



**ORDER**

**OF THE**

**WEST BENGAL ELECTRICITY REGULATORY  
COMMISSION**

**IN CASE NO:**

**FPPCA – 57 / 11 – 12**

**IN RE APPLICATION OF THE WEST BENGAL  
STATE ELECTRICITY DISTRIBUTION  
COMPANY LIMITED FOR  
FUEL & POWER PURCHASE COST  
ADJUSTMENT (FPPCA) FOR  
THE FINANCIAL YEAR 2010- 2011**

**DATE: 03.10.2012**



## CHAPTER – 1 INTRODUCTION

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- 1.1 The West Bengal Electricity Regulatory Commission (hereinafter referred to as the 'Commission') determined the Aggregate Revenue Requirement (In short 'ARR') as well as tariff of the West Bengal State Electricity Distribution Company Limited (in short 'WBSEDCL') for the year 2010 – 2011 by an Order dated 30 December, 2011, in Case No. TP-41/08-09. The fuel and power purchase cost as allowed in the tariff order dated 30.12.2011 is subject to adjustments in accordance with the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011, as amended (hereinafter referred to as the 'Tariff Regulations').
- 1.2 Accordingly, WBSEDCL submitted its application on 17 February, 2012 for ascertaining the Fuel and Power Purchase Cost Adjustment (in short 'FPPCA') for the financial year 2010 – 2011 showing the computation as per the formula specified in the Tariff Regulations along with audited annual accounts for 2010 – 2011 and the relevant data as would be required for ascertaining the amount of allowable Fuel and Power Purchase Cost (in short "FPPC") for the financial year 2010 – 2011.
- 1.3 The Fuel and Power Purchase Cost (FPPC) during the referred adjustment period, i.e., financial year 2010 – 2011, is to be admitted in terms of the following formula as specified by the Commission in schedule 7A to the Tariff Regulations.

$$\text{"FPPC (In Rs.)"} = \{FC + (PPC - C_D) + (\pm A)\}$$

Where –

- i) The adjustment period for fuel and power purchase cost will normally be on annual basis, if not otherwise decided by the Commission.



- ii) FPPC: Re-determined Fuel and Power Purchase Cost against application of FPPCA.
- iii) FC: Fuel cost of own generation as per normative parameters fixed by the Commission or on actual basis in absence of any norm and UHV range as may be allowed under regulation 5.8 commensurate with actual level of energy sales to own consumers and / or licensee during the adjustment period in accordance with the following methodology:

t = Norms of Transmission and Distribution loss in % considered for sale of power from licensee to licensee

d = Norms of distribution loss in %

E<sub>O</sub> = Admitted Energy for own consumption by licensee,

E<sub>SL</sub> = Energy sale to other licensee in MU

E<sub>SC</sub> = Energy sale to consumer in MU

Fuel-Cost = Fuel cost at generation bus of own generating stations = Cost determined on the basis of normative parameters of SHR and oil consumption rate against actual level of energy sent out plus normative auxiliary energy consumption.

FC<sub>IUC</sub> = Per unit of Fuel Cost at distribution input  
= Fuel-Cost ÷ Actual overall energy available at input of the distribution system which includes power purchase from different services.

FC<sub>Adm\_d</sub> = Admitted Fuel Cost for sale to licensee

$$= \frac{E_{SL}}{(1 - t \times 0.01)} \times FC_{IUC}$$



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$$\begin{aligned} FC_{Adm\_C} &= \text{Admitted Fuel Cost for sale to consumer} \\ &= \frac{E_{SC} + E_O}{(1 - d \times 0.01)} \times FC_{IUC} \end{aligned}$$

$$FC = FC_{Adm\_d} + FC_{Adm\_C}$$

iv) PPC (Rs.): Total cost incurred including the cost for fuel for power purchase from different sources commensurate with actual level of energy sales during the adjustment period.

v)  $C_D$  (Rs.): Cost disallowable by the Commission as per following methods:

Let  $d$  = Norms of distribution loss in %  
 $t$  = Norms of Transmission and Distribution loss in % considered for sale of power from licensee to licensee

$E_g$  = Actual energy sent out in MU from own generating station

$E$  = Excess amount of auxiliary energy consumption in MU,

$E_P$  = Total energy purchased in MU

$E_O$  = Admitted Energy for own consumption by licensee

$E_{SC}$  = Energy sale to consumer in MU

$E_{SL}$  = Energy sale to other licensee in MU

$E_{Adm}$  = Admitted amount of energy entitled for purchase

$$= \frac{E_{SC} + E_O}{(1 - d \times 0.01)} + \frac{E_{SL}}{(1 - t \times 0.01)} - E - E_g$$

$E_E$  = Excess energy purchased =  $E_P - E_{Adm}$

$C_D$  =  $E_E \times EP_{Avg}$

When  $EP_{Avg}$  = Average cost of power purchase.

vi) A: Adjustment, if any, to be made in the current period to account for any claim due to excess / shortfall in recovery of fuel and power purchase



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cost in the past adjustment period based on directions / orders of the Commission. (+A) shall be considered as the amount to be recovered from consumer and purchaser of electricity under the purview of the Commission when the licensee has already incurred such expenses. (-A) shall be considered as the amount to be refunded to the consumer and purchaser of electricity under the purview of the Commission because such amount of less expenses has been incurred by the licensee against any prior period adjustment.

- vii) Such re-determined fuel and power purchase cost (FPPC) of the licensee will be further adjusted for gain sharing as per Schedule – 9B for the parameters related to fuel cost to the extent it has impact in the fuel cost.”

As it comes out from the FPPCA formula quoted above, the actual cost incurred by the licensee for purchase of power requires to be reduced by the amount of the part of such cost, considered disallowable by the Commission. The computations of such disallowable cost are required to be done with reference to the amount admissible for the purchase of power computed following the methodologies specified in schedule 7A to the Tariff Regulations.

- 1.4 FPPCA formula provides for adjustment of allowable fuel and power purchase cost for the gain sharing in accordance with Schedule – 9B to the Tariff Regulations. WBSEDCL has got no coal fired thermal power station to operate. Its own generation of electricity is from Hydro Generating stations and in terms of Part – B of the referred schedule, gains accruing to it, if any, due to its actual performance being better than the norms set for any year are to be retained by it without any sharing.

- 1.5 The norm for distribution loss of WBSEDCL for the year 2010 – 2011 was considered to be 17.75% in the tariff order. As it comes out from the data as provided by WBSEDCL in its submission, the actual rate of distribution loss experienced by it on the quanta of sales to consumers works out as under:



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Sl. No.	Particulars	Energy (MU)
1	Total Energy purchased including energy swap in (net of CTU loss)	28487.318
2	Energy sent out from own generating stations	1215.370
3	STU Grid loss	1084.058
4	Net UI Energy in	312.715
5	Net Energy Available with WBSEDCL from own generating stations and from purchase of power [(1)+(2) -(3)+(4)]	28931.345
6	Energy sold to persons other than own consumer and licensee and energy swap out	2415.882
7	Pumping energy for Purulia Pumped Storage Project (PPSP) including normative transmission loss	1174.916
8	Energy available at distribution input for sale to consumer and licensee [(5)-(6)-(7)]	25340.547
9	Energy sold to licensee at EHV & sale to Sikkim	1438.384
10	Normative transmission loss @ 3.7% on energy sold to licensee & Sikkim [(9)/(1-.037)]-(9)	55.265
11	Net Energy Available with WBSEDCL for sale to own consumers [(8)-(9)-(10)]	23846.898
12	Energy sold to own consumers	17790.167
13	Own consumption	38.00
14	Distribution loss [(11)-(12)-(13)]	6018.731
15	Distribution loss in % [(14)/(11)x100]	25.24

- 1.6 As it comes out from the above, the actual distribution loss of WBSEDCL (i.e., 25.24%), as a percentage of power available for distribution exceeded the same considered in the tariff order for the concerned year and as such, no gain accrued to it in this respect to share with the consumers.



## CHAPTER – 2 COMPUTATIONS OF THE AMOUNT OF ALLOWABLE FUEL AND POWER PURCHASE COST

2.1 In this part of the order, the Commission takes up the determination of fuel and power purchase cost allowable to WBSEDCL on the quantum of power sold by it to the consumers and other licensees during the financial year 2010 – 2011.

2.2 The values of different factors in the FPPCA formula referred to in the earlier chapter are worked out and admitted as under:

### 2.2.1 FC (FUEL COST):

WBSEDCL has got no coal fired thermal generating station to operate. It only operates a diesel generating station at Rudranagar in Sagar Island to meet up the local demand. The expenditure incurred for oil for operating that station was Rs. 110.00 lakh as found from the audited accounts and the same is considered for computation of admissible fuel cost as per the formula given in paragraph 1.3. The admissible fuel cost as per the formula works out as under:

Factor Notation	Nomenclature	Unit	Value
t	Norms of Transmission loss considered for sale to licensee	%	3.7
d	Norms of distribution loss for sale to consumers	%	17.75
E <sub>O</sub>	Admitted energy for own consumption	MU	38.00
E <sub>SL</sub>	Energy sale to other licensee	MU	1438.384
E <sub>SC</sub>	Energy sale to consumer	MU	17790.167
Fuel Cost	Fuel cost at generation bus of own generating station	Rs. in Lakh	110.00
	Net energy available at distribution input	MU	25340.547
FC <sub>IUC</sub>	Per unit Fuel Cost at distribution input	Rs./kWh	.000434
FC <sub>Adm_d</sub>	Admissible Fuel Cost for sale to licensee		
=	$\frac{E_{SL}}{(1 - t \times 0.01)} \times FC_{IUC}$	Rs. in Lakh	6.48
FC <sub>Adm_C</sub>	Admissible Fuel Cost for sale to consumer		
=	$\frac{E_{SC} + E_O}{(1 - d \times 0.01)} \times FC_{IUC}$	Rs. in Lakh	94.07
FC	FC <sub>Adm_d</sub> + FC <sub>Adm_C</sub>	Rs. in Lakh	100.55



## 2.2.2 PPC (POWER PURCHASE COST):

2.2.2.1 The quanta of power purchased by WBSEDCL from different sources and cost incurred thereon during 2010 – 2011 have been enumerated in Annexure – 2A. As may be seen therein, the quantum of power purchased (net of CTU grid loss) during the year came to 28487.318 MU. The net cost incurred thereon after adjusting the rebate / incentive and the Short Term Open Access (STOA) charge paid for power purchase is Rs. 711841.34 lakh. Thus the average cost of power purchase comes to 249.88 paise / kWh.

2.2.2.2 It is seen from the statement of technical particulars of audited accounts that WBSEDCL has drawn 582.819 MU as unscheduled interchange (UI) during the year 2010 – 2011 against which the amount payable is Rs. 8320.00 lakh (schedule – 19 to the annual accounts). It is also seen from the statement of technical particulars of the annual accounts that WBSEDCL also surrendered 270.104 MU during the year 2010 – 2011 under UI against which an amount of Rs. 15561.00 lakh was receivable by them (schedule 17 to the annual accounts). Since there is a net UI receivable of Rs. 7241.00 lakh (Rs. 15561.00 lakh – 8320.00 lakh) the receivable amount will be considered as income in the Annual Performance Review (APR) for the year 2010 – 2011.

2.2.2.3 Out of the total purchase (net of CTU grid loss) of 28487.318 MU, WBSEDCL sold energy to persons other than own consumers and licensees to the tune of 1207.329 MU. Besides, 1208.553 MU was swapped out by WBSEDCL during the period 2010 – 2011. The proportionate purchase cost of quantum of sale to persons other than consumers and licensees, comes to Rs. 30168.75 lakh. The proportionate cost of the swap out energy comes to Rs. 30199.33 lakh. The quantum of purchase relating to distribution to own consumers and licensee and cost thereon comes as under:





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<b>Particulars</b>	<b>Purchase (MU)</b>	<b>Cost (Rs. in Lakh)</b>
Total Purchase	28487.318	711841.34
Less: Proportionate purchase cost of energy that is sold to the persons other than its own consumers & licensees.	1207.329	30168.75
Less: Proportionate purchase cost of energy that has been swap out during the year	1208.553	30199.33
Quantum for effecting distribution to consumers and licensees	26071.436	651473.26
Average per unit (kwh) cost of power in the distribution system		<b>249.88</b>

**2.3 C<sub>D</sub>: Cost Disallowable:**

2.3.1 The actual amount of energy put to use for distribution to the consumers and licensees of WBSEDCL is computed as below:

<b>Sl. No.</b>	<b>Description</b>	<b>Quantity (MU)</b>
1	Total energy purchased (Net of CTU Grid loss)	28487.318
2	STU Grid Loss	1084.058
3	Net U. I. Energy received	312.715
4	Net energy available with WBSEDCL from purchase [(1)-(2)+(3)]	27715.975
5	Energy sold to persons other than own consumers and licensees	1207.329
6	Energy Swap Out	1208.553
7	Pumping energy for Purulia Pumped Storage Project (PPSP) including normative transmission loss	1174.916
8	Net purchased energy available with WBSEDCL for distribution to own consumers and licensees [4-(5+6+7)]	24125.177

2.3.2 In accordance with methodologies, as explained in the earlier chapter, the amount of cost disallowable works out as under:



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Sl. No.	Factor Notation	Nomenclature	Unit	Value
1	$E_{SC}$	Quanta of energy sold to consumers	MU	17790.167
2	$E_O$	Admitted energy for own consumption	MU	38.00
3	d	Normative distribution loss	%	17.75
4	-	$\frac{E_{SC} + E_O}{(1 - d \times 0.01)}$	MU	21765.583
5	$E_{SL}$	Energy sold to other licensees at EHV and sale to Sikkim	MU	1438.384
6	t	Normative T & D loss for $E_{SL}$ (5)	%	3.70
7	-	$\frac{E_{SL}}{(1 - t \times 0.01)}$	MU	1493.649
8	E	Auxiliary consumption in excess of norms	MU	0.00
9	$E_g$	Energy sent out from own generating station	MU	1215.370
10	$E_{Adm}$	Purchase of energy admitted [(4) + (7) - (8) - (9)]	MU	22043.862
11	$E_P$	Total energy purchased for distribution and supply to own consumers and licensees	MU	24125.177
12	$E_E$	Excess energy purchased [(11) - (10)]	MU	2081.315
13	$EP_{Avg}$	Average purchase cost	Paise / kwh	249.88
14	$C_D$	Cost disallowed [(12) x (13)]	Rs in Lakh	52007.90

**2.4 A (PRIOR PERIOD ADJUSTMENTS):**

2.4.1 WBSEDCL claimed an amount of Rs. 25201.99 lakh being the amount of fuel cost adjustment allowed to West Bengal Power Development Corporation Limited (WBPDC) for the year 2008 – 2009 payable by WBSEDCL during 2010 – 2011 in instalments towards power purchase cost. That amount of Rs. 25201.99 lakh was booked in the Accounts of WBSEDCL for the year 2009 – 2010 but the said amount of Rs. 25201.99 lakh was not claimed by WBSEDCL towards power purchase cost in their FPPCA application for 2009 - 2010 since the amount was neither payable in 2009 – 2010 nor paid in 2009 – 2010. The amount of Rs. 25201.99 lakh being the fuel cost adjustment allowed to WBPDC for recovery from WBSEDCL in instalments and the said amount was paid by



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WBSEDCL in 2010 – 2011, has now been admitted by the Commission as prior period adjustment.

2.4.2 WBSEDCL through an application dated 05.04.2012, supplementary to the FPPCA application dated 17.02.2012, submitted that there was also a net prior period adjustment of Rs. 2096.92 lakh relating to power purchase expenditure which was not considered in their application dated 17.02.2012. WBSEDCL also prayed to consider the said amount of Rs. 2096.92 lakh against prior period expenditure in addition to the claim of prior period expenditure of Rs. 25201.99 lakh as mentioned in para 2.4.1 above. In this regard WBSEDCL has submitted a statement showing the agency wise break up of prior period expenditure and prior period income as shown in schedule – 31 of the annual accounts duly certified by a chartered accountant engaged for the purpose. WBSEDCL has not given the year wise break up of such prior period expenses and income along with the reasons. It is also not confirmed by WBSEDCL whether such type of prior period expenses / income was there during previous years also. The Commission thus decides not to consider prior period expenses of Rs. 2096.92 lakh as claimed by WBSEDCL.

2.4.3 In view of above, Rs. 25201.99 lakh is being considered as prior period adjustment only.

**2.5 Allowable Fuel and Power Purchase Cost:**

2.5.1 Putting the value of factors, as discussed and admitted in the foregoing paragraphs, the amount of allowable fuel and power purchase cost to WBSEDCL for the year 2010 – 2011 works out as under:

Sl. No.	Particulars / Factors	As admitted by the Commission (Rs. in Lakh)
1	FC: Fuel Cost	100.55
2.	PPC: Power Purchase Cost	651473.26
3.	C <sub>D</sub> : Cost Disallowable.	52007.90
4.	A: Prior Period's Adjustment	25201.99
5.	<b>FC+(PPC-C<sub>D</sub>)+A</b>	<b>624767.90</b>



## ANNEXURE – 2A ACTUAL POWER PURCHASE FOR 2010 – 2011

Sl. No.	Sources	Quantum	Cost
		(MU)	(Rs. in Lakh)
1	NTPC LIMITED	3276.555	110394.72
2	PTC INDIA LIMITED	2032.001	35941.47
3	NHPC LIMITED	715.771	12440.96
4	DVC	710.490	21522.25
5	DPL	261.554	7921.31
6	WBPDC	19861.738	465638.64
7	DPSC LIMITED	203.050	9508.79
8	GOVT. OF SIKKIM	0.198	7.89
9	CESC LIMITED	38.479	1814.55
10	WBREDA	0.981	33.80
11	SHORT TERM POWER THROUGH ELECTRICITY TRADERS	317.528	18981.10
12	TATA POWER CO. LTD., HALDIA	144.293	2683.85
13	HIMADRI CHEMICALS & IND LTD.	2.359	76.98
14	NEORA HYDRO LTD	4.895	176.22
15	ELECTRO STEEL CASTINGS LTD, HALDIA	60.560	1532.16
16	NIPPON POWER LTD	10.901	392.44
17	OTHER GREEN POWER	138.814	4607.02
18	THROUGH ENERGY EXCHANGE (IEX & PXIL)	37.463	1008.64
19	SWAP IN POWER	881.198	20395.18
20	TOTAL (1 TO 19)	28698.818	715077.97
21	LESS: CTU LOSS	211.500	0.00
22	GROSS QUANTA & COST OF POWER PURCHASE [(20) – (21)]	28487.318	715077.97
23	LESS: REBATE FOR TIMELY PAYMENT	0.00	3236.63
24	NET POWER PURCHASE COST & QUANTA OF ENERGY PURCHASED	28487.318	711841.34

Note: The cost of short term power includes STOA charges.



## CHAPTER – 3 ORDER

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- 3.1 The analyses in the earlier chapter show that the aggregate amount of fuel and power purchase cost that can be allowed to WBSEDCL for the year 2010 – 2011 comes to Rs. 624767.90 lakh.
- 3.2 The Commission decides, in terms of regulation 2.8.7.1 of the Tariff Regulations, to consider this amount of Rs. 624767.90 lakh allowable towards fuel and power purchase cost along with the Annual Performance Review for the year 2010 – 2011 or that for any other ensuing year or through a separate order, as may be decided by the Commission.
- 3.3 WBSEDCL is to take note of this Order.

**Sd/-**  
**(SUJIT DASGUPTA)**  
**MEMBER**

**Sd/-**  
**(PRASAD RANJAN RAY)**  
**CHAIRPERSON**

**DATED: 03.10.2012**