges etc.				Rs / MT	947		
Landed Cost				Rs / MT	4433		
Total Cost (Rs. Lakhs)				Rs Lakhs	1206		

* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 70.73% have been considered for captive washed coal (finalised yield is 70.73%, for the latest available year, furnished through the FPPCA petition 2017-18)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed, declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G10: Interpolated UHV = (GCV-Min GCV of band) / (Max GCV of band - Min GCV of band) * (Max UHV of band - Min UHV of band) + Min UHV of band. It may be noted that coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as a result GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.

CORP:SERV:2358

6 September 2019

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
Plot No - AH/5, Premises No. MAR 16-1111
Action Area - 1A, New Town, Rajarhat
Kolkata – 700 163

Sir,

MVCA – August 2019

We enclose herewith MVCA calculations of CESC Limited for August 2019, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,



Executive Director
(Regulatory Affairs & Corporate Services)

Encl.



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 August 2019

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e_{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
PP_{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	2391.361
E_G	Total sent out from own generation	Annexure 4	MU	2094.571
E_X	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	2.393
E_{P-PSP}	Net Power drawal for pumping energy of Pumped Storage Project	Not applicable	MU	-
$U_{I_{in}}$	Net power drawal in UI mode	Annexure 6	MU	18.833
$U_{I_{out}}$	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.	11960576843
FC	Total fuel cost of generation	Annexure 4	Rs.	6047568017
$UI_{cost_{in}}$	Power purchase cost for $U_{I_{in}}$	Annexure 6	Rs.	58449533
$R-E_x$	Revenue earned on account of part of variable cost only due to Energy sold against E_x	Annexure 4	Rs.	564576196
$R-U_{I_{out}}$	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 August 2019

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.	18855716909
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.	11140066227
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	3555.334
$E_{P_PSP_proj}$	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	4024.000
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	31.938
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	148672815
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_P + E_G + U_{i_{in}} + E_{proj} + E_{G_proj}$	MU	12084.099
$Tot_{ENR_consumer}$	Total energy supplied for the consumers and licensee	$Tot_{ENR} - U_{i_{out}} - E_{x_proj} - (E_{P_PSP} + E_{P_PSP_proj}) / (1-TL)$	MU	12049.768
MVC	Total variable cost	$PP_{cost} + FC + U_{i_{costin}} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	48873328529
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{i_{out}} + R - E_{x_proj})$	Rs.	48160079518
E_{SC}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	10326.652
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 8	Rs.	810951000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{SC} \times 10^6)$	Rs./kWh	4.6637
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs /kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	57.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8.620	-	176.979	507.474
May 2019	MVCA Worksheet for June 2019	MU	365.755	9.829	0.350	276.249	652.183
June 2019	MVCA Worksheet for July 2019	MU	360.686	10.163	0.268	242.959	614.076
July 2019	Annexure 2	MU	389.801	11.390	0.177	216.260	617.628
E_p (Total)		MU	1438.117	40.001	0.795	912.448	2391.361
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	MVCA Worksheet for June 2019	Rs	2001944420	35402097	2302383	1190352632	3230001532
June 2019	MVCA Worksheet for July 2019	Rs	1962969746	36542961	1678589	1054429428	3055620723
July 2019	Annexure 2	Rs	2092162915	40877784	1270526	980294066	3114605291
PP_{cost} (Total)		Rs	7886514577	143953438	5251497	3924857330	11960576843



Power Purchase details for the month of July 2019Power Purchase Cost Analysis

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	389.801
Power Purchase Cost			
Energy Charge	Rs.	B	1081425758
Fixed Charge	Rs.	C	816523160
MFCA	Rs.	D	58989137
Other Charges	Rs.	E	135224861
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	2092162915

Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Short Term Power	Overall
Power Purchase Quantum							
Chargeable Units (Annexure 1)	MU	A	11.390	0.177	97.327	118.933	227.827
Cost of Other Power Purchase (Annexure 1)	Rs.	B	40877784	1270526	392686447	587607619	1022442376



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	2570.000	72.000	0.667	912.667
Projected Power Purchase cost	Rs.	P_{proj}	14454764646	259108396	4778622	4137065245



Values in terms of Order in Case No : TP - 72 / 16 - 17 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 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	MVCA Worksheet for June 2019	MU	494.647	51.227	545.874
June 2019	MVCA Worksheet for July 2019	MU	478.959	36.649	515.608
July 2019	Annexure 5	MU	493.520	38.015	531.534
E_G (Total)		MU	1927.722	166.848	2094.571
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	MVCA Worksheet for June 2019	Rs	1362494008	159046172	1521540180
June 2019	MVCA Worksheet for July 2019	Rs	1458853007	124972699	1583825706
July 2019	Annexure 5	Rs	1390314633	125495850	1515810483
FC (Total)		Rs.	5508144889	539423128	6047568017

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 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	MVCA Worksheet for June 2019	MU	0.155	-	0.155
June 2019	MVCA Worksheet for July 2019	MU	0.482	-	0.482
July 2019	Annexure 5	MU	1.372	-	1.372
E_x (Total)		MU	2.393	-	2.393
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	MVCA Worksheet for June 2019	Rs	428035	-	428035
June 2019	MVCA Worksheet for July 2019	Rs	168417506	-	168417506
July 2019	Annexure 5	Rs	392621178	-	392621178
R-E_x (Total)		Rs.	564576196	-	564576196

Kindly refer to the Note under the worksheet for the month



Cost of fuel for the month of July 2019 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	542.329	41.775	584.104
Auxiliary Consumption	B	MU	48.810	3.760	52.569
Energy sent out	C = A - B	MU	493.520	38.015	531.534
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	9553	9573	
Heat Value of Coal (Annexure 9)	G	kCal/Kg	3760	4860	
Overall Permitted Heat	H=A*D	GCal	1339553	121146	
Permitted Heat from Oil	I=F*A*E/10 ³	GCal	6735	840	
Permitted Heat from Coal	J=G-I	GCal	1332818	120306	
Permitted Oil Consumption	K=(I/F)*10 ³	KL	705	88	
Permitted Coal Consumption	L=J/G/.9925*10 ³	Tonne	357152	24941	
Cost of Oil per KL	M	Rs./KL	44000	51500	
Cost of Coal per Tonne (Annexure 9)	N	Rs./Tonne	3806	4850	
Cost of Oil	O=K*M	Rs.	31020000	4532000	35552000
Cost of Coal	P=L*N	Rs.	1359294633	120963850	1480258483
Cost of Fuel	Q=O+P	Rs.	1390314633	125495850	1515810483
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	1.372337		1.372337
Cost of Units sold to persons other than consumers	R=A1/C*Q	Rs.	3866067		3866067
Net Fuel Cost	S=Q-R	Rs.	1386448565	125495850	1511944415

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	3450.000	574.000	4024.000
Projected fuel cost of generation	FC _{proj}	Rs.	9329114637	1810951590	11140066227

Projection considers effect of Coal Price Notification No. CIL:S&M:GM(F)/Pricing 2018/07 dated 05 January 2018 and BCCL/M&S/SA/18/142 dated 14 September 2018



UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	MVCA Worksheet for June 2019	MU	2.087139
June 2019	MVCA Worksheet for July 2019	MU	8.147801
July 2019	Annexure 7	MU	6.957231
UI_{in} (Total)		MU	18.833410
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	MVCA Worksheet for June 2019	Rs	14184079
June 2019	MVCA Worksheet for July 2019	Rs	18292159
July 2019	Annexure 7	Rs	15597510
UI cost_{in} (Total)		Rs.	58449533



UI charge details for the month of July 2019

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	14	(-) 127.714493	(-) 128.966400	1.251907	710080
2	15	(-) 140.188307	(-) 143.312870	3.124563	8011605
3	16	(-) 149.030787	(-) 151.397770	2.366983	8223597
4	17	(-) 143.395242	(-) 143.609020	0.213778	(-) 1347772
Total (Annexure 6)				6.957231	15597510



Computation of Δ_{adj}

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	2868.914
Energy Sales for remaining period	B	MU	7457.738
Energy Sales	$C = A + B (E_{SC})$	MU	10326.652
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	47349128518
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	12568712878
Cost recoverable through balance period	$F = D - E$	Rs.	34780415639
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	4.6637
Underrecovery at Rs.4.6637 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	810951091
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	810951000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC July 2019

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G4	6101	18008	4442	5.0%	5677
		G5	5801	39920	4137	11.2%	5238
		G8	4901	29582	2676	8.3%	3994
		WIV		22128	3821	6.2%	3854
		G8 _{e-auction}	4901	4926	3553	1.4%	3994
		WIV _{RCR, e-auction}		62188	4185	17.4%	3854
	NCW		31304	3029	8.8%	3713	
	Captive	ROM and Washed		149095	1459	41.7%	3035
Overall			357152	2797	100.0%	3760	
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	1009		
Landed Cost				Rs / MT	3806		
Total Cost (Rs. Lakhs)				Rs Lakhs	13593		

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Southern Generating Station	Coal India Limited	G4	6101	13194	4142	52.9%	5677
		G8	4901	7508	2499	30.1%	3994
		WIV _{e-auction}		4239	3883	17.0%	3854
	Overall			24941	3603	100.0%	4860
Transportation / Washing Charges/ Handling/KPT Charges etc.				Rs / MT	1247		
Landed Cost				Rs / MT	4850		
Total Cost (Rs. Lakhs)				Rs Lakhs	1210		

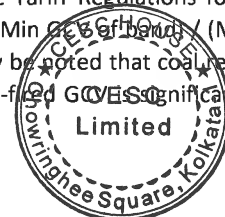
* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 74.06% have been considered for captive washed coal (finalised yield is 74.06%, for the latest available year, furnished through the FPPCA petition 2018-19)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G8: Interpolated UHV = $(GCV - \text{Min GCV of band}) / (\text{Max GCV of band} - \text{Min GCV of band}) * (\text{Max UHV of band} - \text{Min UHV of band}) + \text{Min UHV of band}$. It may be noted that coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as-fid GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.



CORP:SERV:2363

1 October 2019

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
Plot No - AH/5, Premises No. MAR 16-1111
Action Area - 1A, New Town, Rajarhat
Kolkata – 700 163

Sir,

MVCA – September 2019

We enclose herewith MVCA calculations of CESC Limited for September 2019, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,



Executive Director
(Regulatory Affairs & Corporate Services)

Encl.



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 September 2019

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e _{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
pp _{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	2930.822
E _G	Total sent out from own generation	Annexure 4	MU	2610.380
E _x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	8.801
E _{p-PSP}	Net Power drawal for pumping energy of Pumped Storage Project	Not applicable	MU	-
U _{I_in}	Net power drawal in UI mode	Annexure 6	MU	21.470
U _{I_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.	14761259081
FC	Total fuel cost of generation	Annexure 4	Rs.	7665441424
UI cost _{in}	Power purchase cost for U _{I_in}	Annexure 6	Rs.	58663457
R-E _x	Revenue earned on account of part of variable cost only due to Energy sold against E _x	Annexure 4	Rs.	996605899
R-U _{I_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 September 2019

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.	16644109198
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.	9814583501
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	3103.631
$E_{P_PSP_proj}$	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	3512.754
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	31.971
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	150061593
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_p + E_G + U_{in} + E_{proj} + E_{G_proj}$	MU	12179.057
$Tot_{ENR_consumer}$	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	12138.285
MVC	Total variable cost	$PP_{cost} + FC + U_{costin} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	50255391661
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs.	49108724169
E_{SC}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	10402.510
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 8	Rs.	1311335000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{SC} \times 10^6)$	Rs./kWh	4.7209
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	62.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8.620	-	176.979	507.474
May 2019	MVCA Worksheet for June 2019	MU	365.755	9.829	0.350	276.249	652.183
June 2019	MVCA Worksheet for July 2019	MU	360.686	10.163	0.268	242.959	614.076
July 2019	MVCA Worksheet for August 2019	MU	389.801	11.390	0.177	216.260	617.628
August 2019	Annexure 2	MU	380.576	11.418	0.167	147.299	539.461
E_p (Total)		MU	1818.693	51.419	0.963	1059.747	2930.822
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	MVCA Worksheet for June 2019	Rs	2001944420	35402097	2302383	1190352632	3230001532
June 2019	MVCA Worksheet for July 2019	Rs	1962969746	36542961	1678589	1054429428	3055620723
July 2019	MVCA Worksheet for August 2019	Rs	2092162915	40877784	1270526	980294066	3114605291
August 2019	Annexure 2	Rs	2059345593	40978071	1252913	699105662	2800682239
PP_{cost} (Total)		Rs	9945860170	184931509	6504410	4623962992	14761259081



Power Purchase details for the month of August 2019**Power Purchase Cost Analysis**

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	380.576
Power Purchase Cost			
Energy Charge	Rs.	B	1055833256
Fixed Charge	Rs.	C	816523160
MFCA	Rs.	D	57605409
Other Charges	Rs.	E	129383768
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	2059345593

Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Short Term Power	Overall
Power Purchase Quantum							
Chargeable Units (Annexure 1)	MU	A	11.418	0.167	34.866	112.433	158.884
Cost of Other Power Purchase (Annexure 1)	Rs.	B	40978071	1252913	138335806	560769857	741336646



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	2243.484	62.852	0.582	796.713
Projected Power Purchase cost	Rs.	P_{proj}	12632364153	226049276	4362128	3781333641



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for ex-bus generation for the period up to the month under consideration

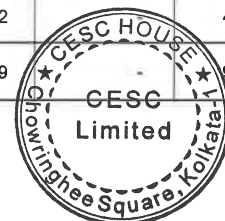
Particulars	Reference / Basis	Unit	Amount		
			Budge Budge	Southern	Total
<i>Generation Quantum</i>					
April 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	MVCA Worksheet for June 2019	MU	494.647	51.227	545.874
June 2019	MVCA Worksheet for July 2019	MU	478.959	36.649	515.608
July 2019	MVCA Worksheet for August 2019	MU	493.520	38.015	531.534
August 2019	Annexure 5	MU	491.498	24.311	515.809
E_G (Total)		MU	2419.220	191.160	2610.380
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	MVCA Worksheet for June 2019	Rs	1362494008	159046172	1521540180
June 2019	MVCA Worksheet for July 2019	Rs	1458853007	124972699	1583825706
July 2019	MVCA Worksheet for August 2019	Rs	1390314633	125495850	1515810483
August 2019	Annexure 5	Rs	1523398592	94474816	1617873408
FC (Total)		Rs	7031543481	633897944	7665441424

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 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	MVCA Worksheet for June 2019	MU	0.155	-	0.155
June 2019	MVCA Worksheet for July 2019	MU	0.482	-	0.482
July 2019	MVCA Worksheet for August 2019	MU	1.372	-	1.372
August 2019	Annexure 5	MU	6.408	-	6.408
E_x (Total)		MU	8.801	-	8.801
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	MVCA Worksheet for June 2019	Rs	428035	-	428035
June 2019	MVCA Worksheet for July 2019	Rs	168417506	-	168417506
July 2019	MVCA Worksheet for August 2019	Rs	392621178	-	392621178
August 2019	Annexure 5	Rs	432029702	-	432029702
R-E_x (Total)		Rs	996605899	-	996605899

Kindly refer to the Note under the worksheet for the month



Cost of fuel for the month of August 2019 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	540.107	26.716	566.823
Auxiliary Consumption	B	MU	48.610	2.404	51.014
Energy sent out	$C = A - B$	MU	491.498	24.311	515.809
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	9570	9578	
Heat Value of Coal (Annexure 9)	G	kCal/Kg	3571	4099	
Overall Permitted Heat	$H=A*D$	GCal	1334065	77476	
Permitted Heat from Oil	$I=F*A*E/10^3$	GCal	6719	537	
Permitted Heat from Coal	$J=G-I$	GCal	1327346	76939	
Permitted Oil Consumption	$K=(I/F)*10^3$	KL	702	56	
Permitted Coal Consumption	$L=J/G/0.9925*10^3$	Tonne	374510	18912	
Cost of Oil per KL	M	Rs./KL	44000	51500	
Cost of Coal per Tonne (Annexure 9)	N	Rs./Tonne	3985	4843	
Cost of Oil	$O=K*M$	Rs.	30888000	2884000	33772000
Cost of Coal	$P=L*N$	Rs.	1492510592	91590816	1584101408
Cost of Fuel	$Q=O+P$	Rs.	1523398592	94474816	1617873408
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	6.408278		6.408278
Cost of Units sold to persons other than consumers	$R=A1/C*Q$	Rs.	19862479		19862479
Net Fuel Cost	$S=Q-R$	Rs.	1503536113	94474816	1598010929

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	3011.680	501.074	3512.754
Projected fuel cost of generation	FC_{proj}	Rs.	8210598867	1603984634	9814583501

Projection considers effect of Coal Price Notification No. CIL:S&M:GM(F)/Pricing 2018/07 dated 23 January 2018 and BCCLM&S/SA/18/142 dated 14 September 2018



UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	MVCA Worksheet for June 2019	MU	2.087139
June 2019	MVCA Worksheet for July 2019	MU	8.147801
July 2019	MVCA Worksheet for August 2019	MU	6.957231
August 2019	Annexure 7	MU	2.636838
UI_{in} (Total)		MU	21.470248
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	MVCA Worksheet for June 2019	Rs	14184079
June 2019	MVCA Worksheet for July 2019	Rs	18292159
July 2019	MVCA Worksheet for August 2019	Rs	15597510
August 2019	Annexure 7	Rs	213924
$UI\ cost_{in}$ (Total)		Rs.	58663457



UI charge details for the month of August 2019

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	18	(-) 128.630582	(-) 128.903550	0.272968	(-) 811226
2	19	(-) 128.123342	(-) 128.658790	0.535448	(-) 142614
3	20	(-) 106.315330	(-) 106.475880	0.160550	(-) 2058152
4	21	(-) 120.108278	(-) 121.776150	1.667872	3225916
Total (Annexure 6)				2.636838	213924



Computation of Δ_{adj}

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	3858.533
Energy Sales for remaining period	B	MU	6543.977
Energy Sales	$C = A + B (E_{SC})$	MU	10402.510
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	47797389169
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	16904232577
Cost recoverable through balance period	$F = D - E$	Rs.	30893156592
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	4.7209
Underrecovery at Rs.4.7209 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	1311335263
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	1311335000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC August 2019

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G4	6101	12351	4529.15	3.3%	5677
		G5	5801	59745	4231.36	16.0%	5238
		WIV		49275	3917.45	13.2%	3854
		G10 _{e aurtinn}	4301	5308	2129.91	1.4%	3312
		G11 _{RCR, e-auction}	4001	75448	2062.51	20.1%	2684
	WIV _{RCR, e-auction}		35783	4232.43	9.6%	3854	
	Captive	ROM and Washed		136601	1610.08	36.5%	2976
	Overall			374510	2777	100.0%	3571
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	1208		
Landed Cost				Rs / MT	3985		
Total Cost (Rs. Lakhs)				Rs Lakhs	14925		

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Southern Generating Station	Coal India Limited	G4	6101	8939	4516	47.3%	5677
		G11 _{RCR, e-auction}	4001	9973	2038	52.7%	2684
	Overall			18912	3210	100.0%	4099
Transportation / Washing Charges/ Handling/KPT Charges etc.				Rs / MT	1633		
Landed Cost				Rs / MT	4843		
Total Cost (Rs. Lakhs)				Rs Lakhs	916		

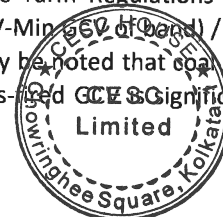
* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 74.06% have been considered for captive washed coal (finalised yield is 74.06%, for the latest available year, furnished through the FPPCA petition 2018-19)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G11: Interpolated UHV = (GCV-Min GCV of band) / (Max GCV of band - Min GCV of band) * (Max UHV of band - Min UHV of band) + Min UHV of band. It may be noted that coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as noted by CESC significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.





**RP - Sanjiv Goenka
Group**

Growing Legacies



CORP:SERV:2367

6 November 2019

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
Plot No - AH/5, Premises No. MAR 16-1111
Action Area - 1A, New Town, Rajarhat
Kolkata – 700 163

Sir,

MVCA – October 2019

We enclose herewith MVCA calculations of CESC Limited for October 2019, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,

Executive Director
(Regulatory Affairs & Corporate Services)

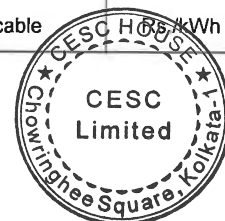
Encl.



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 October 2019

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e _{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
PP _{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	3430.774
E _G	Total sent out from own generation	Annexure 4	MU	3121.415
E _x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	8.867
E _{p.PSP}	Net Power drawal for pumping energy of Pumped Storage Project	Not applicable	MU	-
U _{i_in}	Net power drawal in UI mode	Annexure 6	MU	26.888
U _{i_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.	17273725976
FC	Total fuel cost of generation	Annexure 4	Rs.	9228624767
UI cost _{in}	Power purchase cost for U _{i_in}	Annexure 6	Rs.	67990140
R-E _x	Revenue earned on account of part of variable cost only due to Energy sold against E _x	Annexure 4	Rs.	1093390942
R-U _{i_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./Wh	-



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 October 2019

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.	14000008395
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.	8532349700
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	2666.500
$E_{P_PSP_proj}$	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	3018.000
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	31.985
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	150116573
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_P + E_G + U_{in} + E_{proj} + E_{G_proj}$	MU	12263.577
$Tot_{ENR_consumer}$	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	12222.725
MVC	Total variable cost	$PP_{cost} + FC + U_{costin} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	50742296978
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs.	49498789462
E_{SC}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	10474.876
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 8	Rs.	1639598000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{SC} \times 10^6)$	Rs./kWh	4.7255
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	63.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8.620	-	176.979	507.474
May 2019	MVCA Worksheet for June 2019	MU	365.755	9.829	0.350	276.249	652.183
June 2019	MVCA Worksheet for July 2019	MU	360.686	10.163	0.268	242.959	614.076
July 2019	MVCA Worksheet for August 2019	MU	389.801	11.390	0.177	216.260	617.628
August 2019	MVCA Worksheet for September 2019	MU	380.576	11.418	0.167	147.299	539.461
September 2019	Annexure 2	MU	371.073	7.979	0.179	120.720	499.952
E_p (Total)		MU	2189.767	59.398	1.142	1180.467	3430.774
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	MVCA Worksheet for June 2019	Rs	2001944420	35402097	2302383	1190352632	3230001532
June 2019	MVCA Worksheet for July 2019	Rs	1962969746	36542961	1678589	1054429428	3055620723
July 2019	MVCA Worksheet for August 2019	Rs	2092162915	40877784	1270526	980294066	3114605291
August 2019	MVCA Worksheet for September 2019	Rs	2059345593	40978071	1252913	699105662	2800682239
September 2019	Annexure 2	Rs	2001732587	28867391	1320524	480546392	2512466895
PP_{cost} (Total)		Rs	11947592757	213798900	7824934	5104509385	17273725976



Power Purchase details for the month of September 2019Power Purchase Cost Analysis

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	371.073
Power Purchase Cost			
Energy Charge	Rs.	B	1029468825
Fixed Charge	Rs.	C	787117363
MFCA	Rs.	D	56160519
Other Charges	Rs.	E	128985880
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	2001732587

Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Short Term Power	Emergency Power (WBSEDCL)	Overall
Power Purchase Quantum								
Chargeable Units (Annexure 1)	MU	A	7.979	0.179	81.619	37.841	1.260	128.878
Cost of Other Power Purchase (Annexure 1)	Rs.	B	28867391	1320524	283608900	187105712	9831780	510734307



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	1927.500	54.000	0.500	684.500
Projected Power Purchase cost	Rs.	P_{proj}	10841073485	195378702	3679200	2959877008



Values in terms of Order in Case No : TP - 72 / 16 - 17 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 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	MVCA Worksheet for June 2019	MU	494.647	51.227	545.874
June 2019	MVCA Worksheet for July 2019	MU	478.959	36.649	515.608
July 2019	MVCA Worksheet for August 2019	MU	493.520	38.015	531.534
August 2019	MVCA Worksheet for September 2019	MU	491.498	24.311	515.809
September 2019	Annexure 5	MU	474.975	36.060	511.035
E_G (Total)		MU	2894.195	227.220	3121.415
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	MVCA Worksheet for June 2019	Rs	1362494008	159046172	1521540180
June 2019	MVCA Worksheet for July 2019	Rs	1458853007	124972699	1583825706
July 2019	MVCA Worksheet for August 2019	Rs	1390314633	125495850	1515810483
August 2019	MVCA Worksheet for September 2019	Rs	1523398592	94474816	1617873408
September 2019	Annexure 5	Rs	1412470443	150712900	1563183343
FC (Total)		Rs.	8444013923	784610844	9228624767

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	Budget	Total
<i>Quantum</i>					
April 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	MVCA Worksheet for June 2019	MU	0.155	-	0.155
June 2019	MVCA Worksheet for July 2019	MU	0.482	-	0.482
July 2019	MVCA Worksheet for August 2019	MU	1.372	-	1.372
August 2019	MVCA Worksheet for September 2019	MU	6.408	-	6.408
September 2019	Annexure 5	MU	0.065	-	0.065
E_x (Total)		MU	8.867	-	8.867
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	MVCA Worksheet for June 2019	Rs	428035	-	428035
June 2019	MVCA Worksheet for July 2019	Rs	168417506	-	168417506
July 2019	MVCA Worksheet for August 2019	Rs	392621178	-	392621178
August 2019	MVCA Worksheet for September 2019	Rs	412360974	-	412360974
September 2019	Annexure 5	Rs	116453771	-	116453771
R-E_x (Total)		Rs.	1093390942	-	1093390942

Kindly refer to the Note under the worksheet for the month



Cost of fuel for the month of September 2019 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	521.951	39.627	561.577
Auxiliary Consumption	B	MU	46.976	3.566	50.542
Energy sent out	C = A - B	MU	474.975	36.060	511.035
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	9570	9564	
Heat Value of Coal (Annexure 9)	G	kCal/Kg	3713	3769	
Overall Permitted Heat	H=A*D	GCal	1289219	114917	
Permitted Heat from Oil	I=F*A*E/10 ³	GCal	6494	796	
Permitted Heat from Coal	J=G-I	GCal	1282725	114121	
Permitted Oil Consumption	K=(I/F)*10 ³	KL	679	83	
Permitted Coal Consumption	L=J/G/.9925*10 ³	Tonne	348079	30508	
Cost of Oil per KL	M	Rs./KL	45000	51500	
Cost of Coal per Tonne (Annexure 9)	N	Rs./Tonne	3970	4800	
Cost of Oil	O=K*M	Rs.	30555000	4274500	34829500
Cost of Coal	P=L*N	Rs.	1381915443	146438400	1528353843
Cost of Fuel	Q=O+P	Rs.	1412470443	150712900	1563183343
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	0.065153		0.065153
Cost of Units sold to persons other than consumers	R=A1/C*Q	Rs.	193751		193751
Net Fuel Cost	S=Q-R	Rs.	1412276692	150712900	1562989592

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	2587.500	430.500	3018.000
Projected fuel cost of generation	FC _{proj}	Rs.	7140905382	1391444317	8532349700

Projection considers effect of Coal Price Notification No. CIL:S&M:GM(F)/Pricing 2018/07 dated 8 January 2018 and BCCL/M&S/SA/18/142 dated 14 September 2018



UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	MVCA Worksheet for June 2019	MU	2.087139
June 2019	MVCA Worksheet for July 2019	MU	8.147801
July 2019	MVCA Worksheet for August 2019	MU	6.957231
August 2019	MVCA Worksheet for September 2019	MU	2.636838
September 2019	Annexure 7	MU	5.417769
UI_{in} (Total)		MU	26.888017
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	MVCA Worksheet for June 2019	Rs	14184079
June 2019	MVCA Worksheet for July 2019	Rs	18292159
July 2019	MVCA Worksheet for August 2019	Rs	15597510
August 2019	MVCA Worksheet for September 2019	Rs	213924
September 2019	Annexure 7	Rs	9326683
$UI\ cost_{in}$ (Total)		Rs	67990140



UI charge details for the month of September 2019

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	22	(-) 121.357730	(-) 122.966340	1.608610	3790499
2	23	(-) 121.807981	(-) 122.743180	0.935199	968218
3	24	(-) 116.253491	(-) 117.840410	1.586919	3705260
4	25	(-) 123.281107	(-) 123.976270	0.695163	548503
5	26	(-) 108.022272	(-) 108.614150	0.591878	314203
Total (Annexure 6)				5.417769	9326683



Computation of Δ_{adj}

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	4759.667
Energy Sales for remaining period	B	MU	5715.209
Energy Sales	$C = A + B (E_{SC})$	MU	10474.876
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	47859191462
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	20852101279
Cost recoverable through balance period	$F = D - E$	Rs.	27007090183
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	4.7255
Underrecovery at Rs.4.7255 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	1639598520
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	1639598000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC September 2019

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G4	6101	45508	4442.38	13.1%	5677
		G5	5801	39781	4128.63	11.4%	5238
		WIV		39365	3803.13	11.3%	3854
		G10 _{e auction}	4301	21656	2081.12	6.2%	3312
		G11 _{RCR, e-auction}	4001	21453	2002.59	6.2%	2684
		WIV _{RCR, e-auction}		53406	4227.59	15.3%	3854
	Captive	ROM and Washed		126911	1454.53	36.5%	2669
	Overall			348079	2915	100.0%	3713
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	1056		
Landed Cost				Rs / MT	3970		
Total Cost (Rs. Lakhs)				Rs Lakhs	13819		

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Southern Generating Station	Coal India Limited	G4	6101	11057	4580	36.2%	5677
		G11 _{RCR, e-auction}	4001	19451	2066	63.8%	2684
		Overall		30508	2977	100.0%	3769
Transportation / Washing Charges/ Handling/KPT Charges etc.				Rs / MT	1823		
Landed Cost				Rs / MT	4800		
Total Cost (Rs. Lakhs)				Rs Lakhs	1464		

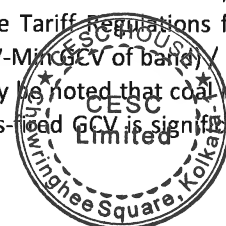
* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 74.06% have been considered for captive washed coal (finalised yield is 74.06%, for the latest available year, furnished through the FPPCA petition 2018-19)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G11: Interpolated UHV = $(\text{GCV} - \text{Min GCV of band}) / (\text{Max GCV of band} - \text{Min GCV of band}) * (\text{Max UHV of band} - \text{Min UHV of band}) + \text{Min UHV of band}$. It may be noted that coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as-fired GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.



CORP:SERV:2373

7 December 2019

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
Plot No - AH/5, Premises No. MAR 16-1111
Action Area - 1A, New Town
Rajarhat
Kolkata – 700 163

Sir,

MVCA – November 2019

We enclose herewith MVCA calculations of CESC Limited for November 2019, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,



Executive Director
(Regulatory Affairs & Corporate Services)

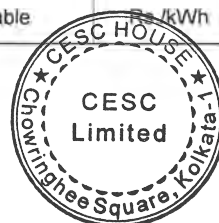
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Calculations in accordance with the Fuel Surcharge Formula in Paragraph A of Schedule - 7B of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 read with applicable Regulations

Calculation of MVCA for the Month of November 2019

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e_{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
pp_{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	3866.288
E_G	Total sent out from own generation	Annexure 4	MU	3603.367
E_x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	8.867
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	26.888
UI_{out}	Net power exported in UI mode	Annexure 6	MU	-1.068
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.	19605482036
FC	Total fuel cost of generation	Annexure 4	Rs.	10580539038
$UI_{cost_{in}}$	Power purchase cost for UI_{in}	Annexure 6	Rs.	67990140
$R-E_x$	Revenue earned on account of part of variable cost only due to Energy sold against E_x	Annexure 4	Rs.	1198318678
$R-UI_{out}$	Revenue earned due to power exported in UI mode	Annexure 6	Rs.	1425397
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 November 2019

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.	11641387287
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.	7056017552
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	2214.797
$E_{P_PSP_proj}$	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	2506.754
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	27.806
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	131438464
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_P + E_G + U_{I_{in}} + E_{proj} + E_{G_proj}$	MU	12218.094
$Tot_{ENR_consumer}$	Total energy supplied for the consumers and licensee	$Tot_{ENR} - U_{I_{out}} - E_{x_proj} - (E_{P_PSP} + E_{P_PSP_proj}) / (1 - TL)$	MU	12182.489
MVC	Total variable cost	$PP_{cost} + FC + U_{I_{costin}} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	51153324053
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{I_{out}} + R - E_{x_proj})$	Rs.	49822141514
E_{sc}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	10440.393
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 8	Rs.	2201908000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{sc} \times 10^6)$	Rs./kWh	4.7721
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	68.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8.620	-	176.979	507.474
May 2019	MVCA Worksheet for June 2019	MU	365.755	9.829	0.350	276.249	652.183
June 2019	MVCA Worksheet for July 2019	MU	360.686	10.163	0.268	242.959	614.076
July 2019	MVCA Worksheet for August 2019	MU	389.801	11.390	0.177	216.260	617.628
August 2019	MVCA Worksheet for September 2019	MU	380.576	11.418	0.167	147.299	539.461
September 2019	MVCA Worksheet for October 2019	MU	371.073	7.979	0.179	120.720	499.952
October 2019	Annexure 2	MU	353.538	6.484	0.230	75.263	435.515
E_p (Total)		MU	2543.305	65.882	1.372	1255.729	3866.288
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	MVCA Worksheet for June 2019	Rs	2001944420	35402097	2302383	1190352632	3230001532
June 2019	MVCA Worksheet for July 2019	Rs	1962969746	36542961	1678589	1054429428	3055620723
July 2019	MVCA Worksheet for August 2019	Rs	2092162915	40877784	1270526	980294066	3114605291
August 2019	MVCA Worksheet for September 2019	Rs	2059345593	40978071	1252913	699105662	2800682239
September 2019	MVCA Worksheet for October 2019	Rs	2001732587	28867391	1320524	480546392	2512466895
October 2019	Annexure 2	Rs	1985619552	23623566	1601621	320911321	2331756060
PP_{cost} (Total)		Rs	13933212309	237422467	9426555	5425420705	19605482036



Power Purchase details for the month of October 2019**Power Purchase Cost Analysis**

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	353.538
Power Purchase Cost			
Energy Charge	Rs.	B	980820432
Fixed Charge	Rs.	C	816523160
MFCA	Rs.	D	53549638
Other Charges	Rs.	E	134726322
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	1985619552

Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Short Term Power	Overall
Power Purchase Quantum							
Chargeable Units (Annexure 1)	MU	A	6.484	0.230	54.755	20.507	81.977
Cost of Other Power Purchase (Annexure 1)	Rs.	B	23623566	1601621	205402023	115509298	346136508



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	1600.984	44.852	0.415	568.546
Projected Power Purchase cost	Rs.	P_{proj}	9018672991	163403201	2889115	2456421980



Values in terms of Order in Case No : TP - 72 / 16 - 17 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 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	MVCA Worksheet for June 2019	MU	494.647	51.227	545.874
June 2019	MVCA Worksheet for July 2019	MU	478.959	36.649	515.608
July 2019	MVCA Worksheet for August 2019	MU	493.520	38.015	531.534
August 2019	MVCA Worksheet for September 2019	MU	491.498	24.311	515.809
September 2019	MVCA Worksheet for October 2019	MU	474.975	36.060	511.035
October 2019	Annexure 5	MU	449.462	32.490	481.952
E_G (Total)		MU	3343.657	259.710	3603.367
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	MVCA Worksheet for June 2019	Rs	1362494008	159046172	1521540180
June 2019	MVCA Worksheet for July 2019	Rs	1458853007	124972699	1583825706
July 2019	MVCA Worksheet for August 2019	Rs	1390314633	125495850	1515810483
August 2019	MVCA Worksheet for September 2019	Rs	1523398592	94474816	1617873408
September 2019	MVCA Worksheet for October 2019	Rs	1412470443	150712900	1563183343
October 2019	Annexure 5	Rs	1232700614	119213658	1351914272
FC (Total)		Rs.	9676714537	903824502	10580539038

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 Budget	Southern	Total
<i>Quantum</i>					
April 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	MVCA Worksheet for June 2019	MU	0.155	-	0.155
June 2019	MVCA Worksheet for July 2019	MU	0.482	-	0.482
July 2019	MVCA Worksheet for August 2019	MU	1.372	-	1.372
August 2019	MVCA Worksheet for September 2019	MU	6.408	-	6.408
September 2019	MVCA Worksheet for October 2019	MU	0.065	-	0.065
October 2019	Annexure 5	MU	-	-	-
E_x (Total)		MU	8.867	-	8.867
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	MVCA Worksheet for June 2019	Rs	428035	-	428035
June 2019	MVCA Worksheet for July 2019	Rs	168417506	-	168417506
July 2019	MVCA Worksheet for August 2019	Rs	392621178	-	392621178
August 2019	MVCA Worksheet for September 2019	Rs	412360974	-	412360974
September 2019	MVCA Worksheet for October 2019	Rs	116453771	-	116453771
October 2019	Annexure 5	Rs	104927736	-	104927736
R-E_x (Total)		Rs.	1198318678	-	1198318678

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 October 2019 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	493.914	35.703	529.617
Auxiliary Consumption	B	MU	44.452	3.213	47.666
Energy sent out	C = A - B	MU	449.462	32.490	481.952
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	9557	9562	
Heat Value of Coal (Annexure 9)	G	kCal/Kg	3866	4598	
Overall Permitted Heat	H=A*D	GCal	1219968	103539	
Permitted Heat from Oil	I=F*A*E/10 ³	GCal	6136	717	
Permitted Heat from Coal	J=G-I	GCal	1213832	102822	
Permitted Oil Consumption	K=(I/F)*10 ³	KL	642	75	
Permitted Coal Consumption	L=J/G/.9925*10 ³	Tonne	316349	22531	
Cost of Oil per KL	M	Rs./KL	45000	52000	
Cost of Coal per Tonne (Annexure 9)	N	Rs./Tonne	3805	5118	
Cost of Oil	O=K*M	Rs.	28890000	3900000	32790000
Cost of Coal	P=L*N	Rs.	1203810614	115313658	1319124272
Cost of Fuel	Q=O+P	Rs.	1232700614	119213658	1351914272
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	-	-	-
Cost of Units sold to persons other than consumers	R=A1/C*Q	Rs.	-	-	-
Net Fuel Cost	S=Q-R	Rs.	1232700614	119213658	1351914272

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	2149.180	357.574	2506.754
Projected fuel cost of generation	FC _{proj}	Rs.	5897712069	58305483	7056017552

Projection considers effect of Coal Price Notification No. CIL-S&M:GM(F)/Pricing 2018/07 dated 8 January 2018 and BCCL/M&S/SA/18/142 dated 14 September 2018



UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	MVCA Worksheet for June 2019	MU	2.087139
June 2019	MVCA Worksheet for July 2019	MU	8.147801
July 2019	MVCA Worksheet for August 2019	MU	6.957231
August 2019	MVCA Worksheet for September 2019	MU	2.636838
September 2019	MVCA Worksheet for October 2019	MU	5.417769
UI_{in} (Total)		MU	26.888017
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	MVCA Worksheet for June 2019	Rs	14184079
June 2019	MVCA Worksheet for July 2019	Rs	18292159
July 2019	MVCA Worksheet for August 2019	Rs	15597510
August 2019	MVCA Worksheet for September 2019	Rs	213924
September 2019	MVCA Worksheet for October 2019	Rs	9326683
$UI\ cost_{in}$ (Total)		Rs.	67990140

II. UI_{out}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
October 2019	Annexure 7	MU	-1.067913
UI_{out} (Total)		MU	-1.067913
<i>Revenue</i>			
October 2019	Annexure 7	Rs.	1425397
$R-UI_{out}$ (Total)		Rs.	1425397



UI charge details for the month of October 2019

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	27	(-) 111.296579	(-) 111.362880	0.066301	(-) 1203637
2	28	(-) 83.952708	(-) 84.511610	0.558902	242616
3	29	(-) 107.428576	(-) 107.714350	0.285774	34340
4	30	(-) 98.786064	(-) 98.943000	0.156936	(-) 498716
Total (Annexure 6)				1.067913	(-) 1425397



Computation of Δ_{adj}

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	5630.670
Energy Sales for remaining period	B	MU	4809.723
Energy Sales	$C = A + B (E_{sc})$	MU	10440.393
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	47620233514
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	24667965511
Cost recoverable through balance period	$F = D - E$	Rs.	22952268003
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	4.7721
Underrecovery at Rs.4.7721 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	2201908993
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	2201908000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC October 2019

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G4	6101	23360	4500	7.4%	5677
		G5	5801	69506	4165	22.0%	5238
		WIV		36995	3847	11.7%	3854
		G8 _{e-auction}	4901	938	3575	0.3%	3994
		G11 _{RCR, e-auction}	4001	9720	2020	3.1%	2684
		WIV _{RCR, e-auction}		31432	4158	9.9%	3854
	Captive	ROM and Washed		144397	1427	45.6%	2997
	Overall			316349	2835	100.0%	3866
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	971		
Landed Cost				Rs / MT	3805		
Total Cost (Rs. Lakhs)				Rs Lakhs	12038		

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Southern Generating Station	Coal India Limited	G4	6101	11452	4677	50.8%	5677
		G5	5801	2431	4316	10.8%	5238
		G10 _{RCR, e-auction}	4301	4187	2167	18.6%	3312
		G11 _{RCR, e-auction}	4001	4461	2193	19.8%	2684
	Overall			22531	3680	100.0%	4598
Transportation / Washing Charges/ Handling/KPT Charges etc.				Rs / MT	1438		
Landed Cost				Rs / MT	5118		
Total Cost (Rs. Lakhs)				Rs Lakhs	1153		

* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 74.06% have been considered for captive washed coal (finalised yield is 74.06%, for the latest available year, furnished through the FPPCA petition 2018-19)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G11: Interpolated UHV = (GCV-Min GCV of band) * (Max UHV of band - Min UHV of band) / (Max GCV of band - Min GCV of band) + Min UHV of band. It may be noted that the quality of coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as-fired GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.





**RP - Sanjiv Goenka
Group**

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CORP:SERV: 2377

7 January 2020

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
Plot No - AH/5, Premises No. MAR 16-1111
Action Area - 1A, New Town, Rajarhat
Kolkata – 700 163

Sir,

MVCA – December 2019

We enclose herewith MVCA calculations of CESC Limited for December 2019, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,

Executive Director
(Regulatory Affairs & Corporate Services)

Encl.



CESC Limited

CIN : L31901WB1978PLC031411 □ e-mail : cesclimited@rp-sg.in
Regd. Office : CESC House, Chowringhee Square, Kolkata - 700 001, India
Tel : +91 33 2225 6040 Fax : +91 33 2225 3495 Web : www.cesc.co.in

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 December 2019

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e _{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
pp _{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	4302.637
E _G	Total sent out from own generation	Annexure 4	MU	3914.427
E _x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	9.061
E _{p-PSP}	Net Power drawal for pumping energy of Pumped Storage Project	Not applicable	MU	
U _{i_in}	Net power drawal in UI mode	Annexure 6	MU	31.793
U _{i_out}	Net power exported in UI mode	Annexure 6	MU	-1.068
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.	21872283794
FC	Total fuel cost of generation	Annexure 4	Rs.	11393352649
UI cost _{in}	Power purchase cost for U _{i_in}	Annexure 6	Rs.	78895689
R-E _x	Revenue earned on account of part of variable cost only due to Energy sold against E _x	Annexure 4	Rs.	1217050319
R-UI _{out}	Revenue earned due to power exported in UI mode	Annexure 6	Rs.	1425397
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 December 2019

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.	9324399154
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.	5631786331
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	1777.666
$E_{P_PSP_proj}$	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	2012.000
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	32.110
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	152213429
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_P + E_G + U_{in} + E_{proj} + E_{G_proj}$	MU	12038.523
$Tot_{ENR_consumer}$	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	11998.420
MVC	Total variable cost	$PP_{cost} + FC + U_{cost} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	51425555618
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs.	50054866473
E_{sc}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	10282.646
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 8	Rs.	3124838000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{sc} \times 10^6)$	Rs./kWh	4.8679
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	77.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8 620	-	176.979	507.474
May 2019	MVCA Worksheet for June 2019	MU	365.755	9 829	0.350	276.249	652.183
June 2019	MVCA Worksheet for July 2019	MU	360.686	10.163	0.268	242.959	614.076
July 2019	MVCA Worksheet for August 2019	MU	389.801	11.390	0.177	216.260	617.628
August 2019	MVCA Worksheet for September 2019	MU	380.576	11.418	0.167	147.299	539.461
September 2019	MVCA Worksheet for October 2019	MU	371.073	7.979	0.179	120.720	499.952
October 2019	MVCA Worksheet for November 2019	MU	353.538	6.484	0.230	75.263	435.515
November 2019	Annexure 2	MU	358.125	8.456	0.396	69.372	436.348
E_p (Total)		MU	2901.430	74.336	1.768	1325.101	4302.637
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	MVCA Worksheet for June 2019	Rs	2001944420	35402097	2302383	1190352632	3230001532
June 2019	MVCA Worksheet for July 2019	Rs	1962969746	36542961	1678589	1054429428	3055620723
July 2019	MVCA Worksheet for August 2019	Rs	2092162915	40877784	1270526	980294066	3114605291
August 2019	MVCA Worksheet for September 2019	Rs	2059345593	40978071	1252913	699105662	2800682239
September 2019	MVCA Worksheet for October 2019	Rs	2001732587	28867391	1320524	480546392	2512466895
October 2019	MVCA Worksheet for November 2019	Rs	1985619552	23623566	1601621	320911321	2331756060
November 2019	Annexure 2	Rs	1966029252	31596440	2341924	266834143	2266801759
PP_{cost} (Total)		Rs	15899241560	269018907	11768479	5692254849	21872283794



Power Purchase details for the month of November 2019Power Purchase Cost Analysis

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	358.125
Power Purchase Cost			
Energy Charge	Rs.	B	993546637
Fixed Charge	Rs.	C	789228086
MFCA	Rs.	D	54220975
Other Charges	Rs.	E	129035554
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	1966029252

Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Short Term Power	Emergency Power (WBSEDCL)	Overall
Power Purchase Quantum								
Chargeable Units (Annexure 1)	MU	A	8.456	0.396	62.750	5.258	1.364	78.223
Cost of Other Power Purchase (Annexure 1)	Rs.	B	31596440	2341924	235302543	20886357	10645243	300772507



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	1285.000	36.000	0.333	456.333
Projected Power Purchase cost	Rs.	P_{proj}	7227382323	134524333	2217111	1960275387



Values in terms of Order in Case No : TP - 72 / 16 - 17 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 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	MVCA Worksheet for June 2019	MU	494.647	51.227	545.874
June 2019	MVCA Worksheet for July 2019	MU	478.959	36.649	515.608
July 2019	MVCA Worksheet for August 2019	MU	493.520	38.015	531.534
August 2019	MVCA Worksheet for September 2019	MU	491.498	24.311	515.809
September 2019	MVCA Worksheet for October 2019	MU	474.975	36.060	511.035
October 2019	MVCA Worksheet for November 2019	MU	449.462	32.490	481.952
November 2019	Annexure 5	MU	294.167	16.893	311.060
E_G (Total)		MU	3637.824	276.603	3914.427
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	MVCA Worksheet for June 2019	Rs	1362494008	159046172	1521540180
June 2019	MVCA Worksheet for July 2019	Rs	1458853007	124972699	1583825706
July 2019	MVCA Worksheet for August 2019	Rs	1390314633	125495850	1515810483
August 2019	MVCA Worksheet for September 2019	Rs	1523398592	94474816	1617873408
September 2019	MVCA Worksheet for October 2019	Rs	1412470443	150712900	1563183343
October 2019	MVCA Worksheet for November 2019	Rs	1232700614	119213658	1351914272
November 2019	Annexure 5	Rs	757920523	54893088	812813611
FC (Total)		Rs.	10434635060	958717590	11393352649

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		Total
			Budge	Southern	
<i>Quantum</i>					
April 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	MVCA Worksheet for June 2019	MU	0.155	-	0.155
June 2019	MVCA Worksheet for July 2019	MU	0.482	-	0.482
July 2019	MVCA Worksheet for August 2019	MU	1.372	-	1.372
August 2019	MVCA Worksheet for September 2019	MU	6.408	-	6.408
September 2019	MVCA Worksheet for October 2019	MU	0.065	-	0.065
October 2019	MVCA Worksheet for November 2019	MU	-	-	-
November 2019	Annexure 5	MU	0.194	-	0.194
E_x (Total)		MU	9.061	-	9.061
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	MVCA Worksheet for June 2019	Rs	428035	-	428035
June 2019	MVCA Worksheet for July 2019	Rs	168417506	-	168417506
July 2019	MVCA Worksheet for August 2019	Rs	392621178	-	392621178
August 2019	MVCA Worksheet for September 2019	Rs	412360974	-	412360974
September 2019	MVCA Worksheet for October 2019	Rs	116453771	-	116453771
October 2019	MVCA Worksheet for November 2019	Rs	104927736	-	104927736
November 2019	Annexure 5	Rs	18731642	-	18731642
R-E_x (Total)		Rs.	1217050319	-	1217050319

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 November 2019 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	323.261	18.564	341.824
Auxiliary Consumption	B	MU	29.093	1.671	30.764
Energy sent out	$C = A - B$	MU	294.167	16.893	311.060
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	9550	9549	
Heat Value of Coal (Annexure 9)	G	kCal/Kg	4014	4862	
Overall Permitted Heat	$H = A * D$	GCal	798454	53835	
Permitted Heat from Oil	$I = F * A * E / 10^3$	GCal	4013	372	
Permitted Heat from Coal	$J = G - I$	GCal	794441	53463	
Permitted Oil Consumption	$K = (I / F) * 10^3$	KL	420	39	
Permitted Coal Consumption	$L = J / G / .9925 * 10^3$	Tonne	199413	11079	
Cost of Oil per KL	M	Rs./KL	50000	51900	
Cost of Coal per Tonne (Annexure 9)	N	Rs./Tonne	3695	4772	
Cost of Oil	$O = K * M$	Rs.	21000000	2024100	23024100
Cost of Coal	$P = L * N$	Rs.	736920523	52868988	789789511
Cost of Fuel	$Q = O + P$	Rs.	757920523	54893088	812813611
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	0.194400		0.194400
Cost of Units sold to persons other than consumers	$R = A1 / C * Q$	Rs.	500871		500871
Net Fuel Cost	$S = Q - R$	Rs.	757419652	54893088	812312740

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	1725.000	287.000	2012.000
Projected fuel cost of generation	FC_{proj}	Rs.	4706011223	925775109	5631786331

Projection considers effect of Coal Price Notification No. CIL:S&M:GM(F)/Pricing 2018/07 dated 8 January 2018 and BCCL/M&S/SA/18/142 dated 14 September 2018



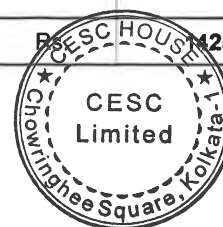
UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	MVCA Worksheet for June 2019	MU	2.087139
June 2019	MVCA Worksheet for July 2019	MU	8.147801
July 2019	MVCA Worksheet for August 2019	MU	6.957231
August 2019	MVCA Worksheet for September 2019	MU	2.636838
September 2019	MVCA Worksheet for October 2019	MU	5.417769
November 2019	Annexure 7	MU	4.905481
UI_{in} (Total)		MU	31.793498
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	MVCA Worksheet for June 2019	Rs	14184079
June 2019	MVCA Worksheet for July 2019	Rs	18292159
July 2019	MVCA Worksheet for August 2019	Rs	15597510
August 2019	MVCA Worksheet for September 2019	Rs	213924
September 2019	MVCA Worksheet for October 2019	Rs	9326683
November 2019	Annexure 7	Rs	10905549
$UI\ cost_{in}$ (Total)		Rs.	78895689

II. UI_{out}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
October 2019	MVCA Worksheet for November 2019	MU	-1.067913
UI_{out} (Total)		MU	-1.067913
<i>Revenue</i>			
October 2019	MVCA Worksheet for November 2019	Rs.	1425397
R-UI_{out} (Total)			1425397



UI charge details for the month of November 2019

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	31	(-) 96.420191	(-) 96.315620	(-) 0.104571	(-) 799394
2	32	(-) 109.882349	(-) 110.721890	0.839541	2324665
3	33	(-) 102.842916	(-) 105.795470	2.952554	7203404
4	34	(-) 93.460079	(-) 93.735570	0.275491	(-) 84025
5	35	(-) 93.232694	(-) 94.175160	0.942466	2260899
Total (Annexure 6)				4.905481	10905549



Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	6417.854
Energy Sales for remaining period	B	MU	3864.792
Energy Sales	$C = A + B (E_{SC})$	MU	10282.646
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	46930028473
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	28116618612
Cost recoverable through balance period	$F = D - E$	Rs.	18813409861
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	4.8679
Underrecovery at Rs.4.8679 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	3124838373
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	3124838000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC November 2019

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G4	6101	33502	4373	16.8%	5677
		G7	5201	27890	3041	14.0%	4363
		WIV		14198	3921	7.1%	3854
		G4 _{e auction}	6101	26488	5081	13.3%	5677
	Captive	ROM and Washed		97336	1464	48.81%	2912
	Overall			199413	2829	100.0%	4014
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	867		
Landed Cost				Rs / MT	3695		
Total Cost (Rs. Lakhs)				Rs Lakhs	7369		

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Southern Generating Station	Coal India Limited	G4	6101	4553	4660	41.1%	5677
		G7	5201	5299	3322	47.8%	4363
		G8	4901	1228	2816	11.1%	3994
		Overall			11079	3816	100.0%
Transportation / Washing Charges/ Handling/KPT Charges etc.				Rs / MT	956		
Landed Cost				Rs / MT	4772		
Total Cost (Rs. Lakhs)				Rs Lakhs	529		

* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 74.06% have been considered for captive washed coal (finalised yield is 74.06%, for the latest available year, furnished through the FPPCA petition 2018-19)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G8: Interpolated UHV = (GCV-Min GCV of band) / (Max GCV of band - Min GCV of band) * (Max UHV of band - Min UHV of band) + Min UHV of band. It may be noted that coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as-fired GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.





**RP-Sanjiv Goenka
Group**
Growing Legacies



CORP:SERV:2381

5 February 2020

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
Plot No - AH/5, Premises No. MAR 16-1111
Action Area - 1A, New Town, Rajarhat
Kolkata – 700 163

Sir,

MVCA – January 2020

We enclose herewith MVCA calculations of CESC Limited for January 2020, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,

Executive Director
(Regulatory Affairs & Corporate Services)

Encl.



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 January 2020

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e_{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
PP_{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	4697.819
E_G	Total sent out from own generation	Annexure 4	MU	4235.614
E_x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	42.440
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	31.793
UI_{out}	Net power exported in UI mode	Annexure 6	MU	-0.409
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.	24025636348
FC	Total fuel cost of generation	Annexure 4	Rs.	12212832063
UI_{cost_in}	Power purchase cost for UI_{in}	Annexure 6	Rs.	78895689
$R-E_x$	Revenue earned on account of part of variable cost only due to Energy sold against E_x	Annexure 4	Rs.	1220743139
$R-UI_{out}$	Revenue earned due to power exported in UI mode	Annexure 6	Rs.	3595605
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 January 2020

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.	6970620505
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.	4148472823
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	1325.965
$E_{P_PSP_proj}$	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	1500.754
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	32.055
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	152874650
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_P + E_G + U_{in} + E_{proj} + E_{G_proj}$	MU	11791.945
$Tot_{ENR_consumer}$	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	11717.860
MVC	Total variable cost	$PP_{cost} + FC + U_{cost(in)} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	52329172428
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs.	50951959034
E_{SC}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	10042.206
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 8	Rs.	4892715000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{SC} \times 10^6)$	Rs./kWh	5.0738
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	98.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8.620	-	176.979	507.474
May 2019	MVCA Worksheet for June 2019	MU	365.755	9.829	0.350	276.249	652.183
June 2019	MVCA Worksheet for July 2019	MU	360.686	10.163	0.268	242.959	614.076
July 2019	MVCA Worksheet for August 2019	MU	389.801	11.390	0.177	216.260	617.628
August 2019	MVCA Worksheet for September 2019	MU	380.576	11.418	0.167	147.299	539.461
September 2019	MVCA Worksheet for October 2019	MU	371.073	7.979	0.179	120.720	499.952
October 2019	MVCA Worksheet for November 2019	MU	353.538	6.484	0.230	75.263	435.515
November 2019	MVCA Worksheet for December 2019	MU	358.125	8.456	0.396	69.372	436.348
December 2019	Annexure 2	MU	350.716	8.582	0.443	35.442	395.182
E_p (Total)		MU	3252.146	82.919	2.210	1360.543	4697.819
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	MVCA Worksheet for June 2019	Rs	2001944420	35402097	2302383	1190352632	3230001532
June 2019	MVCA Worksheet for July 2019	Rs	1962969746	36542961	1678589	1054429428	3055620723
July 2019	MVCA Worksheet for August 2019	Rs	2092162915	40877784	1270526	980294066	3114605291
August 2019	MVCA Worksheet for September 2019	Rs	2059345593	40978071	1252913	699105662	2800682239
September 2019	MVCA Worksheet for October 2019	Rs	2001732587	28867391	1320524	480546392	2512466895
October 2019	MVCA Worksheet for November 2019	Rs	1985619552	23623566	1601621	320911321	2331756060
November 2019	MVCA Worksheet for December 2019	Rs	1966029252	31596440	2341924	266834143	2266801759
December 2019	Annexure 2	Rs	1971859591	33072739	2828920	145591304	2153352554
PP_{cost} (Total)		Rs	17871101151	302091646	14597399	5837846153	24025636348



Power Purchase details for the month of December 2019Power Purchase Cost Analysis

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	350.716
Power Purchase Cost			
Energy Charge	Rs.	B	972990270
Fixed Charge	Rs.	C	816523160
MFCA	Rs.	D	53126279
Other Charges	Rs.	E	129219882
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	1971859591

Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Short Term Power	Emergency Power (WBSEDCL)	Overall
Power Purchase Quantum								
Chargeable Units (Annexure 1)	MU	A	8.582	0.443	33.241	1.751	0.450	44.466
Cost of Other Power Purchase (Annexure 1)	Rs.	B	33072739	2828920	134184129	7895825	3511350	181492963



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	958.484	26.852	0.249	340.380
Projected Power Purchase cost	Rs.	P_{proj}	5404981829	103484944	1644486	1460509246



Values in terms of Order in Case No : TP - 72 / 16 - 17 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 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	MVCA Worksheet for June 2019	MU	494.647	51.227	545.874
June 2019	MVCA Worksheet for July 2019	MU	478.959	36.649	515.608
July 2019	MVCA Worksheet for August 2019	MU	493.520	38.015	531.534
August 2019	MVCA Worksheet for September 2019	MU	491.498	24.311	515.809
September 2019	MVCA Worksheet for October 2019	MU	474.975	36.060	511.035
October 2019	MVCA Worksheet for November 2019	MU	449.462	32.490	481.952
November 2019	MVCA Worksheet for December 2019	MU	294.167	16.893	311.060
December 2019	Annexure 5	MU	299.104	22.083	321.187
E_G (Total)		MU	3936.929	298.685	4235.614
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	MVCA Worksheet for June 2019	Rs	1362494008	159046172	1521540180
June 2019	MVCA Worksheet for July 2019	Rs	1458853007	124972699	1583825706
July 2019	MVCA Worksheet for August 2019	Rs	1390314633	125495850	1515810483
August 2019	MVCA Worksheet for September 2019	Rs	1523398592	94474816	1617873408
September 2019	MVCA Worksheet for October 2019	Rs	1412470443	150712900	1563183343
October 2019	MVCA Worksheet for November 2019	Rs	1232700614	119213658	1351914272
November 2019	MVCA Worksheet for December 2019	Rs	757920523	54893088	812813611
December 2019	Annexure 5	Rs	752023540	67455874	819479414
FC (Total)		Rs.	11186658600	1026173464	12212832063

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	Budget	Total
<i>Quantum</i>					
April 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	MVCA Worksheet for June 2019	MU	0.155	-	0.155
June 2019	MVCA Worksheet for July 2019	MU	0.482	-	0.482
July 2019	MVCA Worksheet for August 2019	MU	1.372	-	1.372
August 2019	MVCA Worksheet for September 2019	MU	6.408	-	6.408
September 2019	MVCA Worksheet for October 2019	MU	0.065	-	0.065
October 2019	MVCA Worksheet for November 2019	MU	-	-	-
November 2019	MVCA Worksheet for December 2019	MU	0.194	-	0.194
December 2019	Annexure 5	MU	33.378	-	33.378
E_x (Total)		MU	42.440	-	42.440
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	MVCA Worksheet for June 2019	Rs	428035	-	428035
June 2019	MVCA Worksheet for July 2019	Rs	168417506	-	168417506
July 2019	MVCA Worksheet for August 2019	Rs	392621178	-	392621178
August 2019	MVCA Worksheet for September 2019	Rs	412360974	-	412360974
September 2019	MVCA Worksheet for October 2019	Rs	116453771	-	116453771
October 2019	MVCA Worksheet for November 2019	Rs	104927736	-	104927736
November 2019	MVCA Worksheet for December 2019	Rs	18731642	-	18731642
December 2019	Annexure 5	Rs	3692820	-	3692820
R-E_x (Total)		Rs.	1220743139	-	1220743139

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 December 2019 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	328.686	24.267	352.953
Auxiliary Consumption	B	MU	29.582	2.184	31.766
Energy sent out	$C = A - B$	MU	299.104	22.083	321.187
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	9567	9564	
Heat Value of Coal (Annexure 9)	G	kCal/Kg	3852	4862	
Overall Permitted Heat	$H=A*D$	GCal	811855	70373	
Permitted Heat from Oil	$I=F*A*E/10^3$	GCal	4088	487	
Permitted Heat from Coal	$J=G-I$	GCal	807767	69886	
Permitted Oil Consumption	$K=(I/F)*10^3$	KL	427	51	
Permitted Coal Consumption	$L=J/G/9925*10^3$	Tonne	211285	14483	
Cost of Oil per KL	M	Rs./KL	50000	51000	
Cost of Coal per Tonne (Annexure 9)	N	Rs./Tonne	3458	4478	
Cost of Oil	$O=K*M$	Rs.	21350000	2601000	23951000
Cost of Coal	$P=L*N$	Rs.	730673540	64854874	795528414
Cost of Fuel	$Q=O+P$	Rs.	752023540	67455874	819479414
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	1.468755		1.468755
Cost of Units sold to persons other than consumers	$R=A1/C*Q$	Rs.	3692820		3692820
Net Fuel Cost	$S=Q-R$	Rs.	748330720	67455874	815786594

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	1286.680	214.074	1500.754
Projected fuel cost of generation	FC_{proj}	Rs.	3458376414	690096409	4148472823

Projection considers effect of Coal Price Notification No. CIL:S&M:GM(F)/Pricing 2018/07 dated 8 January 2018 and BCCL/M&S/SA/18/142 dated 14 September 2018



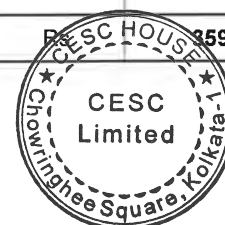
UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	MVCA Worksheet for June 2019	MU	2.087139
June 2019	MVCA Worksheet for July 2019	MU	8.147801
July 2019	MVCA Worksheet for August 2019	MU	6.957231
August 2019	MVCA Worksheet for September 2019	MU	2.636838
September 2019	MVCA Worksheet for October 2019	MU	5.417769
November 2019	MVCA Worksheet for December 2019	MU	4.905481
UI_{in} (Total)		MU	31.793498
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	MVCA Worksheet for June 2019	Rs	14184079
June 2019	MVCA Worksheet for July 2019	Rs	18292159
July 2019	MVCA Worksheet for August 2019	Rs	15597510
August 2019	MVCA Worksheet for September 2019	Rs	213924
September 2019	MVCA Worksheet for October 2019	Rs	9326683
November 2019	MVCA Worksheet for December 2019	Rs	10905549
$UI\ cost_{in}$ (Total)		Rs.	78895689

II. UI_{out}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
October 2019	MVCA Worksheet for November 2019	MU	-1.067913
December 2019	Annexure 7	MU	0.658584
UI_{out} (Total)		MU	-0.409329
<i>Revenue</i>			
October 2019	MVCA Worksheet for November 2019	Rs.	1425397
December 2019	Annexure 7	Rs.	2170208
R-UI_{out} (Total)			3595605



UI charge details for the month of December 2019

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	36	(-) 89.150274	(-) 89.294290	0.144016	357463
2	37	(-) 94.473181	(-) 94.353560	(-) 0.119621	22251
3	38	(-) 82.230798	(-) 81.668430	(-) 0.562368	(-) 2137576
4	39	(-) 67.142551	(-) 67.021940	(-) 0.120611	(-) 412346
Total (Annexure 6)				(-) 0.658584	(-) 2170208



Computation of Δ_{adj}

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	7062.421
Energy Sales for remaining period	B	MU	2979.785
Energy Sales	$C = A + B (E_{SC})$	MU	10042.206
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	46059244034
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	30940464235
Cost recoverable through balance period	$F = D - E$	Rs.	15118779798
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	5.0738
Underrecovery at Rs.5.0738 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	4892715428
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	4892715000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC December 2019

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G4	6101	9952	4889	4.7%	5677
		G5	5801	6839	4557	3.2%	5238
		G7	5201	49808	3260	23.6%	4363
		WIV		9996	4218	4.7%	3854
		G4 _{e auction}	6101	16399	5457	7.8%	5677
	Captive	ROM and Washed		118291	1534	56.0%	3150
	Overall			211285	2628	100.0%	3852
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	830		
Landed Cost				Rs / MT	3458		
Total Cost (Rs. Lakhs)				Rs Lakhs	7307		

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Southern Generating Station	Coal India Limited	G4	6101	5951	4301	41.1%	5677
		G7	5201	6927	3066	47.8%	4363
		G8	4901	1605	2599	11.1%	3994
		Overall			14483	3522	100.0%
Transportation / Washing Charges/ Handling/KPT Charges etc.				Rs / MT	956		
Landed Cost				Rs / MT	4478		
Total Cost (Rs. Lakhs)				Rs Lakhs	649		

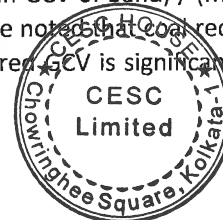
* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 74.06% have been considered for captive washed coal (finalised yield is 74.06%, for the latest available year, furnished through the FPPCA petition 2018-19)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G8: Interpolated UHV = (GCV-Min GCV of band) / (Max GCV of band - Min GCV of band) * (Max UHV of band - Min UHV of band) + Min UHV of band. It may be noted that coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as-fired GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.





**RP - Sanjiv Goenka
Group**
Growing Legacies



CORP:SERV:2388

7 March 2020

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
Plot No - AH/5, Premises No. MAR 16-1111
Action Area - 1A, New Town, Rajarhat
Kolkata – 700 163

Sir,

MVCA – February 2020

We enclose herewith MVCA calculations of CESC Limited for February 2020, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,

Executive Director
(Regulatory Affairs & Corporate Services)

Encl.



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 February 2020

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e _{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
pp _{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	5001.066
E _G	Total sent out from own generation	Annexure 4	MU	4694.889
E _X	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	145.145
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	34.575
UI _{out}	Net power exported in UI mode	Annexure 6	MU	-0.409
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.	25836462115
FC	Total fuel cost of generation	Annexure 4	Rs.	13324407726
UI cost _{In}	Power purchase cost for UI _{In}	Annexure 6	Rs.	86047083
R-E _X	Revenue earned on account of part of variable cost only due to Energy sold against E _X	Annexure 4	Rs.	1265917699
R-UI _{out}	Revenue earned due to power exported in UI mode	Annexure 6	Rs.	3595605
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 February 2020

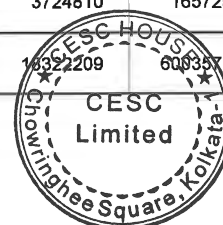
d) Values to be taken for the balance period of the year				
P_{proj}	Projected power purchase cost for the balance period of the year beyond the month under consideration for the balance energy projected to be procured	Annexure 3	Rs.	4611827203
FC_{proj}	Projected Fuel cost for the generating stations of the Licensee for the balance period of the year beyond the month under consideration	Annexure 5	Rs.	2710681998
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU	874.262
$E_{P_PSP_proj}$	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	989.509
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	23.609
$R-E_{x_proj}$	Projected revenue to be earned on account of part of the variable cost only due to projected energy sold against E_{x_proj}		Rs.	98316541
e) Computation of MVCA for the applicable month				
Tot_{ENR}	Total energy supplied	$E_P + E_G + U_{in} + E_{proj} + E_{G_proj}$	MU	11594.301
$Tot_{ENR_consumer}$	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	11425.956
MVC	Total variable cost	$PP_{cost} + FC + U_{costin} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	54779171126
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs.	53411341281
E_{SC}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	9792.044
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 8	Rs.	8209745000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{SC} \times 10^6)$	Rs./kWh	5.4546
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	136.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8.620	-	176.979	507.474
May 2019	MVCA Worksheet for June 2019	MU	365.755	9.829	0.350	276.249	652.183
June 2019	MVCA Worksheet for July 2019	MU	360.686	10.163	0.268	242.959	614.076
July 2019	MVCA Worksheet for August 2019	MU	389.801	11.390	0.177	216.260	617.628
August 2019	MVCA Worksheet for September 2019	MU	380.576	11.418	0.167	147.299	539.461
September 2019	MVCA Worksheet for October 2019	MU	371.073	7.979	0.179	120.720	499.952
October 2019	MVCA Worksheet for November 2019	MU	353.538	6.484	0.230	75.263	435.515
November 2019	MVCA Worksheet for December 2019	MU	358.125	8.456	0.396	69.372	436.348
December 2019	MVCA Worksheet for January 2020	MU	350.716	8.582	0.443	35.442	395.182
January 2020	Annexure 2	MU	251.704	7.219	0.590	43.735	303.247
E_p (Total)		MU	3503.849	90.138	2.800	1404.278	5001.066
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	MVCA Worksheet for June 2019	Rs	2001944420	35402097	2302383	1190352632	3230001532
June 2019	MVCA Worksheet for July 2019	Rs	1962969746	36542961	1678589	1054429428	3055620723
July 2019	MVCA Worksheet for August 2019	Rs	2092162915	40877784	1270526	980294066	3114605291
August 2019	MVCA Worksheet for September 2019	Rs	2059345593	40978071	1252913	699105662	2800682239
September 2019	MVCA Worksheet for October 2019	Rs	2001732587	28867391	1320524	480546392	2512466895
October 2019	MVCA Worksheet for November 2019	Rs	1985619552	23623566	1601621	320911321	2331756060
November 2019	MVCA Worksheet for December 2019	Rs	1966029252	31596440	2341924	266834143	2266801759
December 2019	MVCA Worksheet for January 2020	Rs	1971859591	33072739	2828920	145591304	2153352554
January 2020	Annexure 2	Rs	1593660304	47715577	3724810	165725076	1810825767
PP_{cost} (Total)		Rs	19464761455	349807223	16322209	6003571229	25836462115



Power Purchase details for the month of January 2020**Power Purchase Cost Analysis**

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	251.704
Power Purchase Cost			
Energy Charge	Rs.	B	698302063
Fixed Charge	Rs.	C	723341095
MFCA	Rs.	D	38272797
Other Charges	Rs.	E	133744348
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	1593660304

Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Emergency Power (WBSEDCL)	Overall
Power Purchase Quantum							
Chargeable Units (Annexure 1)	MU	A	7.219	0.590	43.280	0.455	51.543
Cost of Other Power Purchase (Annexure 1)	Rs.	B	47715577	3724810	162174711	3550365	217165463

Cost of cogeneration power includes wheeling charge for the period pertaining to February 2019 to December 2019 as per bill dated 14 February 2020



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	631.967	17.705	0.164	224.426
Projected Power Purchase cost	Rs.	P_{proj}	3582578382	68709359	1073071	959466391



Values in terms of Order in Case No : TP - 72 / 16 - 17 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 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	MVCA Worksheet for June 2019	MU	494.647	51.227	545.874
June 2019	MVCA Worksheet for July 2019	MU	478.959	36.649	515.608
July 2019	MVCA Worksheet for August 2019	MU	493.520	38.015	531.534
August 2019	MVCA Worksheet for September 2019	MU	491.498	24.311	515.809
September 2019	MVCA Worksheet for October 2019	MU	474.975	36.060	511.035
October 2019	MVCA Worksheet for November 2019	MU	449.462	32.490	481.952
November 2019	MVCA Worksheet for December 2019	MU	294.167	16.893	311.060
December 2019	MVCA Worksheet for January 2020	MU	299.104	22.083	321.187
January 2020	Annexure 5	MU	449.232	10.044	459.275
E_G (Total)		MU	4386.160	308.729	4694.889
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	MVCA Worksheet for June 2019	Rs	1362494008	159046172	1521540180
June 2019	MVCA Worksheet for July 2019	Rs	1458853007	124972699	1583825706
July 2019	MVCA Worksheet for August 2019	Rs	1390314633	125495850	1515810483
August 2019	MVCA Worksheet for September 2019	Rs	1523398592	94474816	1617873408
September 2019	MVCA Worksheet for October 2019	Rs	1412470443	150712900	1563183343
October 2019	MVCA Worksheet for November 2019	Rs	1232700614	119213658	1351914272
November 2019	MVCA Worksheet for December 2019	Rs	757920523	54893088	812813611
December 2019	MVCA Worksheet for January 2020	Rs	752023540	67455874	819479414
January 2020	Annexure 5	Rs	1080885377	30690286	1111575663
FC (Total)		Rs.	12267543977	1056803760	13324407726

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	Budget	Total
<i>Quantum</i>					
April 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	MVCA Worksheet for June 2019	MU	0.155	-	0.155
June 2019	MVCA Worksheet for July 2019	MU	0.482	-	0.482
July 2019	MVCA Worksheet for August 2019	MU	1.372	-	1.372
August 2019	MVCA Worksheet for September 2019	MU	6.408	-	6.408
September 2019	MVCA Worksheet for October 2019	MU	0.065	-	0.065
October 2019	MVCA Worksheet for November 2019	MU	-	-	-
November 2019	MVCA Worksheet for December 2019	MU	0.194	-	0.194
December 2019	MVCA Worksheet for January 2020	MU	33.378	-	33.378
January 2020	Annexure 5	MU	102.705	-	102.705
E_x (Total)		MU	145.145	-	145.145
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	MVCA Worksheet for June 2019	Rs	428035	-	428035
June 2019	MVCA Worksheet for July 2019	Rs	168417506	-	168417506
July 2019	MVCA Worksheet for August 2019	Rs	392621178	-	392621178
August 2019	MVCA Worksheet for September 2019	Rs	412360974	-	412360974
September 2019	MVCA Worksheet for October 2019	Rs	116453771	-	116453771
October 2019	MVCA Worksheet for November 2019	Rs	104927736	-	104927736
November 2019	MVCA Worksheet for December 2019	Rs	18731642	-	18731642
December 2019	MVCA Worksheet for January 2020	Rs	3692820	-	3692820
January 2020	Annexure 5	Rs	45174560	-	45174560
R-E_x (Total)		Rs.	1265917699	-	1265917699

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 January 2020 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	493.661	11.037	504.698
Auxiliary Consumption	B	MU	44.429	0.993	45.423
Energy sent out	C = A - B	MU	449.232	10.044	459.275
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	9555	9570	
Heat Value of Coal (Annexure 9)	G	kCal/Kg	4098	4862	
Overall Permitted Heat	H=A*D	GCal	1219343	32008	
Permitted Heat from Oil	I=F*A*E/10^3	GCal	6132	222	
Permitted Heat from Coal	J=G-I	GCal	1213211	31786	
Permitted Oil Consumption	K=(I/F)*10^3	KL	642	23	
Permitted Coal Consumption	L=J/G/.9925*10^3	Tonne	298287	6587	
Cost of Oil per KL	M	Rs./KL	50000	51900	
Cost of Coal per Tonne (Annexure 9)	N	Rs./Tonne	3516	4478	
Cost of Oil	O=K*M	Rs.	32100000	1193700	33293700
Cost of Coal	P=L*N	Rs.	1048785377	29496586	1078281963
Cost of Fuel	Q=O+P	Rs.	1080885377	30690286	1111575663
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	4.373551		4.373551
Cost of Units sold to persons other than consumers	R=A1/C*Q	Rs.	10523098		10523098
Net Fuel Cost	S=Q-R	Rs.	1070362279	30690286	1101052565

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	848.361	141.148	989.509
Projected fuel cost of generation	FC _{proj}	Rs.	2252565277	458116721	2710681998

Projection considers effect of Coal Price Notification No. CIL:S&M:GM(F)/Pricing 2018/07 dated 8 January 2018 and BCCL/M&S/SA/18/142 dated 14 September 2018



UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	MVCA Worksheet for June 2019	MU	2.087139
June 2019	MVCA Worksheet for July 2019	MU	8.147801
July 2019	MVCA Worksheet for August 2019	MU	6.957231
August 2019	MVCA Worksheet for September 2019	MU	2.636838
September 2019	MVCA Worksheet for October 2019	MU	5.417769
November 2019	MVCA Worksheet for December 2019	MU	4.905481
January 2020	Annexure 7	MU	2.781314
UI_{in} (Total)		MU	34.574812
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	MVCA Worksheet for June 2019	Rs	14184079
June 2019	MVCA Worksheet for July 2019	Rs	18292159
July 2019	MVCA Worksheet for August 2019	Rs	15597510
August 2019	MVCA Worksheet for September 2019	Rs	213924
September 2019	MVCA Worksheet for October 2019	Rs	9326683
November 2019	MVCA Worksheet for December 2019	Rs	10905549
January 2020	Annexure 7	Rs	7151394
UI cost_{in} (Total)		Rs.	86047083

II. UI_{out}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
October 2019	MVCA Worksheet for November 2019	MU	-1.067913
December 2019	MVCA Worksheet for January 2020	MU	0.658584
UI_{out} (Total)		MU	-0.409329
<i>Revenue</i>			
October 2019	MVCA Worksheet for November 2019	Rs.	1425397
December 2019	MVCA Worksheet for January 2020	Rs.	240208
R-UI_{out} (Total)			1665605



UI charge details for the month of January 2020

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	40	(-) 52.801932	(-) 52.935560	0.133628	(-) 142720
2	41	(-) 44.960456	(-) 46.424790	1.464334	4162104
3	42	(-) 46.930071	(-) 48.310140	1.380069	4256755
4	43	(-) 42.166125	(-) 42.375550	0.209425	(-) 459987
5	44	(-) 43.107372	(-) 42.701230	(-) 0.406142	(-) 664758
Total (Annexure 6)				2.781314	7151394



Computation of Δ_{adj}

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	7647.179
Energy Sales for remaining period	B	MU	2144.865
Energy Sales	$C = A + B (E_{SC})$	MU	9792.044
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	45201596281
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	33502290324
Cost recoverable through balance period	$F = D - E$	Rs.	11699305957
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	5.4546
Underrecovery at Rs.5.4546 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	8209745719
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	8209745000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC January 2020

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G4	6101	19911	4528	6.7%	5677
		G5	5801	668	4172	0.2%	5238
		G7	5201	37427	3179	12.5%	4363
		G8	4901	41228	2726	13.8%	3994
		G4 _{e auction}	6101	55294	5034	18.5%	5677
	Captive	ROM and Washed		143760	1391	48.2%	3227
	Overall			298287	2691	100.0%	4098
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	825		
Landed Cost				Rs / MT	3516		
Total Cost (Rs. Lakhs)				Rs Lakhs	10488		

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Southern Generating Station	Coal India Limited	G4	6101	2707	4301	41.1%	5677
		G7	5201	3150	3066	47.8%	4363
		G8	4901	730	2599	11.1%	3994
		Overall			6587	3522	100.0%
Transportation / Washing Charges/ Handling/KPT Charges etc.				Rs / MT	956		
Landed Cost				Rs / MT	4478		
Total Cost (Rs. Lakhs)				Rs Lakhs	295		

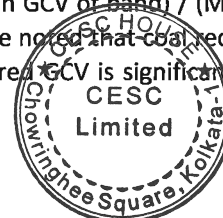
* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 74.06% have been considered for captive washed coal (finalised yield is 74.06%, for the latest available year, furnished through the FPPCA petition 2018-19)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G8: Interpolated UHV = $(GCV - \text{Min GCV of band}) / (\text{Max GCV of band} - \text{Min GCV of band}) * (\text{Max UHV of band} - \text{Min UHV of band}) + \text{Min UHV of band}$. It may be noted that coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as-fired GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.





RP - Sanjiv Goenka
Group

Growing Legacies



CORP:SERV:2393

31 March 2020

The Secretary
Hon'ble West Bengal Electricity Regulatory Commission
Plot No - AH/5, Premises No. MAR 16-1111
Action Area - 1A, New Town, Rajarhat
Kolkata - 700 163

Sir,

MVCA - March 2020

We enclose herewith MVCA calculations of CESC Limited for March 2020, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,

Vice President

(Corporate Services & Regulatory Affairs)

Encl.



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 March 2020

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e_{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
pp_{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	5341.401
E_G	Total sent out from own generation	Annexure 4	MU	5139.748
E_x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 4	MU	284.305
E_{p_PSP}	Net Power drawal for pumping energy of Pumped Storage Project	Not applicable	MU	-
U_{i_in}	Net power drawal in UI mode	Annexure 6	MU	34.575
U_{i_out}	Net power exported in UI mode	Annexure 6	MU	5.675
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.	27792248938
FC	Total fuel cost of generation	Annexure 4	Rs.	14449656805
$U_{i_cost_in}$	Power purchase cost for U_{i_in}	Annexure 6	Rs.	86047083
$R-E_x$	Revenue earned on account of part of variable cost only due to Energy sold against E_x	Annexure 4	Rs.	1372723457
$R-U_{i_out}$	Revenue earned due to power exported in UI mode	Annexure 6	Rs.	22712058
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 March 2020

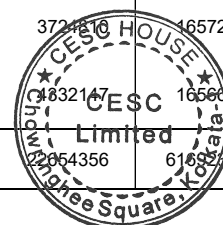
d) Values to be taken for the balance period of the year			
P_{proj}	Projected power purchase cost for the balance period of the year beyond the month under consideration for the balance energy projected to be procured	Annexure 3	Rs. 2360799654
FC_{proj}	Projected Fuel cost for the generating stations of the Licensee for the balance period of the year beyond the month under consideration	Annexure 5	Rs. 1386569511
E_{proj}	Projected energy to be purchased for the balance period of the year	Annexure 3	MU 451.703
$E_{P_PSP_proj}$	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 511.246
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	$E_P + E_G + U_{in} + E_{proj} + E_{G_proj}$	MU 11478.673
$Tot_{ENR_consumer}$	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 11188.694
MVC	Total variable cost	$PP_{cost} + FC + U_{costin} + P_{proj} + FC_{proj} + \Delta Adj$	Rs. 62053103991
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs. 60657668476
E_{SC}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU 9588.711
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 8	Rs. 15977782000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{SC} \times 10^6)$	Rs./kWh 6.3259
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs. 39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh 4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh 223.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				
			HEL	Cogeneration	Solar	Supplemental	TOTAL
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8.620	-	176.979	507.474
May 2019	MVCA Worksheet for June 2019	MU	365.755	9.829	0.350	276.249	652.183
June 2019	MVCA Worksheet for July 2019	MU	360.686	10.163	0.268	242.959	614.076
July 2019	MVCA Worksheet for August 2019	MU	389.801	11.390	0.177	216.260	617.628
August 2019	MVCA Worksheet for September 2019	MU	380.576	11.418	0.167	147.299	539.461
September 2019	MVCA Worksheet for October 2019	MU	371.073	7.979	0.179	120.720	499.952
October 2019	MVCA Worksheet for November 2019	MU	353.538	6.484	0.230	75.263	435.515
November 2019	MVCA Worksheet for December 2019	MU	358.125	8.456	0.396	69.372	436.348
December 2019	MVCA Worksheet for January 2020	MU	350.716	8.582	0.443	35.442	395.182
January 2020	MVCA Worksheet for February 2020	MU	251.704	7.219	0.590	43.735	303.247
February 2020	Annexure 2	MU	292.025	9.376	0.678	38.256	340.336
E_p (Total)		MU	3795.875	99.515	3.478	1442.534	5341.401
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	MVCA Worksheet for June 2019	Rs	2001944420	35402097	2302383	1190352632	3230001532
June 2019	MVCA Worksheet for July 2019	Rs	1962969746	36542961	1678589	1054429428	3055620723
July 2019	MVCA Worksheet for August 2019	Rs	2092162915	40877784	1270526	980294066	3114605291
August 2019	MVCA Worksheet for September 2019	Rs	2059345593	40978071	1252913	699105662	2800682239
September 2019	MVCA Worksheet for October 2019	Rs	2001732587	28867391	1320524	480546392	2512466895
October 2019	MVCA Worksheet for November 2019	Rs	1985619552	23623566	1601621	320911321	2331756060
November 2019	MVCA Worksheet for December 2019	Rs	1966029252	31596440	2341924	266834143	2266801759
December 2019	MVCA Worksheet for January 2020	Rs	1971859591	33072739	2828920	145591304	2153352554
January 2020	MVCA Worksheet for February 2020	Rs	1593660304	47715577	3724810	165725076	1810825767
February 2020	Annexure 2	Rs	1747025138	38765677	1832147	165688861	1955786823
PP_{cost} (Total)		Rs	21211786593	388572900	2064356	6189275090	27792248938



Power Purchase details for the month of February 2020**Power Purchase Cost Analysis**

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	292.025
Power Purchase Cost			
Energy Charge	Rs.	B	810165829
Fixed Charge	Rs.	C	763844246
MFCA	Rs.	D	44289251
Other Charges	Rs.	E	128725812
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	1747025138

Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Short Term Power	Overall
Power Purchase Quantum							
Chargeable Units (Annexure 1)	MU	A	9.376	0.678	18.741	19.51	48.310
Cost of Other Power Purchase (Annexure 1)	Rs.	B	38765677	4332147	67719942	97943919	208761685

Cost of cogeneration power includes wheeling charge for the period pertaining to January 2020 and February 2020 as per bill dated 13 March 2020



Values in terms of Order in Case No : TP – 72 / 16 - 17 to be considered for projected values of power purchase for balance period of the year

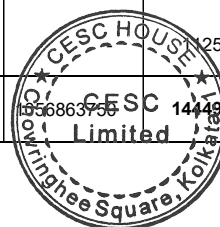
Particulars	Unit	Particulars	HEL	Cogeneration	Solar	Other Supplemental
Power Purchase Quantum	MU	E_{proj}	326.516	9.148	0.085	115.954
Projected Power Purchase cost	Rs.	P_{proj}	1822400494	35720064	553638	502125458



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for ex-bus generation for the period up to the month under consideration

Particulars	Reference / Basis	Unit	Amount		
			Budge	Southern	Total
<i>Generation Quantum</i>					
April 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	MVCA Worksheet for June 2019	MU	494.647	51.227	545.874
June 2019	MVCA Worksheet for July 2019	MU	478.959	36.649	515.608
July 2019	MVCA Worksheet for August 2019	MU	493.520	38.015	531.534
August 2019	MVCA Worksheet for September 2019	MU	491.498	24.311	515.809
September 2019	MVCA Worksheet for October 2019	MU	474.975	36.060	511.035
October 2019	MVCA Worksheet for November 2019	MU	449.462	32.490	481.952
November 2019	MVCA Worksheet for December 2019	MU	294.167	16.893	311.060
December 2019	MVCA Worksheet for January 2020	MU	299.104	22.083	321.187
January 2020	MVCA Worksheet for February 2020	MU	449.232	10.044	459.275
February 2020	Annexure 5	MU	444.859	0.000	444.859
E_G (Total)		MU	4831.019	308.729	5139.748
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	MVCA Worksheet for June 2019	Rs	1362494008	159046172	1521540180
June 2019	MVCA Worksheet for July 2019	Rs	1458853007	124972699	1583825706
July 2019	MVCA Worksheet for August 2019	Rs	1390314633	125495850	1515810483
August 2019	MVCA Worksheet for September 2019	Rs	1523398592	94474816	1617873408
September 2019	MVCA Worksheet for October 2019	Rs	1412470443	150712900	1563183343
October 2019	MVCA Worksheet for November 2019	Rs	1232700614	119213658	1351914272
November 2019	MVCA Worksheet for December 2019	Rs	757920523	54893088	812813611
December 2019	MVCA Worksheet for January 2020	Rs	752023540	67455874	819479414
January 2020	MVCA Worksheet for February 2020	Rs	1080885377	30690286	1111575663
February 2020	Annexure 5	Rs	1125249078		1125249078
FC (Total)		Rs.	13392793055	14449656805	13392793055

Kindly refer to the Note under the worksheet for the month

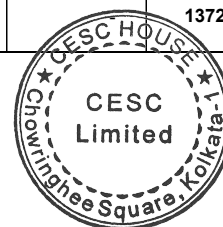


Energy sold to persons other than own consumers and WBSEDCL including permissible losses

Particulars	Reference / Basis	Unit	Amount		
			Budge Budge	Southern	Total
<i>Quantum</i>					
April 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	MVCA Worksheet for June 2019	MU	0.155	-	0.155
June 2019	MVCA Worksheet for July 2019	MU	0.482	-	0.482
July 2019	MVCA Worksheet for August 2019	MU	1.372	-	1.372
August 2019	MVCA Worksheet for September 2019	MU	6.408	-	6.408
September 2019	MVCA Worksheet for October 2019	MU	0.065	-	0.065
October 2019	MVCA Worksheet for November 2019	MU	-	-	-
November 2019	MVCA Worksheet for December 2019	MU	0.194	-	0.194
December 2019	MVCA Worksheet for January 2020	MU	33.378	-	33.378
January 2020	MVCA Worksheet for February 2020	MU	102.705	-	102.705
February 2020	Annexure 5	MU	139.160	-	139.160
E_x (Total)		MU	284.305	-	284.305
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	MVCA Worksheet for June 2019	Rs	428035	-	428035
June 2019	MVCA Worksheet for July 2019	Rs	168417506	-	168417506
July 2019	MVCA Worksheet for August 2019	Rs	392621178	-	392621178
August 2019	MVCA Worksheet for September 2019	Rs	412360974	-	412360974
September 2019	MVCA Worksheet for October 2019	Rs	116453771	-	116453771
October 2019	MVCA Worksheet for November 2019	Rs	104927736	-	104927736
November 2019	MVCA Worksheet for December 2019	Rs	18731642	-	18731642
December 2019	MVCA Worksheet for January 2020	Rs	3692820	-	3692820
January 2020	MVCA Worksheet for February 2020	Rs	45174560	-	45174560
February 2020	Annexure 5	Rs	106805758	-	106805758
R-E_x (Total)		Rs.	1372723457		1372723457

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 February 2020 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	488.856	-	488.856
Auxiliary Consumption	B	MU	43.997	-	43.997
Energy sent out	C = A - B	MU	444.859	-	444.859
Permitted Heat Rate	D	kCal/kWh generated	2470	-	
Permitted Oil Consumption	E	ml/kWh	1.30	-	
Heat Value of Oil	F	kCal/Litre	9563	-	
Heat Value of Coal (Annexure 9)	G	kCal/Kg	3765	-	
Overall Permitted Heat	H=A*D	GCal	1207474	-	
Permitted Heat from Oil	I=F*A*E/10 ³	GCal	6077	-	
Permitted Heat from Coal	J=G-I	GCal	1201397	-	
Permitted Oil Consumption	K=(I/F)*10 ³	KL	635		
Permitted Coal Consumption	L=J/G/.9925*10 ³	Tonne	321507		
Cost of Oil per KL	M	Rs./KL	50000		
Cost of Coal per Tonne (Annexure 9)	N	Rs./Tonne	3401		
Cost of Oil	O=K*M	Rs.	31750000	-	31750000
Cost of Coal	P=L*N	Rs.	1093499078	-	1093499078
Cost of Fuel	Q=O+P	Rs.	1125249078	-	1125249078
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	2.659473		2.659473
Cost of Units sold to persons other than consumers	R=A1/C*Q	Rs.	6727013		6727013
Net Fuel Cost	S=Q-R	Rs.	1118522065	-	1118522065

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018

Values in terms of Order in Case No : TP – 72 / 16 - 17 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	438.320	72.926	511.246
Projected fuel cost of generation	FC_{proj}	Rs.	1149894853	236674658	1386569511

Projection considers effect of Coal Price Notification No. CIL:S&M:GM(F)/Pricing 2018/07 dated 8 January 2018 and BCCL/M&S/SA/18/142 dated 14 September 2018



UI Details upto the month under consideration

I. UI_{in}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	MVCA Worksheet for June 2019	MU	2.087139
June 2019	MVCA Worksheet for July 2019	MU	8.147801
July 2019	MVCA Worksheet for August 2019	MU	6.957231
August 2019	MVCA Worksheet for September 2019	MU	2.636838
September 2019	MVCA Worksheet for October 2019	MU	5.417769
November 2019	MVCA Worksheet for December 2019	MU	4.905481
January 2020	MVCA Worksheet for February 2020	MU	2.781314
UI_{in} (Total)		MU	34.574812
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	MVCA Worksheet for June 2019	Rs	14184079
June 2019	MVCA Worksheet for July 2019	Rs	18292159
July 2019	MVCA Worksheet for August 2019	Rs	15597510
August 2019	MVCA Worksheet for September 2019	Rs	213924
September 2019	MVCA Worksheet for October 2019	Rs	9326683
November 2019	MVCA Worksheet for December 2019	Rs	10905549
January 2020	MVCA Worksheet for February 2020	Rs	7151394
UI cost_{in} (Total)		Rs.	86047083



II. UI_{out}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
October 2019	MVCA Worksheet for November 2019	MU	-1.067913
December 2019	MVCA Worksheet for January 2020	MU	0.658584
February 2020	Annexure 7	MU	6.084038
UI_{out} (Total)		MU	5.674709
<i>Revenue</i>			
October 2019	MVCA Worksheet for November 2019	Rs.	1425397
December 2019	MVCA Worksheet for January 2020	Rs.	2170208
February 2020	Annexure 7	Rs.	19116453
R-UI_{out} (Total)		Rs.	22712058



UI charge details for the month of February 2020

Annexure 7

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	45	(-) 45.940495	(-) 44.554130	(-) 1.386365	(-) 4797535
2	46	(-) 47.720645	(-) 44.914640	(-) 2.806005	(-) 8516101
3	47	(-) 52.535668	(-) 50.644000	(-) 1.891668	(-) 5802817
Total (Annexure 6)				(-) 6.084038	(-) 19116453



Computation of Δ_{adj}

Annexure 8

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	8215.026
Energy Sales for remaining period	B	MU	1373.685
Energy Sales	$C = A + B (E_{SC})$	MU	9588.711
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	44679886476
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	35990027578
Cost recoverable through balance period	$F = D - E$	Rs.	8689858898
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	6.3259
Underrecovery at Rs.6.3259 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	15977782286
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	15977782000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC February 2020

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G7	5201	14114	3165	4.4%	4363
		G8	4901	54140	2739	16.8%	3994
		G4 _{e auction}	6101	76174	4607	23.7%	5677
	Captive	ROM and Washed		177079	1563	55.1%	2825
	Overall			321507	2553	100.0%	3765
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	848		
Landed Cost				Rs / MT	3401		
Total Cost (Rs. Lakhs)				Rs Lakhs	10935		

* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 74.06% have been considered for captive washed coal (finalised yield is 74.06%, for the latest available year, furnished through the FPPCA petition 2018-19)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G8: Interpolated UHV = (GCV-Min GCV of band) / (Max GCV of band - Min GCV of band) * (Max UHV of band - Min UHV of band) + Min UHV of band. It may be noted that coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as-fired GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.





Madhumita Dey <madhumita.dey@rpsg.in>

FW: MVCA April 2020 Worksheet

1 message

Gargi Chatterjea <gargi.chatterjea@rpsg.in>

Sat, May 9, 2020 at 3:06 PM

Reply-To: gargi.chatterjea@rpsg.in

To: madhumita.dey@rpsg.in

W: www.rpsg.in**Gargi Chatterjea**Executive Director (Regulatory Affairs & Corporate Services),
CESC Limited

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From: Gargi Chatterjea <gargi.chatterjea@rpsg.in>**Sent:** 07 May 2020 14:25**To:** 'West Bengal Electricity Regulatory Commission' <cp-wberc@gov.in>; 'West Bengal Electricity Regulatory Commission' <wberc99@gmail.com>**Cc:** 'Indranil Chatterjee' <indranil.chatterjee@rpsg.in>**Subject:** MVCA April 2020 Worksheet

CORP:SERV:2397

7 May 2020



The Secretary

Hon'ble West Bengal Electricity Regulatory Commission

Plot No - AH/5, Premises No. MAR 16-1111

Action Area - 1A, New Town, Rajarhat

Kolkata – 700 163

Sir,

MVCA – April 2020

We enclose herewith MVCA calculations of CESC Limited for April 2020, for records of the Hon'ble Commission. Rate of MVCA charged remains unchanged from the previous month.

Yours faithfully,

Gargi Chatterjea

Executive Director

(Regulatory Affairs & Corporate Services)

Encl.



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911K



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 April 2020

Parameters	Details	Reference / Basis	Unit	Amount
a) From the Orders dated 04.07.2018 in Case No: TP - 72 / 16-17				
e_{sc}	Energy Sale to consumers and licensee as per Tariff Order	Items 8 & 9, Para 4.7.1, Page 28 of the Order dated 04.07.2018	MU	9720
pp_{cost}	Power purchase cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	24597900000
fc	Fuel cost allowed in the Tariff Order	Item 2, Para 6.2, Page 80 of the Order dated 04.07.2018	Rs.	15167000000
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 28 of the Order dated 04.07.2018	%	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	5632.260
E_G	Total sent out from own generation	Annexure 3	MU	5585.058
E_x	Total Energy sold to persons other than consumers and licensee including swapout	Annexure 3	MU	296.775
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 5	MU	34.575
UI_{out}	Net power exported in UI mode	Annexure 5	MU	11.396
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.	29659874884
FC	Total fuel cost of generation	Annexure 3	Rs.	15668735461
UI_{cost_in}	Power purchase cost for UI_{in}	Annexure 5	Rs.	86047083
$R-E_x$	Revenue earned on account of part of variable cost only due to Energy sold against E_x	Annexure 3	Rs.	1394022809
$R-UI_{out}$	Revenue earned due to power exported in UI mode	Annexure 5	Rs.	40401298
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 April 2020

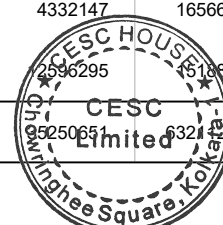
d) Values to be taken for the balance period of the year				
P_{proj}	Projected power purchase cost for the balance period of the year beyond the month under consideration for the balance energy projected to be procured		Rs.	-
FC_{proj}	Projected Fuel cost for the generating stations of the Licensee for the balance period of the year beyond the month under consideration		Rs.	-
E_{proj}	Projected energy to be purchased for the balance period of the year		MU	-
$E_{P_PSP_proj}$	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		MU	-
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	$E_P + E_G + U_{in} + E_{proj} + E_{G_proj}$	MU	11251.893
$Tot_{ENR_consumer}$	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	10943.721
MVC	Total variable cost	$PP_{cost} + FC + U_{costin} + P_{proj} + FC_{proj} + \Delta Adj$	Rs.	86601617429
$MVC_{consumer}$	Monthly variable cost for the consumers and licensee	$MVC - (R - E_x + R - U_{out} + R - E_{x_proj})$	Rs.	85167193321
E_{SC}	Energy sales to consumers and licensee	$Tot_{ENR_consumer} \times (1 - TL \times 0.01) \times (1 - DL \times 0.01)$	MU	9378.769
Δ_{adj}	Adjustment on the basis of cumulative total variable cost incurred from the start of 2019-20 upto the month under consideration	Annexure 7	Rs.	41186960000
$MVC_{unit_consumer}$	Rate of variable cost	$MVC_{consumer} / (E_{SC} \times 10^6)$	Rs./kWh	9.0808
$mvc_{consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$pp_{cost} + fc - pp_{cost_ex}$	Rs.	39764900000
$mvc_{unit_consumer}$	Variable cost considered in the Order dated 04.07.2018 of the Hon'ble Commission	$mvc_{consumer} / (e_{sc} \times 10^6)$	Rs./kWh	4.0910
MVCA	Monthly variable cost adjustment in Paise/ kWh *	$(MVC_{unit_consumer} - mvc_{unit_consumer} - Adhoc_V_{cost}) \times 100$	Paise/kWh	498.00

* MVCA of 29 Paise/kWh being charged from January 2017. Fuel and power purchase costs, in terms of the extant Regulations, shall be prayed for through appropriate petition(s).



Values in terms of Order in Case No : TP - 72 / 16 - 17 to be considered for power purchase up to the month under consideration

Particulars	Reference / Basis	Unit	Amount				TOTAL
			HEL	Cogeneration	Solar	Supplemental	
<i>Power Purchase Quantum</i>							
April 2019	MVCA Worksheet for May 2019	MU	321.875	8.620	-	176.979	507.474
May 2019	MVCA Worksheet for June 2019	MU	365.755	9.829	0.350	276.249	652.183
June 2019	MVCA Worksheet for July 2019	MU	360.686	10.163	0.268	242.959	614.076
July 2019	MVCA Worksheet for August 2019	MU	389.801	11.390	0.177	216.260	617.628
August 2019	MVCA Worksheet for September 2019	MU	380.576	11.418	0.167	147.299	539.461
September 2019	MVCA Worksheet for October 2019	MU	371.073	7.979	0.179	120.720	499.952
October 2019	MVCA Worksheet for November 2019	MU	353.538	6.484	0.230	75.263	435.515
November 2019	MVCA Worksheet for December 2019	MU	358.125	8.456	0.396	69.372	436.348
December 2019	MVCA Worksheet for January 2020	MU	350.716	8.582	0.443	35.442	395.182
January 2020	MVCA Worksheet for February 2020	MU	251.704	7.219	0.590	43.735	303.247
February 2020	MVCA Worksheet for March 2020	MU	292.025	9.376	0.678	38.256	340.336
March 2020	Annexure 2	MU	248.617	7.233	2.080	32.929	290.858
E_p (Total)		MU	4044.491	106.747	5.558	1475.463	5632.260
<i>Cost of Power Purchase</i>							
April 2019	MVCA Worksheet for May 2019	Rs	1829437497	31130596	-	699781204	2560349296
May 2019	MVCA Worksheet for June 2019	Rs	2001944420	35402097	2302383	1190352632	3230001532
June 2019	MVCA Worksheet for July 2019	Rs	1962969746	36542961	1678589	1054429428	3055620723
July 2019	MVCA Worksheet for August 2019	Rs	2092162915	40877784	1270526	980294066	3114605291
August 2019	MVCA Worksheet for September 2019	Rs	2059345593	40978071	1252913	699105662	2800682239
September 2019	MVCA Worksheet for October 2019	Rs	2001732587	28867391	1320524	480546392	2512466895
October 2019	MVCA Worksheet for November 2019	Rs	1985619552	23623566	1601621	320911321	2331756060
November 2019	MVCA Worksheet for December 2019	Rs	1966029252	31596440	2341924	266834143	2266801759
December 2019	MVCA Worksheet for January 2020	Rs	1971859591	33072739	2828920	145591304	2153352554
January 2020	MVCA Worksheet for February 2020	Rs	1593660304	47715577	3724810	165725076	1810825767
February 2020	MVCA Worksheet for March 2020	Rs	1747025138	38765677	4332147	165663861	1955786823
March 2020	Annexure 2	Rs	1673410536	29729416	2536295	451899700	1867625947
PP_{cost} (Total)		Rs	22885197129	418302316	5250651	63214790	29659874884



Power Purchase details for the month of March 2020**Power Purchase Cost Analysis**

Particulars	Unit	Derivation	HEL
Power Purchase Quantum			
Chargeable Units (Annexure 1)	MU	A	248.617
Power Purchase Cost			
Energy Charge	Rs.	B	689736800
Fixed Charge	Rs.	C	816517422
MFCA	Rs.	D	37811404
Other Charges	Rs.	E	129344909
Power Purchase cost (Annexure 1)	Rs.	F= Sum(B:E)	1673410536

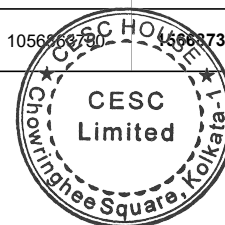
Particulars	Unit	Derivation	Cogeneration	Solar	Exchange	Short Term Power	Overall
Power Purchase Quantum							
Chargeable Units (Annexure 1)	MU	A	7.233	2.080	7.060	25.869	42.242
Cost of Other Power Purchase (Annexure 1)	Rs.	B	29729416	12596295	23170994	128718706	194215411



Values in terms of Order in Case No : TP - 72 / 16 - 17 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 2019	MVCA Worksheet for May 2019	MU	460.597	40.957	501.554
May 2019	MVCA Worksheet for June 2019	MU	494.647	51.227	545.874
June 2019	MVCA Worksheet for July 2019	MU	478.959	36.649	515.608
July 2019	MVCA Worksheet for August 2019	MU	493.520	38.015	531.534
August 2019	MVCA Worksheet for September 2019	MU	491.498	24.311	515.809
September 2019	MVCA Worksheet for October 2019	MU	474.975	36.060	511.035
October 2019	MVCA Worksheet for November 2019	MU	449.462	32.490	481.952
November 2019	MVCA Worksheet for December 2019	MU	294.167	16.893	311.060
December 2019	MVCA Worksheet for January 2020	MU	299.104	22.083	321.187
January 2020	MVCA Worksheet for February 2020	MU	449.232	10.044	459.275
February 2020	MVCA Worksheet for March 2020	MU	444.859	-	444.859
March 2020	Annexure 4	MU	445.310	-	445.310
E_G (Total)		MU	5276.329	308.729	5585.058
<i>Fuel Cost of Generation</i>					
April 2019	MVCA Worksheet for May 2019	Rs	1296483241	129908407	1426391648
May 2019	MVCA Worksheet for June 2019	Rs	1362494008	159046172	1521540180
June 2019	MVCA Worksheet for July 2019	Rs	1458853007	124972699	1583825706
July 2019	MVCA Worksheet for August 2019	Rs	1390314633	125495850	1515810483
August 2019	MVCA Worksheet for September 2019	Rs	1523398592	94474816	1617873408
September 2019	MVCA Worksheet for October 2019	Rs	1412470443	150712900	1563183343
October 2019	MVCA Worksheet for November 2019	Rs	1232700614	119213658	1351914272
November 2019	MVCA Worksheet for December 2019	Rs	757920523	54893088	812813611
December 2019	MVCA Worksheet for January 2020	Rs	752023540	67455874	819479414
January 2020	MVCA Worksheet for February 2020	Rs	1080885377	30690286	1111575663
February 2020	MVCA Worksheet for March 2020	Rs	1125249078	-	1125249078
March 2020	Annexure 4	Rs	1219078656	-	1219078656
FC (Total)		Rs.	14611871712	1056862790	15668735461

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	Budget	Total
<i>Quantum</i>					
April 2019	MVCA Worksheet for May 2019	MU	0.383	-	0.383
May 2019	MVCA Worksheet for June 2019	MU	0.155	-	0.155
June 2019	MVCA Worksheet for July 2019	MU	0.482	-	0.482
July 2019	MVCA Worksheet for August 2019	MU	1.372	-	1.372
August 2019	MVCA Worksheet for September 2019	MU	6.408	-	6.408
September 2019	MVCA Worksheet for October 2019	MU	0.065	-	0.065
October 2019	MVCA Worksheet for November 2019	MU	-	-	-
November 2019	MVCA Worksheet for December 2019	MU	0.194	-	0.194
December 2019	MVCA Worksheet for January 2020	MU	33.378	-	33.378
January 2020	MVCA Worksheet for February 2020	MU	102.705	-	102.705
February 2020	MVCA Worksheet for March 2020	MU	139.160	-	139.160
March 2020	Annexure 4	MU	12.471	-	12.471
E_x (Total)		MU	296.775	-	296.775
<i>Revenue</i>					
April 2019	MVCA Worksheet for May 2019	Rs	3109477	-	3109477
May 2019	MVCA Worksheet for June 2019	Rs	428035	-	428035
June 2019	MVCA Worksheet for July 2019	Rs	168417506	-	168417506
July 2019	MVCA Worksheet for August 2019	Rs	392621178	-	392621178
August 2019	MVCA Worksheet for September 2019	Rs	432029702	-	432029702
September 2019	MVCA Worksheet for October 2019	Rs	116453771	-	116453771
October 2019	MVCA Worksheet for November 2019	Rs	104927736	-	104927736
November 2019	MVCA Worksheet for December 2019	Rs	18731642	-	18731642
December 2019	MVCA Worksheet for January 2020	Rs	3692820	-	3692820
January 2020	MVCA Worksheet for February 2020	Rs	45174560	-	45174560
February 2020	MVCA Worksheet for March 2020	Rs	106805758	-	106805758
March 2020	Annexure 4	Rs	1630624	-	1630624
R-E_x (Total)		Rs.	1394022809	-	1394022809

Kindly refer to the Note under the worksheet for the month

* Furnished on the basis of energy settled during the year. Banked energy (swap-in / swap out) shall be dealt with in the FPPC petition for the year in terms of Tariff Regulations.



Cost of fuel for the month of March 2020 in terms of applicable Regulations

Station	Derivation	Unit	Budge Budge	Southern	Overall
Generation	A	MU	489.352	-	489.352
Auxiliary Consumption	B	MU	44.042	-	44.042
Energy sent out	C = A - B	MU	445.310	-	445.310
Permitted Heat Rate	D	kCal/kWh generated	2470	-	
Permitted Oil Consumption	E	ml/kWh	1.30	-	
Heat Value of Oil	F	kCal/Litre	9575	-	
Heat Value of Coal (Annexure 8)	G	kCal/Kg	3727	-	
Overall Permitted Heat	H=A*D	GCal	1208698	-	
Permitted Heat from Oil	I=F*A*E/10 ³	GCal	6091	-	
Permitted Heat from Coal	J=G-I	GCal	1202607	-	
Permitted Oil Consumption	K=(I/F)*10 ³	KL	636		
Permitted Coal Consumption	L=J/G/.9925*10 ³	Tonne	325113		
Cost of Oil per KL	M	Rs./KL	50000		
Cost of Coal per Tonne (Annexure 8)	N	Rs./Tonne	3652	-	
Cost of Oil	O=K*M	Rs.	31800000	-	31800000
Cost of Coal	P=L*N	Rs.	1187278656	-	1187278656
Cost of Fuel	Q=O+P	Rs.	1219078656	-	1219078656
Energy sold to persons other than own consumers and WBSEDCL including permissible losses	A1	MU	0.008215		0.008215
Cost of Units sold to persons other than consumers	R=A1/C*Q	Rs.	22490		22490
Net Fuel Cost	S=Q-R	Rs.	1219056166	-	1219056166

Coal price arrived at after netting off of captive coal disallowance in terms of Order dated 4 July 2018



UI Details upto the month under consideration**I. UI_{in}**

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
April 2019	MVCA Worksheet for May 2019	MU	1.641239
May 2019	MVCA Worksheet for June 2019	MU	2.087139
June 2019	MVCA Worksheet for July 2019	MU	8.147801
July 2019	MVCA Worksheet for August 2019	MU	6.957231
August 2019	MVCA Worksheet for September 2019	MU	2.636838
September 2019	MVCA Worksheet for October 2019	MU	5.417769
November 2019	MVCA Worksheet for December 2019	MU	4.905481
January 2020	MVCA Worksheet for February 2020	MU	2.781314
UI_{in} (Total)		MU	34.574812
<i>Amount Payable</i>			
April 2019	MVCA Worksheet for May 2019	Rs	10375785
May 2019	MVCA Worksheet for June 2019	Rs	14184079
June 2019	MVCA Worksheet for July 2019	Rs	18292159
July 2019	MVCA Worksheet for August 2019	Rs	15597510
August 2019	MVCA Worksheet for September 2019	Rs	213924
September 2019	MVCA Worksheet for October 2019	Rs	9326683
November 2019	MVCA Worksheet for December 2019	Rs	10905549
January 2020	MVCA Worksheet for February 2020	Rs	7151394
UI cost_{in} (Total)		Rs.	86047083



II. UI_{out}

Particulars	Reference / Basis	Unit	Total
<i>Quantum</i>			
October 2019	MVCA Worksheet for November 2019	MU	-1.067913
December 2019	MVCA Worksheet for January 2020	MU	0.658584
February 2020	MVCA Worksheet for March 2020	MU	6.084038
March 2020	Annexure 6	MU	5.721096
UI_{out} (Total)		MU	11.395805
<i>Revenue</i>			
October 2019	MVCA Worksheet for November 2019	Rs.	1425397
December 2019	MVCA Worksheet for January 2020	Rs.	2170208
February 2020	MVCA Worksheet for March 2020	Rs.	19116453
March 2020	Annexure 6	Rs.	17689240
R-UI_{out} (Total)		Rs.	40401298



UI charge details for the month of March 2020

Annexure 6

SI No.	Week	Scheduled Gen./drawal (MU)	Actual Gen./drawal (MU)	UI Units (MU)	Net Bill Amount (Rs)
1	48	(-) 54.861057	(-) 53.689080	(-) 1.171977	(-) 3789579
2	49	(-) 65.086070	(-) 63.750130	(-) 1.335940	(-) 4127734
3	50	(-) 65.260512	(-) 63.768460	(-) 1.492052	(-) 3508441
4	51	(-) 74.871687	(-) 73.840420	(-) 1.031267	(-) 3573387
5	52	(-) 48.179640	(-) 47.489780	(-) 0.689860	(-) 2690099
Total (Annexure 5)				(-) 5.721096	(-) 17689240



Computation of Δ_{adj}

Annexure 7

Particulars	Derivation	Unit	Value
Energy Sales up to the month under consideration (as per formula)	A	MU	8763.463
Energy Sales for remaining period	B	MU	615.306
Energy Sales	$C = A + B (E_{SC})$	MU	9378.769
Cost recoverable	$D = (MVC_{consumer} \text{ excluding effect of } \Delta_{Adj})$	Rs.	43980233321
Cost recovered during the year up to the month under consideration	$E = A \times (\text{Rate charged during past period})$	Rs.	38392731912
Cost recoverable through balance period	$F = D - E$	Rs.	5587501409
Rate of recovery needed for balance period	$G = F / B$	Rs./kWh	9.0808
Underrecovery at Rs.9.0808 / kWh in terms of formula for past period	$I = A \times (\text{Difference of rates})$	Rs.	41186960071
Δ_{Adj}	$J = \Delta_{Adj}$	Rs.	41186960000

Kindly refer to the Note under the worksheet for the month



Coal Cost Details - CESC March 2020

Query 1

Station	Source of supply	Declared Grade of Coal	GCV (Kcal/kg)	Qty (MT)	Price (excluding transportation cost) (Rs/MT)	Percentage of Total Qty received (%)	UHV* (Kcal/kg)
Budge Budge Generating Station	Coal India Limited	G7	5201	30622	3211	9.4%	4363
		G8	4901	58890	2754	18.1%	3994
		WIV		31294	2630	9.6%	3854
		G4 _{e-auction}	6101	66506	5108	20.5%	5677
		G12 _{RCR, e-auction}	3701	16052	1713	4.9%	2160
	Captive	ROM and Washed		121748	1515	37.4%	2546
	Overall			325113	2751	100.0%	3727
Transportation / Washing Charges/ Handling Charges etc.				Rs / MT	900		
Landed Cost				Rs / MT	3652		
Total Cost (Rs. Lakhs)				Rs Lakhs	11873		

* UHV has been determined in terms of Table under Regulation 5.8.15 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 ("Tariff Regulations") as applicable

1. MVCA based on the above coal cost and power purchase from various sources, determined through the methodology and formula as defined under Schedule 7B of Tariff Regulations works out to be significantly higher. All eligible costs in terms of regulations, which could not be collected through MVCA uptill now shall be prayed for under FPPCA petition in terms of annual reconciliation prescribed through regulations.

2. While all components of charges to the extent available within the permissible timeline as prescribed in the regulations have been considered, claims and reconciliation at this stage are provisional and continuing. As granularity of data based on the prevailing situation is not available at present, necessary applicable details in terms of regulations will be furnished through annual reconciliation on the basis of audited data at the time of FPPCA application. Prior period items not included in terms of the Regulations.

3. Captive coal cost includes allowable reserve price of Rs. 100/Tonne, R.E Cess, P.E Cess, Royalty, MMDR Cess, PWD Cess, AMBH, GST and other notified charges and does not include any cost of mining or additional premium paid. Washery yield ratio of 74.06% have been considered for captive washed coal (finalised yield is 74.06%, for the latest available year, furnished through the FPPCA petition 2018-19)

4. Heat value of coal received from different sources are determined through actual testing and certification in accordance with BIS standard by reputed third party agency. Applicable data are furnished on the basis of billed/declared grades for CIL subsidiaries with interpolation in terms of Table under Regulation 5.8.15 of the Tariff Regulations for deriving appropriate figures. Interpolation formulae used for Grades G4-G12: Interpolated UHV = (GCV-Min GCV of band) / (Max GCV of band - Min GCV of band) * (Max UHV of band - Min UHV of band) + Min UHV of band. It may be noted that coal received from Coal India Limited is of considerably inferior quality, as informed from time to time and as-fired GCV is significantly lower. For captive coal, heat value is furnished on the basis of third party analysis.



Reconciliation Statement: 2019-20

Rs. Lakhs

Particulars	MVCA	FPPC	Reference	Variation
Power Purchase Cost	296599	283142	Annex A5	(-) 13457
Normative Fuel Cost	142747	155424	Annex A1	12677
Less Gain Share with consumers		144	Annex B1, B2, B3	144
UI	456			(-) 456

Notes :

1. Basis of computation for FPPC under Schedule-7A and MVCA under Schedule-7B of the Tariff Regulations are different. The former does not consider UI, but considers the effect of distribution related efficiency parameters. Distribution related parameters have not been considered for the purpose of this statement as the same does not feature under MVCA.

2. All data and parameters are finalised through audit at the end of the year, necessitating both + / - adjustments, as applicable. Thus FPPC figures are based on audited data, whereas MVCA figures capture the effect of various parameters only upto the fifteenth of the subsequent month in terms of the Tariff Regulations. While all relevant inputs (bills etc.) were duly considered, there are minor variations on the above account.



Details of Fuel Consumption (stationwise)

Budge Budge
2019-20

Name/Source of coalfields											Overall	
	G4	G5	G7	G8	G9	G10	G11	G12	NCW	WIV		
ECL	6.11%	6.74%	5.59%	6.23%								24.67%
BCCL					0.15%	0.01%				8.09%		8.25%
CCL						0.46%		0.47%				0.93%
E-auction	6.50%			1.03%		0.88%	2.58%		1.76%	9.05%		21.80%
Captive Indigenous												23.42%
Captive Washed *												20.93%
Overall	12.61%	6.74%	5.59%	7.26%	0.15%	1.35%	2.58%	0.47%	1.76%	17.14%		100.00%

Overall Consumption of coal, including effect of transit loss, for FY20 works out to 3856616 MT

- Washed by the Company to meet with environmental standards (Kindly refer to Regulation 2.2.2 of the Tariff Regulations)



Details of Fuel Consumption (stationwise)

Southern
2019-20

Name/Source of coalfields											Overall	
	G4	G5	G7	G8	G9	G10	G11	G12	NCW	WIV		
ECL	44.31%	4.21%	6.13%	21.37%								76.02%
BCCL											1.45%	1.45%
E-auction				1.43%		1.54%	12.49%		2.72%		1.45%	19.63%
Captive Indigenous												1.38%
Captive Washed *												1.52%
Overall	44.31%	4.21%	6.13%	22.80%	-	1.54%	12.49%	-	2.72%		2.90%	100.00%

Overall Consumption of coal, including effect of transit loss, for FY20 works out to 213364 MT

* Washed by the Company to meet with environmental standards (Kindly refer to Regulation 2.2.2 of the Tariff Regulations)



Break-up of Transportation & Other costs of Coal

Budge Budge (2019-20)

Elements of Costs	Sources						Overall
	ECL	BCCL	MCL	Captive	CCL	Impoi	
Railway Freight	770	914		757	1241		820
FCI Charges							3
Demurrage Charge							2
Fuel assurance and security charges							142
Railway track maintenance							0.4
Siding Charges							20

Transportation and other cost of coal under this form for Budge Budge Generating Station works out to

987 Rs./MT



Break-up of Transportation & Other costs of Coal

Southern (2019-20)

Elements of Costs	Sources						Overall
	ECL	BCCL	MCL	Captive	CCL	Impoi	
Railway Freight	728	297			952		726
Kolkata Port Trust (KPT) Charges							73
Demurrage Charge							5
Terminal Charges and RITES							78
Fuel assurance and security charges							162
Railway track maintenance							27

Transportation and other cost of coal under this form for Southern Generating Station works out to

1071 Rs./MT



BUDGE BUDGE GENERATING STATION (FULL COST OF CAPTIVE MINE)

COST OF PRIMARY FUEL

2019-20

TABLE

Rs./Tonne

Grade	Basic	Sizing Charges	Royalty	Charges to NMET	Charges to DMF	GST Compensation Cess	R.E. CESS	P. E. CESS	Miscellaneous cess and statutory charges ⁶	Average Incidental Charges ⁷	GST	Evacuation Charges	TOTAL
ECL - 'Grade G4'	3000	87	7	0	2	400	600	150	2	23	197	50	4518
ECL - 'Grade G4' e-auction	3450	87	7	0	2	400	600	150	2	66	221	50	5035
ECL - 'Grade G5'	2737	87	6	0	2	400	547	137	2	55	181	50	4204
ECL - 'Grade G7'	1926	87	6	0	2	400	385	96	2	82	132	50	3168
ECL - 'Grade G8'	1465	87	4	0	1	400	293	73	2	232	111	50	2718
BCCL - 'Grade G8' e-auction	2186	87	306	6	92	400	-	-	22	33	139	50	3322
BCCL - 'Grade WIV'	2600	87	364	7	109	400	-	-	26	76	167	50	3887
BCCL - 'Grade WIV' e-auction	2879	87	403	8	121	400	-	-	29	47	181	50	4205
BCCL - 'Grade G9'	1140	87	160	3	48	400	-	-	11	60	80	50	2039
BCCL - 'Grade G10'	1024	87	143	3	43	400	-	-	10	7	70	50	1837
CCL - 'Grade G10' RCR	1024	56	143	3	43	400	-	-	-	41	68	50	1828
CCL - 'Grade G10' e auction	1221	87	171	3	51	400	-	-	-	41	81	50	2106
CCL - NCW e-auction	2473	-	-	-	-	400	-	-	-	44	131	50	3098
Captive Washed	1843	109	3	0	0	77	257	64	3	428	395	50	3229
CCL - 'Grade G11' e auction	1168	87	164	3	49	400	-	-	-	59	78	50	2058
Captive Indigenous	1370	81	3	0	0	57	191	48	2	145	293	50	2241
CCL - 'Grade G12' RCR	886	87	124	2	37	400	-	-	-	42	61	50	1690



BUDGE BUDGE GENERATING STATION (FULL COST OF CAPTIVE MINE)**COST OF PRIMARY FUEL**

2019-20

Notes:

1. The Rates are as prevalent rates for 2019-20, as per Notifications dated 8 January 2018, 13 January 2017, 11 March 2017, 14 September 2018, 29 December 2018, 31 August 2017, 29 November 2018, 30 November 2019, 31 January 2019, 1 August 2019, 5 November 2018, 1 June 2019, 28 June 2017, 30 June 2017, 19 December 2017, 10 May 2012, 26 March 2015, 20 October 2015, 9 January 2018, 31 October 2018, 27 December 2018

2. Current rate Schedule of CIL enclosed in Appendix for comprehensive details. As per Fuel Supply Agreement with Coal India Limited, supply beyond 90% of Annual Contracted Quantity (ACQ) attract higher charges. Impact is Rs. 6 / Tonne.

3. Grade slippage adjustments pertaining to prior years not included in the above rates. Impact Rs. (-) 27 / Tonne.

4. For captive coal, basic price has been considered in terms of Regulation 5.8.1 iii) of the Tariff Regulations. Basic price includes reserve price and additional premium paid.

5. Cost of Captive washed coal has been considered at cost of captive indigenous coal, grossed up with washery yield of 74.373%. Washing charges for captive washed coal is Rs. 219/ tonne as included under Average Incidental Charges.

6. Miscellaneous cess and statutory charges include PWD Cess, Road Cess, AMBH, MADA etc. as applicable.

7. Average Incidental charges include intra-colliery transportation cost, washing charges, underloading charges etc. as applicable.

8. Railway related reconciliation of Rs. (-) 35 / Tonne pertaining to prior years not included in the above rates.

9. Consumption rate of coal has been arrived at on the basis of rate of coal purchased, adjusted for opening and closing stock.

Particulars	Tonne (MT)	Rate (Rs./T)
Opening stock	273290	4026.91
Purchase	3361575	4239.36
Closing Stock	263785	4056.39
Consumption (Auditors' Certificate)	3371079	4236.45

10. Railway freight and associated charges of Rs 987 / MT not included in the above rates.



SOUTHERN GENERATING STATION

COST OF PRIMARY FUEL

2019-20

TABLE

Rs./Tonne

Type	Basic	Sizing Charges	Royalty	Charges to NMET	Charges to DMF	GST Compensation Cess	R.E. CESS	P. E. CESS	Miscellaneous cess and statutory charges ²	Average Incidental Charges ³	GST	Evacuation Charges	TOTAL
ECL - Grade'G4'	3000	87	6	0	2	400	600	150	2	53	197	50	4548
ECL - Grade'G5'	2737	87	6	0	2	400	547	137	2	28	181	50	4177
ECL - Grade'G7'	1926	87	6	0	2	400	385	96	2	98	133	50	3185
ECL - Grade'G8'	1465	87	4	0	1	400	293	73	2	233	111	50	2721
BCCL - 'Grade G8' e-auction	2415	87	338	7	101	400	-	-	24	35	153	50	3610
BCCL - 'Grade WIV'	2600	87	364	7	109	400	-	-	26	38	167	50	3848
BCCL - 'Grade WIV' e-auction	2860	87	400	8	120	400	-	-	29	65	182	50	4202
CCL - 'Grade G10' e auction	1221	87	171	3	51	400	-	-	-	41	81	50	2106
CCL - NCW e-auction	2473	-	-	-	-	400	-	-	-	-58	131	50	2996
Captive Washed	1843	109	3	0	0	77	257	64	3	407	395	50	3208
CCL - 'Grade G11' e auction	1168	87	164	3	49	400	-	-	-	41	78	50	2040
Captive Indigenous	1370	81	3	0	0	57	191	48	2	125	293	50	2220

Notes:

1. The Rates are as prevalent rates for 2019-20, as per Notifications dated 8 January 2018, 13 January 2017, 11 March 2017, 14 September 2018, 29 December 2018, 31 August 2017, 29 November 2018, 30 November 2019, 31 January 2019, 1 August 2019, 5 November 2018, 1 June 2019, 28 June 2017, 30 June 2017, 19 December 2017, 10 May 2012, 26 March 2015, 20 October 2015, 9 January 2018, 31 October 2018, 27 December 2018

2. For captive coal, basic price has been considered in terms of Regulation 5.8.1 iii) of the Tariff Regulations. Basic price includes reserve price and additional premium paid.

3. Cost of Captive washed coal has been considered at cost of captive indigenous coal, grossed up with washery yield of 74.373%. Washing charges for captive washed coal is Rs. 219/ tonne as included under Average Incidental Charges.

4. Miscellaneous cess and statutory charges include PWD Cess, Road Cess, AMBH, MADA etc. as applicable

5. Average Incidental charges include intra-colliery transportation cost, underloading charges etc. as applicable



6. Consumption rate of coal has been arrived at on the basis of rate of coal purchased, adjusted for opening and closing stock

Particulars	Tonne (MT)	Rate (Rs./T)
Opening stock	29542	4806.11
Purchase	259718	4655.84
Closing Stock	52682	4307.93
Consumption (Auditors' Certificate)	236578	4752.84

7. Railway freight and associated charges of Rs 1071 / MT not included in the above rates



Coal Procurement Details

Budge Budge Generating Station

Grades	BCCL		ECL		CCL		Captive Indigenous		Captive Washed		E-auction		Overall	
	Mix	UHV	Mix	UHV	Mix	UHV	Mix	UHV	Mix	UHV	Mix	UHV	Mix	Heat Value
	%	Kcal/Kg	%	Kcal/Kg	%	Kcal/Kg	%	Kcal/Kg	%	Kcal/Kg	%	Kcal/Kg	%	Kcal/Kg
G4			6.11%	5677							6.50%	5677	12.61%	5677
G5			6.74%	5238									6.74%	5238
G7			5.59%	4363									5.59%	4363
G8	0.00%	3994	6.23%	3994							1.03%	3994	7.26%	3994
G9	0.15%	3664									0.00%	3664	0.15%	3664
G10	0.01%	3312			0.46%	3312					0.88%	3312	1.35%	3312
G11											2.58%	2684	2.58%	2684
G12					0.47%	2160							0.47%	2160
WIV	8.09%	3854									9.05%	3854	17.14%	3854
NCW											1.76%	3518	1.76%	3518
Captive indigenous							23.42%	2686					23.42%	2686
Captive Washed									20.93%	3248			20.93%	3248
Overall	8.25%	3850	24.67%	4834	0.93%	2730	23.42%	2686	20.93%	3248	21.80%	4217	100.00%	3764

* Table furnished on the basis of billed grades (converted to UHV) in terms of the Table under Regulation 5.8.15 of the Tariff Regulations, 2011 for subsidiaries of Coal India Limited. Coal received from them is of considerably inferior quality, as informed from time to time. Technical Certificates for all consignments and Auditors' Certificates on heat value have been furnished in this petition.



Coal Procurement Details

Southern Generating Station

Grades	BCCL		ECL		CCL		Captive indigenous		Captive Washed		E-auction		Overall	
	Mix	UHV	Mix	UHV	Mix	UHV	Mix	UHV	Mix	UHV	Mix	UHV	Mix	Heat Value
	%	Kcal/Kg	%	Kcal/Kg	%	Kcal/Kg	%	Kcal/Kg	%	Kcal/Kg	%	Kcal/Kg	%	Kcal/Kg
G4			44.31%	5677									44.31%	5677
G5			4.21%	5238									4.21%	5238
G7			6.13%	4363									6.13%	4363
G8			21.37%	3994							1.43%	3994	22.80%	3994
WIV	1.45%	3854									1.45%	3854	2.90%	3854
G10											1.54%	3312	1.54%	3312
G11											12.49%	2684	12.49%	2684
NCW											2.72%	3663	2.72%	3663
Captive indigenous							1.38%	2381					1.38%	2381
Captive Washed									1.52%	3038			1.52%	3038
Overall	1.45%	3854	76.02%	5074			1.38%	2381	1.52%	3038	19.63%	3051	100.00%	4591

* Table furnished on the basis of billed grades (converted to UHV) in terms of the Table under Regulation 5.8.15 of the Tariff Regulations, 2011 for subsidiaries of Coal India Limited. Coal received from them is of considerably inferior quality, as informed from time to time. Technical Certificates for all consignments and Auditors' Certificates on heat value have been furnished in this petition.



Coal cost netting off in terms of Order dated 28 October 2016

Items	Units	Particulars
1. Captive Indigenous coal considered at full cost	Rs. / Tonne	1370
2. Captive Indigenous coal cost in terms of order dated 28 October 2016	Rs. / Tonne	100
3. Deduction in terms of order dated 28 October 2016 (1 - 2)	Rs. / Tonne	1270
4. Equivalent ROM coal at plant-end corresponding to production at captive coal mine (ROM and Washed equivalent)	Lakh Tonnes	17.41
5. Total cost netted off	Rs. Lakhs	22111

Cost of coal per tonne (Item 1) includes mining cost, reserve price and additional premium paid.

Kindly refer to Annex A1 and Statement 3 for details.



Cost of Indigenous Coal in terms of Regulation 5.8.1 (iii)

Budge Budge Generating Station

Non-CIL Indigenous coal

Type	P _{grade} Rs./Tonne	CLWT _g Tonne	P _{grade} x CLWT _g Rs.	P _{admin} Rs/Tonne	UHV _{gm} Kcal/Kg	UHV _{gm} xCLWT _g Kcalx10 ³	X =UHV _{admin} Kcal/Kg	P _{ind} Rs./Gcal
[A]	[B]	[C]	[D=BxC]	[E=D/C]	[F]	[G=FxC]	[H = G/C]	[I = E/Hx10 ³]
G2	3288.00	2038	6700451		6437	13117640		
G8	1465.00	4233	6200862		3994	16903458		
G9	1140.00	12740	14523121		3664	46679819		
G10	1024.00	30022	30742252		3312	99428968		
G11	955.00	294906	281635354		2684	791657812		
G12	886.00	390170	345691028		2160	842811112		
G13	817.00	37394	30550898		1721	64365544		
G14	748.00	11726	8770726		1282	15037420		
G17	447.00	3954	1767465		920	3637735		
Σ		787182	726582156	923		1893639509	2406	384

Price of Non-CIL indigenous coal works out to Rs. 37 / Gcal

For Washed Coal

Type	P _{grade} Rs./Tonne	CLWT _g Tonne	P _{grade} x CLWT _g Rs.	P _{admin} Rs/Tonne	UHV _{gm} Kcal/Kg	UHV _{gm} xCLWT _g Kcalx10 ³	X =UHV _{admin} Kcal/Kg	P _{ind} Rs./Gcal
[A]	[B]	[C]	[D=BxC]	[E=D/C]	[F]	[G=FxC]	[H = G/C]	[I = E/Hx10 ³]
G8	1465.00	4457	6529329		3994	17798856		
G9	1140.00	55906	63732281		3664	204846558		
G10	1024.00	243494	249338184		3312	806428838		
G11	955.00	368861	352262647		2684	990186323		
G12	886.00	30740	27235224		2160	66400766		
Σ		703458	699097664	994		2085661342	2965	335

Price of Non-CIL indigenous washed coal works out to Rs. 109 / Gcal

Non-CIL indigenous coal is sourced from captive mine at Sarishatoli. Cost of Non-CIL indigenous coal is well within the limits prescribed under the Regulation 5.8.1 (iii) of the Tariff Regulations.



Cost of Indigenous Coal in terms of Regulation 5.8.1 (iii)

Southern Generating Station

Non-CIL Indigenous coal

Type	P _{grade} Rs./Tonne	CLWT _g Tonne	P _{grade} x CLWT _g Rs.	P _{admin} Rs/Tonne	UHV _{gm} Kcal/Kg	UHV _{gm} xCLWT _g Kcalx10 ³	X =UHV _{admin} Kcal/Kg	P _{ind} Rs./Gcal
[A]	[B]	[C]	[D=BxC]	[E=D/C]	[F]	[G=FxC]	[H = G/C]	[I = E/Hx10 ³]
G12	886.00	3575	3167184		2160	7721745		
Σ		3575	3167184	886		7721745	2160	410

Price of Non-CIL indigenous coal works out to Rs. 42 / Gcal

For Washed Coal

Type	P _{grade} Rs./Tonne	CLWT _g Tonne	P _{grade} x CLWT _g Rs.	P _{admin} Rs/Tonne	UHV _{gm} Kcal/Kg	UHV _{gm} xCLWT _g Kcalx10 ³	X =UHV _{admin} Kcal/Kg	P _{ind} Rs./Gcal
[A]	[B]	[C]	[D=BxC]	[E=D/C]	[F]	[G=FxC]	[H = G/C]	[I = E/Hx10 ³]
G11	955.00	3943	3765546		2684	10582958		
Σ		3943	3765546	955		10582958	2684	356

Price of Non-CIL indigenous washed coal works out to Rs. 116 / Gcal

Non-CIL indigenous coal is sourced from captive mine at Sarishatoli. Cost of Non-CIL indigenous coal is well within the limits prescribed under the Regulation 5.8.1 (iii) of the Tariff Regulations.



Budge Budge Generating Station

Sl. No.	Particulars	Unit	Amount
i	Annual quantity of raw coal used for washing	Tonne	953316
ii	Annual quantity of washed coal derived from above	Tonne	709012
iii	Percentage of Yield	%	74.37%
iv	Grade of input raw coal ¹		G11
v	Price of input raw coal ²	Rs. / Tonne	100
vi	Heat Value of washed coal ³	kCal / kg	3248
	Ash content of washed coal ⁴	%	33%
	Total Moisture content of washed coal	%	5%-10%
vii	Cost of washing ⁵	Rs. / Tonne	219
viii	Adjustment of value of rejects ⁶	Rs. / Tonne	-

Notes:

1. Declared by coal controller.
2. Rs. 100 per tonne as Fixed Rate as per Coal Mine Development and Production Agreement. All applicable taxes, duties, statutory charges and freight are additional.
3. In terms of Tariff Regulations (UHV). Corresponding interpolated GCV is 4270 kCal / kg.
4. About 33% - target to address environmental concerns.
5. a) Per tonne of washed coal.
b) Washery recovery charge of Coal India Limited was apparently subsumed in significantly increased notified price from 13 January 2017.
6. Post de-allocation of Sarisatolli mine and allotment through subsequent bidding, the consumers are no longer bearing the mining cost; hence reject coal proceeds are not factored in.
7. Fire at mine area etc. affected quality and mineability.



Southern Generating Station

Sl. No.	Particulars	Unit	Amount
i	Annual quantity of raw coal used for washing	Tonne	4859
ii	Annual quantity of washed coal derived from above	Tonne	3614
iii	Percentage of Yield	%	74.37%
iv	Grade of input raw coal ¹		G11
v	Price of input raw coal ²	Rs. / Tonne	100
vi	Heat Value of washed coal ³	kCal / kg	3038
	Ash content of washed coal ⁴	%	33%
	Total Moisture content of washed coal	%	5%-10%
vii	Cost of washing ⁵	Rs. / Tonne	219
viii	Adjustment of value of rejects ⁶	Rs. / Tonne	-

Notes:

1. Declared by coal controller.
2. Rs. 100 per tonne as Fixed Rate as per Coal Mine Development and Production Agreement. All applicable taxes, duties, statutory charges and freight are additional.
3. In terms of Tariff Regulations (UHV). Corresponding interpolated GCV is 4170 kCal / kg.
4. About 33% - target to address environmental concerns.
5. a) Per tonne of washed coal.
b) Washery recovery charge of Coal India Limited was apparently subsumed in significantly increased notified price from 13 January 2017.
6. Post de-allocation of Sarisatolli mine and allotment through subsequent bidding, the consumers are no longer bearing the mining cost; hence reject coal proceeds are not factored in.
7. Fire at mine area etc. affected quality and mineability.



Gist of Application for Fuel and Power Purchase Cost for the year 2019-20

1. CESC Limited has submitted application before the Hon'ble West Bengal Electricity Regulatory Commission (Hon'ble Commission) for Fuel and Power Purchase Cost Adjustment (FPPC) for the year 2019-20 and the application has been admitted by the Hon'ble Commission on (date).
2. The FPPC application is for approval of net Fuel and Power Purchase Cost for the financial year 2019-20, with due reduction of benefits passed on to consumers. The adjustment amount relating to the above has been prayed to be considered during the Annual Performance Review for 2019-20 or separately, as may be considered appropriate by the Hon'ble Commission.
3. The FPPC application may be inspected at the office of the Hon'ble Commission at Plot No – AH/5, Premises No. MAR 16 – 1111, Action Area – 1A, New Town, Rajarhat, Kolkata - 700 163 and / or at the Registered Office of CESC Limited at CESC House, Chowringhee Square, Kolkata 700 001 during office hours on all working days upto (date) and certified copies of the applications or part thereof may be obtained from the office of the Hon'ble Commission during office hours on all working days upto (date).
4. The FPPC application submitted by CESC Limited has been posted on the website of the applicant at www.cesc.co.in.
5. The suggestions and objections, if any, on the proposals contained in the applications shall be submitted separately at the office of the Hon'ble Commission mentioned above by(date).
6. **This gist has been published with the approval of the Hon'ble Commission.**

Place : Kolkata

Competent Authority

Date :

CESC Limited

Note : Dates may kindly be filled up by the Hon'ble Commission.

