



ORDER

OF THE

**WEST BENGAL ELECTRICITY REGULATORY
COMMISSION**

IN CASE NO:

FPPCA – 63 / 12 – 13

**IN RE APPLICATION OF THE WEST BENGAL
STATE ELECTRICITY DISTRIBUTION
COMPANY LIMITED FOR
FUEL & POWER PURCHASE COST
ADJUSTMENT (FPPCA) FOR
THE FINANCIAL YEAR 2011- 2012**

DATE: 23.07.2013



CHAPTER – 1 INTRODUCTION

- 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 2011 – 2012 by an Order dated 01 December, 2012, in Case No. TP – 53 / 12 – 13. The fuel and power purchase cost as allowed in the tariff order dated 01.12.2012 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 18.01.2013 for ascertaining the Fuel and Power Purchase Cost Adjustment (in short 'FPPCA') for the financial year 2011 – 2012 showing the computation as per the formula specified in the Tariff Regulations along with audited annual accounts for 2011 – 2012 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 2011 – 2012.
- 1.3 The Fuel and Power Purchase Cost (FPPC) during the referred adjustment period, i.e., financial year 2011 – 2012, 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_O = Admitted Energy for own consumption by licensee,

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

E_{SC} = 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_{IUC} = 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_{Adm_d} = 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 to the Tariff Regulations 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 2011 – 2012 was considered to be 17.75% in the tariff order. As it comes out from the data as



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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:

Sl. No.	Particulars	Energy (MU)
1	Total Energy purchased (net of CTU loss) including energy swap in but excluding UI in	30100.239
2	Energy sent out from own generating stations	1180.735
3	STU Grid loss	1113.281
4	Net UI Energy out	286.841
5	Net Energy Available with WBSEDCL from own generating stations and from purchase of power [(1)+(2) -{(3)+(4)}]	29880.852
6	Energy sold to persons other than own consumer and licensee and energy swap out	2048.124
7	Pumping energy for Purulia Pumped Storage Project (PPSP) including normative transmission loss	1244.223
8	Energy available at distribution input for sale to consumer and licensee [(5)-(6)-(7)]	26588.505
9	Energy sold to licensee at EHV & sale to Sikkim	1117.910
10	Normative transmission loss @ 3.6% on energy sold to licensee & Sikkim [(9)/(1-.036)]-(9)	41.748
11	Energy received for wheeling	12.657
12	Energy wheeled	11.720
13	Loss for wheeling [(11) - (12)]	0.937
14	Net Energy Available with WBSEDCL for sale to own consumers [(8)+(11)-{(9)+(10)+(12)+(13)}]	25428.847
15	Energy sold to own consumers and licensee at HV level	19058.420
16	Own consumption	40.000
17	Distribution loss [(14)-(15)-(16)]	6330.427
18	Distribution loss in % [(17)/(14)x100]	24.89

- 1.6 As it comes out from the above, the actual distribution loss of WBSEDCL (i.e., 24.89%), 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 2011 – 2012.

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. 67.00 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	%	3.6
d	Norms of distribution loss for sale to consumers	%	17.75
E _O	Admitted energy for own consumption	MU	40.00
E _{SL}	Energy sale to other licensee	MU	1117.910
E _{SC}	Energy sale to consumer	MU	19058.420
Fuel Cost	Fuel cost at generation bus of own generating station	Rs. in Lakh	67.00
	Net energy available at distribution input	MU	26588.505
FC _{IUC}	Per unit Fuel Cost at distribution input	Rs./kWh	0.000252
FC _{Adm_d}	Admissible Fuel Cost for sale to licensee		
=	$\frac{E_{SL}}{(1 - t \times 0.01)} \times FC_{IUC}$	Rs. in Lakh	2.92
FC _{Adm_C}	Admissible Fuel Cost for sale to consumer		
=	$\frac{E_{SC} + E_O}{(1 - d \times 0.01)} \times FC_{IUC}$	Rs. in Lakh	58.51
FC	FC _{Adm_d} + FC _{Adm_C}	Rs. in Lakh	61.43



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 2011 – 2012 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 30100.239 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. 850416.00 lakh. Thus the average cost of power purchase comes to 282.53 paise / kWh.

2.2.2.2 It is seen from the statement of technical particulars of audited accounts that WBSEDCL has drawn 497.660 MU as unscheduled interchange (UI) during the year 2011 – 2012 against which the amount payable is Rs. 12277.00 lakh (note no. – 25 to the annual accounts). It is also seen from the statement of technical particulars of the annual accounts that WBSEDCL has also surrendered 784.501 MU during the year 2011 – 2012 under UI against which an amount of Rs. 26260.00 lakh was receivable by them (note no. 22 to the annual accounts). Since there is a net UI receivable of Rs. 13983.00 lakh (Rs. 26260.00 lakh – 12277.00 lakh) the receivable amount will be considered as income in the Annual Performance Review (APR) for the year 2011 – 2012 in accordance with the Tariff Regulations.

2.2.2.3 Out of the total purchase (net of CTU grid loss) of 30100.239 MU, WBSEDCL sold energy to persons other than own consumers and licensees to the tune of 645.317 MU. Besides, 1402.807 MU was swapped out by WBSEDCL during the period 2011 – 2012. The proportionate purchase cost of quantum of sale to persons other than consumers and licensees, comes to Rs. 18232.14 lakh. The proportionate cost of the swap out energy comes to Rs. 39633.51 lakh. The quantum of purchase relating to distribution to own consumers and licensee and cost thereon come as under:



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Particulars	Purchase (MU)	Cost (Rs. in Lakh)
Total Purchase	30100.239	850416.00
Less: Proportionate purchase cost of energy that is sold to the persons other than its own consumers & licensees.	645.317	18232.14
Less: Proportionate purchase cost of energy that has been swapped out during the year	1402.807	39633.51
Quantum for effecting distribution to consumers and licensees	28052.115	792550.35
Average per unit (kwh) cost of power in the distribution system (paise/kWh)		282.53

2.3 C_D: 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:

Sl. No.	Description	Quantity (MU)
1	Total energy purchased (Net of CTU Grid loss)	30100.239
2	STU Grid Loss	1113.281
3	Net U. I. Energy out	286.841
4	Net energy available with WBSEDCL from purchase [(1)-{(2)+(3)}]	28700.117
5	Energy sold to persons other than own consumers and licensees	645.317
6	Energy Swap Out	1402.807
7	Pumping energy for Purulia Pumped Storage Project (PPSP) including normative transmission loss	1244.223
8	Net purchased energy available with WBSEDCL for distribution to own consumers and licensees [4-(5+6+7)]	25407.77

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	19058.420
2	E_O	Admitted energy for own consumption	MU	40.00
3	d	Normative distribution loss	%	17.75
4	-	$\frac{E_{SC} + E_O}{(1 - d \times 0.01)}$	MU	23219.96
5	E_{SL}	Energy sold to other licensees at EHV and sale to Sikkim	MU	1117.910
6	t	Normative T & D loss for E_{SL} (5)	%	3.60
7	-	$\frac{E_{SL}}{(1 - t \times 0.01)}$	MU	1159.658
8	E	Auxiliary consumption in excess of norms	MU	0.00
9	E_g	Energy sent out from own generating station	MU	1180.735
10	E_{Adm}	Purchase of energy admitted [(4) + (7) - (8) - (9)]	MU	23198.883
11	E_P	Total energy purchased for distribution and supply to own consumers and licensees	MU	25407.77
12	E_E	Excess energy purchased [(11) - (10)]	MU	2208.887
13	EP_{Avg}	Average purchase cost	Paise / kwh	282.53
14	C_D	Cost disallowed [(12) x (13)]	Rs in Lakh	62407.68

2.4 A (PRIOR PERIOD ADJUSTMENTS):

2.4.1 WBSEDCL claimed an amount of Rs. 198768.00 lakh being the amount of prior period cost adjustment allowed to following agencies as against the amounts shown therein for the period prior to 2011 - 2012 towards power purchase cost.

Sl. No.	Name of the Agency	Particular	Amount (Rs. in lakh)
1	Damodar Valley Corporation	Arrear due to rate revision from May 2009 to March 2011	3109.00
2	NTPC Limited	Arrear due to rate revision from 2008-09 to 2010-11	5499.00
3	NHPC Limited	Arrear due to rate revision from 2008-09 to 2010-11	13470.00
4	WBPDC	Arrear FPPCA & APR orders for 2007-08 to 2010-11	176690.00
		Total	198768.00



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The above amounts of arrear payment have duly been provided in the accounts as evident from note no. 25 of annual report and accounts 2011-12. However, it is noticed from note no. 25.5 therein, that an amount of Rs. 4856.00 lakh was actually paid during 2011-12 as against Rs. 176690.00 lakh claimed by WBSEDCL towards arrear charges relating to WBPDC. The Commission, thus, admits Rs. 4856.00 lakh on actual basis towards prior period adjustment relating to WBPDC. The balance amounts will be considered during 2012 – 2013 and onwards on actual payment basis. WBSEDCL shall give a separate disclosure in this regard in their annual accounts and shall claim the same in the FPPCA application for the ensuing years as prior period adjustments. The admissible amount towards prior period adjustment of cost of purchase of power is, thus, considered as follows:

Sl. No.	Name of the Agency	Amount (Rs. in lakh)
1	Damodar Valley Corporation	3109.00
2	NTPC Limited	5499.00
3	NHPC Limited	13470.00
4	WBPDC	4856.00
		26934.00

2.4.2 In view of above, Rs. 26934.00 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 2011 – 2012 works out as under:

Sl. No.	Particulars / Factors	As admitted by the Commission (Rs. in Lakh)
1	FC: Fuel Cost	61.43
2.	PPC: Power Purchase Cost	792550.35
3.	C _D : Cost Disallowable.	62407.68
4.	A: Prior Period's Adjustment	26934.00
5.	FC+(PPC-C_D)+A	757138.10



ANNEXURE – 2A ACTUAL POWER PURCHASE FOR 2011 – 2012

Sl. No.	Sources	Quantum	Cost
		(MU)	(Rs. in Lakh)
1	NTPC LIMITED	2891.491	119594.00
2	PTC INDIA LIMITED	1924.256	34203.00
3	NHPC LIMITED	702.586	16608.00
4	DVC	553.728	21987.00
5	DPL	149.319	4896.00
6	WBPDC	21241.570	555096.00
7	DPSC LIMITED	196.127	10355.00
8	GOVT. OF SIKKIM	0.100	4.00
9	CESC LIMITED	46.821	2324.00
10	WBREDA	0.422	14.00
11	SHORT TERM POWER THROUGH ELECTRICITY TRADERS	768.364	41353.00
12	TATA POWER CO. LTD., HALDIA	152.190	2831.00
13	HIMADRI CHEMICALS & IND LTD.	10.847	312.00
14	NEORA HYDRO LTD	5.547	200.00
15	ELECTRO STEEL CASTINGS LTD, HALDIA	61.888	1566.00
16	NIPPON POWER LTD	10.922	393.00
17	OTHER GREEN POWER	65.853	1891.00
18	THROUGH ENERGY EXCHANGE (IEX & PXIL)	305.249	12344.00
19	SWAP IN POWER	1209.541	31269.00
20	TOTAL (1 TO 19)	30296.821	857240.00
21	LESS: CTU LOSS	196.582	0.00
22	GROSS QUANTA & COST OF POWER PURCHASE [(20) – (21)]	30100.239	857240.00
23	LESS: REBATE FOR TIMELY PAYMENT	0.00	6824.00
24	NET POWER PURCHASE COST & QUANTA OF ENERGY PURCHASED	30100.239	850416.00

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



CHAPTER – 3 ORDER

- 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 2011 – 2012 comes to Rs. 757138.10 lakh.
- 3.2 The Commission decides, in terms of regulation 2.8.7.1 of the Tariff Regulations, to consider this amount of Rs. 757138.10 lakh allowable towards fuel and power purchase cost along with the Annual Performance Review for the year 2011 – 2012 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: 23.07.2013