



Indian Electrical & Electronics Manufacturer's Association
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Cir. No.: 111/DIV/CAB/05

6th December 2017

To Cable Division and Utilities/SEBS, listed of purchasing organisations

Sub: a) New Price Variation Clause for LV & HV Ariel Bunch Cables & Solar DC Cables
 b) Revision in the Price Variation Clause of Power and Control with XLPE Factors

You may recall our recent Circulars No. 97/DIC/CAB/05 dated 31st October 2017 & 103/DIV/CAB/05 dated 10th November 2017 vide which we have circulated new Price Variation Clause for LV & HV Aerial Bunch Cables and Revision in Price Variation Clause for Power & Control Cables with XLPE compound including Solar DC Cables.

IEEMA has felt the need to evolve Price Variation Clause for LV & HV Ariel Bunch Cables and Solar DC Cables; demand of which is increasing in the market.. The required factors of metal and insulating materials as per appropriate Indian standard have been worked out. It has also been decided to revise Price Variation Clause of Power and Control Cables including XLPE insulation factors; which was required by all stakeholders.

We are now making the draft PV formula operational w.e.f.1st November 2017 as we have not received any adverse comments on the draft.

Salient points of both these Price Variation formulae are XLPE factors are being worked out for the variation purpose represented by XLPE prices of representative grade.

We are enclosing the above mentioned Price Variation Clauses along with applicable table of factors for your perusal. We recommend all stakeholders to incorporate the appropriate PV clause in all the contracts/tenders henceforth for settlement of price variation.

Relevant prices/indices are being published in PV circular for Cable from November 2017.


 Senior Director

Encl.: as above

IEEMA (PVC)/CABLE(R-1)/2017

Effective from: 1st November 2017**Material Price Variation Clause For PVC And XLPE Insulated Cables**

The Price quoted/confirmed is based on the input cost of raw materials/components as on the date of quotation, and the same is deemed to be related to the prices of raw materials as specified in the price variation clause given below. In case of any variation in these prices, the price payable shall be subject to adjustment up or down in accordance with the formulae provided in this document.

Terms used in price variation formulae:

P Price payable as adjusted in accordance with above appropriate formula (in Rs/Km)

Po Price quoted/confirmed (in Rs/Km)

ALUMINIUM

AIF Variation factor for aluminium

AI Price of Aluminium. This price is as applicable of first working day of the month, one month prior to the date of delivery.

Alo Price of aluminium. This price is as applicable on first working day of the month, one month prior to the date of tendering.

COPPER

CuF Variation factor for copper

Cu Price of CC copper rods. This price is as applicable on first working day of the month, one month prior to the date of delivery.

Cuo Price of CC copper rods. This price is as applicable on first working day of the month, one month prior to the date of tendering.

PVC COMPOUND

PVCc price of PVC compound. This price is as applicable on first working day of the month, one month prior to the date of delivery.

PVCco Price of PVC compound. This price is as applicable on first working day of the month, one month prior to the date of tendering.

CCFAI Variation factor for PVC compound/Polymer for aluminum conductor cable.

CCFCu Variation factor for PVC compound/Polymer for copper conductor cable.



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IEEMA (PVC)/CABLE(R-1)/2017**Effective from: 1st November 2017****XLPE COMPOUND**

Cc price of XLPE compound. This price is as applicable on first working day of the month, one month prior to the date of delivery.

Cco Price of XLPE compound. This price is as applicable on first working day of the month, one month prior to the date of tendering.

XLFAL Variation factor for XLPE compound for aluminum conductor cable.

XLFCU Variation factor for XLPE compound for Copper conductor cable.

STEEL

FeF Variation factor for steel

FeW Variation factor for round wire steel armouring

Fe Price of Steel Strips/steel wire. This price is as applicable on the first working day of the month, one month prior to the date of delivery.

Feo Price of steel strips/steel wire. This price is as applicable on first working day of the month, one month prior to the date of tendering.

The above prices and indices are as published by IEEMA vide Circular reference IEEMA (PVC)/CABLE (R-1)/--/-- prevailing as on 1st working day of the month i.e. one month prior to the date of tendering.

The date of delivery is the date on which the cable is notified as being ready for inspection/dispatch (in the absence of such notification, the date of manufacturer's dispatch note is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension thereto), whichever is earlier.

Notes

- (a) All prices of raw materials are exclusive of GST amount.
- (b) All prices excluding Aluminium & Copper are as on first working day of the month.
- (c) The details of prices are as under:
 1. Price of Aluminium is LME average Cash SELLER Settlement price of Primary Aluminium in US\$ per MT as published by London Metal Bulletin (LME) including Premium for Aluminium Ingot in US\$ per MT is converted in Indian Rs./MT.
 2. Price of PVC Compound (in Rs/MT) is the ex-works price, as quoted by the manufacturer.
 3. Price of XLPE Compound (in Rs/MT) is the ex-works price, as quoted by the manufacturer
 4. Price of CC copper rods (in Rs/MT) is ex-works price as quoted by the primary producer.
 5. Price of galvanized steel strip / steel wire (in Rs/MT) is ex-works price as quoted by the manufacturer for Round steel Wire and Flat steel strip (the relevant price of steel strip or steel wire is to be selected depending upon the type of armouring of the cable).

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IEEMA (PVC)/CABLE(R-1)/2017**Effective from: 1st November 2017****Price variation formulae for 'Power Cables'****A. Aluminum conductor PVC insulated 1.1 kV power cables**

$$P = P_o + AIF (AL - ALo) + CCFAI (PVCc - PVCco) + FeF (Fe - Feo)$$

For unarmoured multicore cables (without steel armour); $FeF = 0$ Table References:

ALP	Aluminium conductor in single core unarmoured & multicore cables
P1	Aluminium conductor aluminium armour in single core armoured cables
P2	PVC compound
P3	Steel armour

B. Copper conductor PVC insulated 1.1 kV power cables

$$P = P_o + CuF (Cu - Cuo) + CCFCu (PVCc - PVCco) + FeF (Fe - Feo) + AIF (Al - Alo)$$

For steel armoured cables; $AIF = 0$ For aluminium armoured cables; $FeF = 0$ For unarmoured cables; $FeF, AIF = 0$ Tables References:

CUP	Copper conductor
P2	PVC compound
P3	Steel armour
P4	Aluminium armour

C. Copper conductor PVC insulated 1.1 kV control cables

$$P = P_o + CuF (Cu - Cuo) + CCFCu (PVCc - PVCco) + FeF (Fe - Feo)$$

For unarmoured cables; $FeF = 0$ Tables References:

CUC	Copper conductor
P5	PVC compound
P6	Steel armour

D. Aluminum conductor XLPE insulated 1.1 kV power cables

$$P = P_o + AIF (AL - ALo) + XLFAL(CC-Cco) + CCFAI (PVCc - PVCco) + FeF (Fe - Feo)$$

For unarmoured multicore cables (without steel armour); $FeF = 0$ Table References:

ALP	Aluminium conductor in single core unarmoured & multicore cables
P1	Aluminium conductor aluminium armour in single core armoured cables
P2	PVC compound
P3	Steel armour
XL1	XLPE Compound

IEEMA (PVC)/CABLE(R-1)/2017**Effective from: 1st November 2017****E. Copper conductor XLPE insulated 1.1 kV power cables**

$$P = P_o + CuF (Cu - Cu_o) + XLFCU (CC-Cco) + CCFCu (PVCc - PVCco) + FeF (Fe - Fe_o) + AIF (Al - Alo)$$

For steel armoured cables; AIF = 0 For aluminium armoured cables; FeF = 0

For unarmoured cables; FeF, AIF = 0

Tables References:

CUP	Copper conductor
P2	PVC compound
P3	Steel armour
P4	Aluminium armour
XL1	XLPE Compound

F. Copper conductor XLPE insulated 1.1 kV control cables

$$P = P_o + CuF (Cu - Cu_o) + XLFCU (CC-Cco) + CCFCu (PVCc - PVCco) + FeF (Fe - Fe_o)$$

For unarmoured cables; FeF = 0

Tables References:

CUC	Copper conductor
P5	PVC compound
P6	Steel armour
XL2	XLPE Compound

G. For Aluminium conductor XLPE insulated 3.3 to 33 kV power cables

$$P = P_o + AIF (Al - Alo) + XLFAL(CC-Cco) + CCFAI (PVCc - PVCco) + FeF (Fe - Fe_o)$$

For unarmoured multicore cables (without steel armour); FeF = 0

Table References:

ALP	Aluminium conductor in single core unarmoured & multicore cables
H1	Aluminium conductor + aluminium armour in single core armoured cables
H2	Polymer
H3/H5	Steel armour (Flat/Round)
XL3/XL4	XLPE Compound (Single core /Multicore)

H. Copper conductor XLPE Insulated 3.3 to 33 kV power cables

$$P = P_o + CuF (Cu - Cu_o) + XLFCU (CC-Cco) + CCFCu (PVCc - PVCco) + FeF (Fe - Fe_o) + AIF (Al - Alo)$$

For steel armoured cables; AIF = 0 For aluminium armoured cables; FeF = 0

For unarmoured cables; FeF, AIF = 0

Table References:

CUP	Copper conductor
H2	Polymer
H3/H5	Steel armour (Flat/Round)
H4	Aluminium armour
XL3/XL4	XLPE Compound (Single core /Multicore)

IEEMA (PVC)/CABLE(R-1)/2017

Effective from: 1st November 2017

I. Copper conductor XLPE insulated 1.0 and 1.5 kV Solar PV DC cables

$$P = P_o + CuF (Cu - Cuo)$$

Table CU_{sd} Copper Conductor


Authorised Signatory

TABLE ALP

VARIATION FACTOR FOR ALUMINIUM (AIF)
POWER CABLES WITH ALUMINIUM CONDUCTOR
(EXCLUDING SINGLE CORE ARMoured CABLES)

Nominal Cross Sectional Area (in Sq. mm.)	1 core	2 core	3 core	3.5 core	4 core
2.5	0.007	0.014	0.021	-	0.028
4	0.011	0.023	0.034	-	0.046
6	0.017	0.034	0.052	-	0.069
10	0.029	0.053	0.087	-	0.116
16	0.046	0.091	0.137	-	0.183
25/16	0.073	0.146	0.219	0.262	0.292
35/16	0.101	0.202	0.302	0.345	0.404
50/25	0.137	0.273	0.410	0.478	0.547
70/35	0.197	0.395	0.593	0.687	0.791
95/50	0.274	0.548	0.821	0.949	1.095
120/70	0.346	0.691	1.036	1.221	1.382
150/70	0.425	0.853	1.279	1.464	1.706
185/95	0.533	1.070	1.605	1.861	2.140
225/120	0.655	1.310	1.965	2.287	2.620
240/120	0.703	1.400	2.099	2.421	2.799
300/150	0.879	1.757	2.635	3.033	3.514
400/185	1.126	2.249	3.374	3.873	4.498
500	1.418	2.838	4.256	-	5.675
630	1.828	3.663	5.494	-	7.326
800	2.340	4.679	7.018	-	9.357
1000	2.951	5.890	8.834	-	11.779

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TABLE CUP

VARIATION FACTOR FOR COPPER CONDUCTOR (CUF)
POWER CABLES WITH COPPER CONDUCTOR

Nominal Cross Sectional Area (in Sq. mm.)	1 core	2 core	3 core	3.5 core	4 core
2.5	0.023	0.046	0.069	-	0.092
4	0.036	0.076	0.112	-	0.151
6	0.056	0.112	0.171	-	0.227
10	0.095	0.174	0.286	-	0.382
16	0.151	0.299	0.451	-	0.602
25/16	0.240	0.480	0.720	0.862	0.960
35/16	0.332	0.664	0.993	1.135	1.329
50/25	0.451	0.898	1.348	1.572	1.799
70/35	0.648	1.299	1.950	2.260	2.602
95/50	0.901	1.802	2.700	3.121	3.601
120/70	1.138	2.273	3.407	4.016	4.545
150/70	1.398	2.806	4.207	4.815	5.611
185/95	1.753	3.519	5.279	6.121	7.038
225/120	2.154	4.309	6.463	7.522	8.617
240/120	2.312	4.605	6.904	7.963	9.206
300/150	2.891	5.779	8.667	9.976	11.558
400/185	3.703	7.397	11.097	12.738	14.794
500	4.664	9.334	13.998	-	18.665
630	6.012	12.048	18.070	-	24.095
800	7.696	15.389	23.082	-	30.775
1000	9.706	19.372	29.055	-	38.741

TABLE CUsdc

VARIATION FACTOR FOR COPPER CONDUCTOR (CUF)
1.0 & 1.5KV Solar PV DC Cables with Copper Conductor

Cable Size in sq.mm.	Copper content in MT/km
2.5	0.023
4	0.038
6	0.058
10	0.090

TABLE CUC

VARIATION FACTOR FOR COPPER CONDUCTOR (CUF)
CONTROL CABLES WITH COPPER CONDUCTOR

No of Cores	Core size 1.5 sq mm	Core size 2.5 sq mm
2	0.026	0.047
3	0.039	0.070
4	0.052	0.094
5	0.065	0.117
6	0.078	0.141
7	0.091	0.164
8	0.110	0.182
9	0.117	0.205
10	0.130	0.235
12	0.157	0.282
14	0.183	0.329
16	0.209	0.376
18	0.246	0.410
19	0.248	0.446
20	0.260	0.456
24	0.313	0.563
27	0.352	0.634
30	0.391	0.704
37	0.483	0.869
44	0.573	1.033
52	0.678	1.221
61	0.796	1.432

TABLE P1

VARIATION FACTOR FOR ALUMINIUM (AIF)
ALUMINIUM ARMoured SINGLE CORE PVC INSULATED 1.1 KV CABLES

Nominal cross sectional area (in Sq.mm)	Aluminium factor for Aluminium armoured cable with aluminium conductor
4	0.0685
6	0.0795
10	0.1017
16	0.1303
25	0.1693
35	0.2090
50	0.2597
70	0.3360
95	0.4567
120	0.5443
150	0.6427
185	0.7743
240	0.9737
300	1.2582
400	1.5502
500	1.8958
630	2.3650
800	2.9306
1000	3.7666

TABLE P2

VARIATION FACTOR FOR PVC COMPOUND (CCFAI/CCFCu)
 PVC INSULATED 1.1 KV POWER CABLES WITH COPPER/ALUMINIUM CONDUCTOR

Nominal cross Sectional Area (in Sq. mm)	1 core	2 core		3 core		3.5 core		4 core	
	Unarm	Unarm	arm	Unarm	arm	Unarm	arm	Unarm	arm
2.5	0.079	0.125	0.139	0.141	0.157	-	-	0.161	0.179
4	0.094	0.140	0.156	0.164	0.182	-	-	0.188	0.209
6	0.101	0.154	0.171	0.179	0.199	-	-	0.198	0.220
10	0.114	0.194	0.216	0.214	0.238	-	-	0.249	0.277
16	0.142	0.234	0.246	0.279	0.290	-	-	0.328	0.345
25	0.171	0.288	0.303	0.364	0.383	0.422	0.444	0.443	0.466
35	0.189	0.321	0.338	0.408	0.429	0.489	0.515	0.498	0.524
50	0.211	0.411	0.433	0.508	0.535	0.613	0.645	0.647	0.681
70	0.241	-	-	0.613	0.645	0.707	0.744	-	-
95	0.284	-	-	0.795	0.811	0.908	0.927	-	-
120	0.339	-	-	0.866	0.884	1.024	1.045	-	-
150	0.388	-	-	1.070	1.092	1.289	1.315	-	-
185	0.450	-	-	1.310	1.337	1.499	1.530	-	-
225	0.521	-	-	1.586	1.618	1.840	1.878	-	-
240	0.534	-	-	1.649	1.683	1.990	2.031	-	-
300	0.653	-	-	2.007	2.048	2.361	2.409	-	-
400	0.770	-	-	2.437	2.487	2.616	2.669	-	-
500	0.936	-	-	3.117	3.181	3.687	3.762	-	-
630	1.175	-	-	-	-	-	-	-	-
800	1.433	-	-	-	-	-	-	-	-
1000	1.642	-	-	-	-	-	-	-	-

TABLE P3

VARIATION FACTOR FOR STEEL (FeF)
PVC INSULATED 1.1 KV POWER CABLES WITH COPPER/ALUMINIUM CONDUCTOR

Nominal Cross sectional Area (in Sq. mm)	2 core	Shape	3 core	Shape	3 ½ core	Shape	4 core	Shape
4	0.305	W	0.335	W	-	-	0.363	W
6	0.348	W	0.363	W	-	-	0.407	W
10	0.392	W	0.407	W	-	-	0.293	F
16	0.235	F	0.293	F	-	-	0.323	F
25	0.293	F	0.352	F	0.382	F	0.382	F
35	0.323	F	0.382	F	0.411	F	0.440	F
50	0.382	F	0.440	F	0.469	F	0.499	F
70	0.411	F	0.499	F	-	F	0.587	F
95	0.499	F	0.587	F	0.616	F	0.645	F
120	0.528	F	0.616	F	0.675	F	0.731	F
150	0.587	F	0.675	F	0.731	F	0.790	F
185	0.645	F	0.761	F	0.820	F	0.879	F
240	0.731	F	0.879	F	0.937	F	0.996	F
300	0.820	F	0.966	F	1.055	F	1.113	F
400	0.937	F	1.083	F	1.172	F	1.231	F
500	1.055	F	1.231	F	1.348	F	1.406	F
630	1.172	F	-	-	-	-	-	-

TABLE P3 (Additional)

VARIATION FACTOR FOR ROUND WIRE 'W' STEEL (FeF)
PVC INSULATED 1.1 KV POWER CABLES WITH COPPER/ALUMINIUM CONDUCTOR

Nominal Cross Sectional Area (in sq. mm)	2 Core	3 Core	3.5 Core	4 Core
1.5	0.247	0.259		0.288
2.5	0.273	0.289		0.329
4	0.305	0.335		0.363
6	0.348	0.363		0.407
10	0.392	0.407		0.533
16	0.439	0.523	0.014	0.573
25	0.526	0.625	0.664	0.685
35	0.591	0.685	0.729	0.761
50	0.661	0.790	0.864	1.108
70	0.745	1.122	1.200	1.256
95	1.085	1.286	1.376	1.443
120	1.147	1.386	1.479	1.562
150	1.267	1.526	1.684	2.173
185	1.403	2.090	2.315	2.421
240	1.994	2.397	2.641	2.722
300	2.180	2.642	3.670	3.842
400	2.987	3.728	4.126	4.292
500	3.517	4.226	5.958	6.301
630	4.774	6.018	6.737	7.141

TABLE P4

VARIATION FACTOR FOR ALUMINIUM (AIF)
PVC INSULATED 1.1 KV POWER CABLES WITH COPPER CONDUCTOR

Nominal Cross Sectional Area (in Sq. mm)	Aluminium Factor for Aluminium armoured cable with copper conductor
4	0.058
6	0.063
10	0.073
16	0.084
25	0.096
35	0.108
50	0.123
70	0.139
95	0.183
120	0.198
150	0.218
185	0.241
240	0.271
300	0.379
400	0.424
500	0.478
630	0.537
800	0.591
1000	0.816

TABLE P5

VARIATION FACTOR FOR PVC COMPOUND (CCFCu)
PVC INSULAYTED CONTROL CABLES WITH COPPER CONDUCTOR

No of cores	Core size 1.5 sq mm		Core size 2.5 sq mm	
	Unarm	Arm	Unarm	Arm
2	0.118	0.121	0.125	0.139
3	0.121	0.131	0.141	0.157
4	0.137	0.152	0.161	0.179
5	0.157	0.174	0.187	0.206
6	0.179	0.199	0.234	0.260
7	0.179	0.199	0.234	0.260
8	0.193	0.215	0.292	0.325
9	0.216	0.241	0.300	0.335
10	0.236	0.262	0.303	0.337
12	0.249	0.277	0.334	0.371
14	0.311	0.327	0.389	0.409
16	0.344	0.362	0.435	0.458
18	0.352	0.371	0.474	0.500
19	0.375	0.395	0.476	0.501
20	0.391	0.412	0.519	0.546
24	0.457	0.481	0.584	0.615
27	0.491	0.517	0.631	0.664
30	0.529	0.557	0.706	0.743
37	0.615	0.647	0.835	0.879
44	0.739	0.778	1.019	1.026
52	0.845	0.889	1.100	1.158
61	0.952	1.002	1.246	1.312

TABLE P6

VARIATION FACTOR FOR STEEL (FeF)
PVC INSULATED CONTROL CABLES WITH COPPER CONDUCTOR

No of cores	Core size 1.5 sq mm	Shape of armour	Core size 2.5 sq mm	Shape of armour
2	0.243	W	0.277	W
3	0.257	W	0.289	W
4	0.277	W	0.314	W
5	0.303	W	0.342	W
6	0.329	W	0.379	W
7	0.329	W	0.379	W
8	0.341	W	0.456	W
9	0.383	W	0.275	F
10	0.408	W	0.325	F
12	0.289	F	0.342	F
14	0.306	F	0.360	F
16	0.317	F	0.372	F
18	0.332	F	0.350	F
19	0.343	F	0.397	F
20	0.368	F	0.400	F
24	0.398	F	0.475	F
27	0.414	F	0.478	F
30	0.425	F	0.503	F
37	0.461	F	0.548	F
44	0.507	F	0.601	F
52	0.556	F	0.641	F
61	0.585	F	0.685	F

TABLE P6 (Additional)

VARIATION FACTOR FOR ROUND WIRE 'W' STEEL (FeF)
PVC INSULATED CONTROL CABLES WITH COPPER CONDUCTOR

No. of Cores	Core size 1.5 sq mm	Core size 2.5 sq mm
2	0.243	0.273
3	0.257	0.289
4	0.277	0.314
5	0.303	0.342
6	0.329	0.379
7	0.329	0.379
8	0.341	0.456
9	0.383	0.508
10	0.408	0.535
12	0.510	0.572
14	0.546	0.625
16	0.581	0.660
19	0.608	0.696
24	0.714	0.819
25	0.679	0.798
27	0.732	0.837
28	0.696	0.815
30	0.758	0.881
33	0.747	0.883
37	0.820	1.217
44	0.926	1.355
48	1.122	1.308
50	1.122	1.308
52	1.149	1.361
56	1.202	1.388
61	1.299	1.520

TABLE XL1
VARIATION FACTOR FOR XLPE COMPOUND (XLFAL/XLFCU)
 XLPE INSULATED 1.1 KV POWER CABLES WITH COPPER/ALUMINIUM CONDUCTOR

Nominal cross Sectional Area (in Sq. mm)	1 core		2 core		3 core		3.5 core		4 core	
	Unarm	Arm	Unarm	Arm	Unarm	arm	Unarm	Arm	Unarm	arm
2.5	0.007	0.010	0.014	0.014	0.021	0.021			0.028	0.028
4	0.009	0.012	0.018	0.018	0.027	0.027			0.036	0.036
6	0.010	0.015	0.022	0.022	0.033	0.033			0.043	0.043
10	0.013	0.018	0.025	0.025	0.039	0.039			0.053	0.053
16	0.016	0.023	0.034	0.034	0.049	0.049			0.065	0.065
25	0.021	0.030	0.048	0.048	0.070	0.070	0.084	0.084	0.093	0.093
35	0.025	0.035	0.059	0.059	0.084	0.084	0.099	0.099	0.112	0.112
50	0.033	0.044	0.075	0.075	0.108	0.108	0.130	0.130	0.144	0.144
70	0.042	0.054	0.095	0.095	0.137	0.137	0.160	0.160	0.179	0.179
95	0.048	0.062	0.110	0.110	0.160	0.160	0.190	0.190	0.211	0.211
120	0.060	0.076	0.138	0.138	0.200	0.200	0.239	0.239	0.266	0.266
150	0.078	0.095	0.180	0.180	0.259	0.259	0.296	0.296	0.344	0.344
185	0.097	0.116	0.224	0.224	0.324	0.324	0.369	0.369	0.430	0.430
240	0.116	0.137	0.266	0.266	0.388	0.388	0.446	0.446	0.518	0.518
300	0.138	0.164	0.325	0.325	0.467	0.467	0.540	0.540	0.620	0.620
400	0.175	0.214	0.357	0.357	0.536	0.536	0.619	0.619	0.714	0.714
500	0.217	0.260	0.440	0.440	0.660	0.660	0.769	0.769	0.880	0.880
630	0.265	0.318	0.542	0.542	0.814	0.814	0.941	0.941	1.085	1.085
800	0.323	0.389								
1000	0.375	0.444								

TABLE XL2
VARIATION FACTOR FOR XLPE COMPOUND (XLFCU)
 XLPE INSULATED CONTROL CABLES WITH COPPER CONDUCTOR

No of cores	Core size 1.5 sq mm		Core size 2.5 sq mm	
	Unarm	Arm	Unarm	Arm
2	0.010	0.010	0.012	0.012
3	0.016	0.016	0.018	0.018
4	0.021	0.021	0.025	0.025
5	0.026	0.026	0.031	0.031
6	0.031	0.031	0.037	0.037
7	0.036	0.036	0.043	0.043
8	0.036	0.036	0.043	0.043
9	0.042	0.042	0.049	0.049
10	0.052	0.052	0.061	0.061
12	0.062	0.062	0.074	0.074
14	0.073	0.073	0.086	0.086
16	0.083	0.083	0.098	0.098
18	0.094	0.094	0.110	0.110
19	0.099	0.099	0.116	0.116
20	0.104	0.104	0.123	0.123
24	0.125	0.125	0.147	0.147
27	0.140	0.140	0.165	0.165
30	0.156	0.156	0.184	0.184
37	0.192	0.192	0.227	0.227
44	0.229	0.229	0.270	0.270
52	0.270	0.270	0.319	0.319
61	0.317	0.317	0.374	0.374

TABLE XL3
VARIATION FACTOR FOR XLPE(XLFAL/XLFCU)
 SINGLE CORE ARMoured /UNARMoured XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH
 CU / AL CONDUCTOR

Nominal Cross Sectional Area (in Sq. mm.)	XLPE Factor for Armoured/ Unarmoured Cable with AL /CU Conductor					
	3.3 KV	6.6 KV (E)	11 KV (E)/ 6.6 KV (UE)	11 KV (UE)	22 KV (E)	33 KV (E)
25	0.110	0.131	0.170	0.279		
35	0.122	0.137	0.175	0.284	0.317	0.522
50	0.135	0.151	0.191	0.307	0.341	0.563
70	0.155	0.172	0.215	0.342	0.379	0.615
95	0.174	0.193	0.241	0.377	0.417	0.670
120	0.192	0.212	0.262	0.407	0.449	0.713
150	0.209	0.229	0.283	0.437	0.481	0.757
185	0.228	0.250	0.308	0.471	0.518	0.809
240	0.255	0.279	0.343	0.519	0.569	0.883
300	0.280	0.322	0.372	0.560	0.613	0.943
400	0.326	0.392	0.420	0.625	0.683	1.041
500	0.388	0.461	0.469	0.694	0.757	1.142
630	0.467	0.520	0.529	0.777	0.845	1.265
800	0.567	0.593	0.602	0.874	0.949	1.407
1000	0.656	0.665	0.660	0.955	1.036	1.525

Note : XLPE factors include Semicons for Conductor & Insulation screen

TABLE – XL4
VARIATION FACTOR FOR XLPE (CCF1Al / CCF1Cu)
 3 CORE XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH COPPER / ALUMINIUM CONDUCTOR

Nominal Cross Sectional Area (in Sq. mm)	3.3 KV ARM	6.6 KV (E) ARM	6.6 KV (UE) / 11 KV (E) ARM	11 KV (UE) ARM	22 KV (E) ARM	33 KV (E) ARM
25	0.315	0.394	0.511	0.838		
35	0.339	0.427	0.545	0.880	0.982	1.638
50	0.378	0.474	0.600	0.957	1.065	1.751
70	0.435	0.541	0.679	1.067	1.183	1.916
95	0.489	0.604	0.755	1.171	1.295	2.071
120	0.537	0.661	0.822	1.265	1.396	2.210
150	0.585	0.719	0.890	1.359	1.497	2.350
185	0.642	0.784	0.968	1.468	1.614	2.513
240	0.717	0.873	1.074	1.615	1.773	2.732
300	0.781	1.006	1.167	1.744	1.928	2.919
400	0.886	1.227	1.314	1.948	2.130	3.229

Note : XLPE factors include Semicons for Conductor & Insulation screen

TABLE H1
VARIATION FACTOR FOR ALUMINIUM (AIF)
 ALUMINIUM ARMoured SINGLE CORE XLPE INSULATED 3.3 TO 33 KV CABLES

Nominal Cross Sectional Area (in Sq. mm.)	Aluminium Factor for Aluminium Armoured Cable with Aluminium Conductor					
	3.3 KV	6.6 KV (E)	11 KV (E)/ 6.6 KV (UE)	11 KV (UE)	22 KV (E)	33 KV (E)
35	0.251	0.284	0.301	0.344	0.358	0.473
50	0.312	0.336	0.352	0.397	0.408	0.672
70	0.385	0.409	0.423	0.469	0.501	0.723
95	0.476	0.500	0.518	0.637	0.656	0.856
120	0.561	0.586	0.601	0.726	0.744	0.949
150	0.653	0.678	0.696	0.823	0.842	1.050
185	0.773	0.797	0.893	0.949	0.965	1.183
240	0.997	1.063	1.083	1.139	1.154	1.387
300	1.209	1.271	1.283	1.333	1.307	1.753
400	1.438	1.556	1.565	1.620	1.636	2.046
500	1.873	1.901	1.910	2.110	2.128	2.484
630	2.337	2.361	2.369	2.580	2.595	2.978
800	3.007	3.071	3.080	3.145	3.163	3.588
1000	3.737	3.741	3.749	3.804	3.822	4.565

TABLE H2
VARIATION FACTOR FOR POLYMER (CCFAI / CCFCu)
 3 CORE XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH COPPER / ALUMINIUM CONDUCTOR

Nominal Cross Sectional Area (in Sq. mm)	3.3 KV ARM	6.6 KV (E) ARM	6.6 KV (UE) / 11 KV (E) ARM	11 KV (UE) ARM	22 KV (E) ARM	33 KV (E) ARM
35	0.374	0.990	1.142	1.604	1.782	-
50	0.445	1.119	1.260	1.834	2.046	2.864
70	0.547	1.290	1.396	2.011	2.284	3.219
95	0.594	1.440	1.647	2.269	2.428	3.367
120	0.732	1.692	1.877	2.498	2.715	3.646
150	0.812	1.906	2.061	2.767	2.931	3.927
185	0.960	2.086	2.406	3.028	3.180	4.166
240	1.130	2.484	2.744	3.398	3.580	4.589
300	1.219	2.912	3.161	3.840	4.016	5.029
400	1.313	3.530	3.664	4.353	4.666	5.736

Fillers added in PVC consumption

TABLE H3
VARIATION FACTOR FOR STEEL (FeF)
 XLPE INSULATED 3.3 TO 33 KV POWER CABLES WITH COPPER / ALUMINIUM CONDUCTOR

Nominal Cross Sectional Area Sq. mm.	3.3 KV	6.6 KV (E)	11 KV (E) / 6.6 KV (UE)	11 KV (UE)	22 KV (E)	33 KV (E)
25	0.551	0.604	0.656	0.814		
35	0.645	0.645	0.731	0.879	0.937	-
50	0.675	0.703	0.761	0.937	0.966	1.181
70	0.761	0.761	0.849	0.996	1.055	1.289
95	0.820	0.849	0.907	1.083	1.113	1.348
120	0.879	0.907	0.966	1.142	1.172	1.406
150	0.966	0.966	1.055	1.201	1.259	1.494
185	1.025	1.055	1.113	1.259	1.318	1.553
240	1.142	1.142	1.231	1.377	1.406	1.641
300	1.231	1.259	1.318	1.465	1.524	1.758
400	1.348	1.406	1.435	1.582	1.641	1.876

TABLE H4
VARIATION FACTOR FOR ALUMINIUM (AIF)

XLPE INSULATED SINGLE CORE 3.3 TO 33 KV POWER CABLES WITH COPPER CONDUCTOR

Nominal Cross Sectional Area (in Sq. mm.)	Aluminium Factor for Aluminium Armoured Cable with Copper Conductor					
	3.3 KV	6.6 KV (E)	11 KV (E)/ 6.6 KV (UE)	11 KV (UE)	22 KV (E)	33 KV (E)
35	0.153	0.187	0.204	0.247	0.258	0.372
50	0.179	0.203	0.220	0.262	0.275	0.425
70	0.196	0.219	0.233	0.278	0.311	0.444
95	0.213	0.237	0.254	0.373	0.392	0.470
120	0.228	0.253	0.268	0.393	0.410	0.488
150	0.243	0.269	0.287	0.414	0.432	0.504
185	0.261	0.285	0.381	0.437	0.455	0.526
240	0.324	0.389	0.410	0.465	0.480	0.556
300	0.365	0.428	0.440	0.490	0.510	0.737
400	0.432	0.471	0.480	0.536	0.552	0.783
500	0.489	0.517	0.526	0.726	0.744	0.844
630	0.544	0.568	0.572	0.787	0.801	0.902
800	0.706	0.787	0.797	0.862	0.880	0.982
1000	0.824	0.865	0.867	0.923	0.940	1.324

TABLE - H5
VARIATION FACTOR FOR STEEL (FeW)

XLPE INSULATED 3.3KV TO 33 KV POWER CABLES WITH COPPER / ALUMINIUM CONDUCTOR

Nominal Cross Sectional Area in Sq. mm	3.3/3.3 KV	3.3/6.6 KV	11 KV (E) / 6.6 KV (UE)	11 KV (UE)	22 KV (E)	33 KV (E)
25	1.258	1.457	1.612	2.509	1.503	--
35	1.361	1.569	1.853	2.644	2.797	2.517
50	1.682	1.687	2.321	2.800	2.921	4.569
70	2.033	1.979	2.503	3.219	3.347	4.809
95	2.202	2.507	2.718	4.019	4.200	5.437
120	2.371	2.675	2.882	4.241	4.416	6.713
150	2.870	2.847	3.265	4.447	4.621	6.976
185	3.121	3.309	4.148	4.726	5.289	7.356
240	3.758	4.227	4.442	5.442	6.651	7.718
300	4.099	5.024	5.182	6.894	7.084	8.187
400	5.750	6.572	6.658	7.433	7.657	8.760

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Indian Electrical & Electronics Manufacturers' Association

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Cir. No. 202/DIV/SWG/05

24th June 2002

To All members of Switchgear Division
Members on Charge PVC mailing list for Switchgear
SEBs and listed purchasing organizations

Sub : Re-issue of basic prices/indices circulars for Switchgear

IEEMA has been facing difficulties in receiving prices for steel on regular basis. Price circulars for Switchgear were held up since January 2002 due to same difficulties.

It was necessary to evolve permanent, rational solution uniform applicable to all products wherever steel prices are used. After discussing with different product divisions and the approval of Executive Council; IEEMA is pleased to inform all users and manufacturers the following solution to resolve this problem.

1. Replace steel prices with wholesale price index of 'Iron and Steel (base: 1993-94=100)' since it has been observed over a period that the trend of this index is in line with market conditions.
2. Issue Revision 1 to existing price variation clauses of 'Switchgear' incorporating wholesale price index of 'Iron and Steel (base: 1993-94=100)' in place of respective steel prices.
3. Publish fresh basic prices/indices circulars from June 2000.

Accordingly; we are enclosing herewith following documents for your reference perusal.

A. Revision 1 price variation clauses listed as under:

- IEEMA(PVC)/SWGR/2001 (R-1) Effective from 1st January 2002
- IEEMA(PVC)/SWGR (ABOVE 36 KV)/2001 (R-1) Effective from 1st January 2002

B. Applicable basic prices/indices circulars to the above price variation clauses for the period June 2000 to December 2000, January 2001 to December 2001 and January 2002 to June 2002 vide reference as under:

- IEEMA(PVC) SWGR (R)/JUNE – DECEMBER/2000 dated 24.06.2002
- IEEMA(PVC) SWGR (R)/CONSOLIDATED/2001 dated 24.06.2002
- IEEMA(PVC)/ SWGR (R)/JANUARY - JUNE/2002 dated 24.06.2002

Our guidelines for application of these new indices/PV clauses is as under:

I. Pending Orders for execution

A. Orders booked prior to June 2000

- ◆ Use applicable price variation clause of Switchgear and Control gear (effective from 1st May, 1988 and HT Switchgear-Above 36 KV effective from 1st April 1993) and applicable prices/indices to this clause to calculate price 'P' from quoted base date up to June 2000
- ◆ Treat above calculated 'P' as 'P₀' and calculate final price variation from June 2000 up to your actual date of delivery using applicable price variation clause from above list under reference A and applicable prices and indices from above list under reference B

B. For Orders booked/quoted after June 2000 (Partly or fully)

- ◆ Consider base indices for a month given in enclosed circulars listed under reference B
- ◆ Calculate price variation using revised PV clauses enclosed; listed under reference A
- ❖ Do not use this procedure for settled claims.

II. Orders booked but not finalized

- Replace applicable PV clause of Switchgear with enclosed revised PV clause listed under reference A and replace respective base prices and indices for revised PV clause listed under reference B.

III. For New Tenders

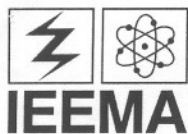
- Incorporate revised PV clauses in all future tenders.

Similar circulars are being issued for all other products, which were affected due to above-mentioned problem.



Assistant Secretary General

Encl: PV clauses as per reference A and applicable circulars as per reference B



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IEEMA/PVC/SWGR/2001 (R-1)

Effective from : 1st January, 2002

PRICE VARIATION CLAUSE FOR SWITCHGEAR AND CONTROLGEAR

The price quoted/confirmed is based on the cost of raw materials/components and labour cost as on the date of quotation and the same is deemed to be related to prices of raw materials / components and all India average consumer price index number for industrial workers as specified in the price variation clause given below. In case of any variation in these prices and Index number, the price payable shall be subject to adjustment up or down in accordance with the following formula:

$$P = \frac{P_0}{100} \left(25 + 17 \frac{IS}{IS_0} + 18 \frac{C}{C_0} + 10 \frac{Al}{Al_0} + 13 \frac{In}{In_0} + 17 \frac{W}{W_0} \right)$$

Wherein,

P = Price payable as adjusted in accordance with above formula.

P₀ = Price quoted/confirmed.

IS₀ = Wholesale price index of 'Iron and Steel' (base: 1993-94 = 100) (refer notes).

This index is as applicable on the first week ending Saturday of the month, three months prior to the date of tendering.

C₀ = Price of electrolytic copper wire bars (refer notes).

This price is as applicable on the first working day of the month, one month prior to the date of tendering.

Al₀ = Price of busbar grade aluminium (refer notes).

This price is as applicable on the first working day of the month, one month prior to the date of tendering.

In₀ = Price of phenolic moulding powder for switchgear and controlgear of medium/lower voltage (upto 650 volts) or price of epoxy resin for HT switchgear (above 650 volts) (refer notes).

This price is as applicable on the first working day of the month, one month prior to the date of tendering.

W₀ = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base 1982 = 100).

This index number is as applicable for the month, four months prior to the date of tendering.

For example, if the date of tendering falls in May 2001, the applicable prices of electrolytic copper wire bars (C₀), busbar grade aluminium (Al₀) and insulating material (In₀) should be for the month of April 2001 and wholesale price index of 'Iron and Steel' (IS₀) should be for the first week ending Saturday of February 2001 and all India average consumer price index number (W₀) should be for the month of January 2001.

The above prices and indices are as published by IEEMA vide circular reference number IEEMA(PVC)SWGR/_/_ prevailing as on first working day of the month i.e., one month prior to the date of tendering.

IS = Wholesale price index of 'Iron and Steel' (base: 1993-94 = 100) (refer notes).

This index is as applicable on the first week ending Saturday of the month, four months prior to the date of delivery.

C = Price of electrolytic copper wire bars (refer notes).

This price is as applicable on the first working day of the month, two months prior to the date of delivery.

IEEMA/PVC/SWGR/1/2

IEEMA/PVC/SWGR/2001 (R-1)

Effective from : 1st January, 2002

- Al = Price of busbar grade aluminium (refer notes).
This price is as applicable on the first working day of the month, two months prior to the date of delivery.
- In = Price of phenolic moulding powder for switchgear and controlgear of medium/lower voltage (upto 650 volts) or price of epoxy resin for HT switchgear (above 650 volts) (refer notes).
This price is as applicable on the first working day of the month, two months prior to the date of delivery.
- W = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base 1982 = 100).
This index number is as applicable for the month, five months prior to the date of delivery.

For example, if the date of delivery in terms of clause given below falls in December 2001 the applicable price of raw materials viz: C, Al and In should be for the month of October 2001 and wholesale price index of 'Iron and Steel' (IS) should be for the first week ending Saturday of August 2001 all India average consumer price index number (W) should be for the month of July 2001.

The "date of delivery" is the date on which the switchgear equipment is notified as being ready for inspection/despatch. (In the absence of such notification the date of manufacturer's despatch note is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension thereto), whichever is earlier.


Notes: (a) All prices of raw materials are exclusive of modvatable excise/CV duty amount and exclusive of any other central, state or local taxes, octroi etc.

(b) All prices are as on first working day of the month.

(c) The details of prices are as under:

- 1) The wholesale price index number for 'Iron and Steel' is as published by the office of Economic Advisor, Ministry of Industry, Govt. of India, New Delhi, with base 1993-94 = 100. This wholesale price index is being published weekly on provisional basis. However, the same gets finalised after eight weeks and is normally available after two months. Therefore, we are considering in our calculations this final index published by Economic Advisor for the first Saturday of the months two months prior to the date of which the prices of other raw materials such as C, Al and In are published for the corresponding month.
- 2) The price for electrolytic copper wire bars (in Rs/MT) is ex-godown price as quoted by the primary producer of copper.
- 3) The price of busbar grade aluminium (in Rs/MT) is the average of ex-works price as quoted by the two primary producers for the busbar size 152.4 x 6.35 mm flat approximately, of grade equivalent to E91E as per IS 5082-1981 (or the latest).
- 4) The price of insulating material (in Rs/Kg)
is the average price of phenolic moulding powder quoted by three manufacturers. (for switchgear and controlgear of medium/lower voltage upto 650 volts). **or**
is the price of epoxy resin quoted by a resin manufacturer for their grade CT 5900 or its nearest equivalent. (for HT switchgear above 650 volts).

For Indian Electrical & Electronics Manufacturers' Association



Authorised Signatory

IEEMA/PVC/SWGR/2/2



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Cir. No. 203/DIV/SWG/05

24th June 2002

To All members of Switchgear Division (Battery Charger mailing list)
Members on Charge PVC mailing list for Battery Charger
SEBs and listed purchasing organizations

Sub : Re-issue of basic prices/indices circulars for Battery Charger Equipment

IEEMA has been facing difficulties in receiving prices for steel on regular basis. Price circulars for Battery Charger Equipment were held up since January 2002 due to same difficulties.

It was necessary to evolve permanent, rational solution uniform applicable to all products wherever steel prices are used. After discussing with different product divisions and the approval of Executive Council; IEEMA is pleased to inform all users and manufacturers the following solution to resolve this problem.

1. Replace steel prices with wholesale price index of 'Iron and Steel (base: 1993-94=100)' since it has been observed over a period that the trend of this index is in line with market conditions.
2. Issue Revision 1 to existing price variation clauses of 'Battery Charger Equipment' incorporating wholesale price index of 'Iron and Steel (base: 1993-94=100)' in place of respective steel prices.
3. Publish fresh basic prices/indices circulars from June 2000.

Accordingly; we are enclosing herewith following documents for your reference perusal.

A. Revision 1 price variation clauses listed as under:

- IEEMA(PVC)/BTR-CHRG/2001 (R-1) Effective from 1st January 2002

B. Applicable basic prices/indices circulars to the above price variation clauses for the period June 2000 to December 2000, January 2001 to December 2001 and January 2002 to June 2002 vide reference as under:

- IEEMA(PVC) BTR (R)/JUNE – DECEMBER/2000 dated 24.06.2002
- IEEMA(PVC) BTR (R)/CONSOLIDATED/2001 dated 24.06.2002
- IEEMA(PVC)/ BTR (R)/JANUARY - JUNE/2002 dated 24.06.2002

Our guidelines for application of these new indices/PV clauses is as under:

I. Pending Orders for execution

A. Orders booked prior to June 2000

- ◆ Use applicable price variation clause of Battery Charger Equipment (effective from 1st July, 1994) and applicable prices/indices to this clause to calculate price 'P' from quoted base date up to June 2000
- ◆ Treat above calculated 'P' as 'P₀' and calculate final price variation from June 2000 up to your actual date of delivery using applicable price variation clause from above list under reference A and applicable prices and indices from above list under reference B

B. For Orders booked/quoted after June 2000 (Partly or fully)

- ◆ Consider base indices for a month given in enclosed circulars listed under reference B
- ◆ Calculate price variation using revised PV clauses enclosed; listed under reference A
- ❖ Do not use this procedure for settled claims.

II. Orders booked but not finalized

- Replace applicable PV clause of Battery Charger Equipment with enclosed revised PV clause listed under reference A and replace respective base prices and indices for revised PV clause listed under reference B.

III. For New Tenders

- Incorporate revised PV clauses in all future tenders.

Similar circulars are being issued for all other products, which were affected due to above-mentioned problem.



Assistant Secretary General

Encl: PV clauses as per reference A and applicable circulars as per reference B



Indian Electrical & Electronics Manufacturers' Association

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IEEMA/PVC/BTR-CHRG/2001 (R-1)

Effective from : 1st January, 2002

PRICE VARIATION CLAUSE FOR BATTERY CHARGER EQUIPMENT

The price quoted/confirmed is based on the input cost of raw material and labour cost as on the date of quotation and the same is deemed to be related to the index number for Battery Charger Equipment and all India average consumer price index number for industrial workers as specified in the price variation clause given below. In case of any variation in these index numbers, the price payable shall be subject to adjustment up or down in accordance with the following formula:

$$P = \frac{P_0}{100} \left(20 + 50 \frac{\text{IN-BTR-CHRG}}{\text{IN}_0\text{-BTR-CHRG}} + 30 \frac{W}{W_0} \right)$$

Wherein,

P = Price payable as adjusted in accordance with the above formula.

P₀ = Price quoted/confirmed.

IN₀-BTR-CHRG =

Index number for battery charger equipment based on relative prices and weightages (as given in brackets) of C.C. copper rods (30), electrical steel laminations (10) and whole-sale price index of 'Iron and Steel' (10), calculated considering their values as on 1st June 2000 as base equal to 100 (refer notes).

This index number is as applicable on the first working day of the month, one month prior to the date of tendering.

W₀ = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base 1982 = 100).

This index number is as applicable for the month, four months prior to the date of tendering.

For example, if the date of tendering falls in May 2001 the applicable index number for battery charger equipment (IN₀-BTR-CHRG) should be that prevailing as on 1st April 2001 and the applicable all India average consumer price index number (W₀) should be for the month of January 2001.

The above indices are as published by IEEMA vide IEEMA circular reference number IEEMA(PVC)/BTR/_/_ prevailing as on first working day of the month..... i.e., one month prior to the date of tendering.

IN - BTR CHRG =

Index number for battery charger equipment based on relative prices and weightages (as given in the brackets) C.C. copper rods (30) electrical steel laminations (10) and wholesale price index of 'Iron and Steel' (10), Calculated considering their values as on 1st June 2000 as base equal to 100 (refer notes).

This index number is as applicable on the first working day of the month, one month prior to the date of delivery.

W = All India average consumer price index number for industrial workers (base 1982 = 100) as published by Labour Bureau, Ministry of Labour, Govt. of India.

This index number is as applicable for the month, four months prior to the date of delivery.

IEEMA/PVC/BTR-CHRG/2001 (R-1)

Effective from : 1st January, 2002

For example, if the date of delivery in terms of clause given below falls in December 2001, the applicable index number for battery charger equipment (IN-BTR-CHRG) should be that as published by IEEMA as prevailing on 1st November 2001 and the applicable all India average consumer price index number (W) should be for the month of August 2001.

The "date of delivery" is the date on which the battery charger equipment is notified as being ready for inspection/despatch (in the absence of such notification, the date of manufacturer's despatch note is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension thereto), whichever is earlier.

Notes : (a) All prices of raw materials considered for arriving at the index number for battery charger equipment are exclusive of modvatable excise duty and exclusive of any other central, state or local taxes, octroi etc.


(b) All prices are as on 1st working day of the calender month.

(c) The details of the prices considered for index number for battery charger equipments are as under:

- 1) The price of C.C. copper rod (in Rs/MT) is the ex-works price of a primary producer of copper.
- 2) The price of laminations (in Rs/kg) is the average of the ex-works price as quoted by the two manufacturers for CRGO plain strip transformer lamination with an area between 301 and 1000 sq. cm produced from M4 Grade (41) steel, fully processed and stress-relief annealed.
- 3) The wholesale price index number for 'Iron and Steel' is as published by the office of Economic Advisor, Ministry of Industry, Govt. of India, New Delhi, with base 1993-94 = 100. This wholesale price index is being published weekly on provisional basis. However, the same gets finalised after eight weeks and is normally available after two months. Therefore, we are considering in our calculations this final index published by Economic Advisor for the first Saturday of the months two months prior to the date of which the prices of other raw materials are considered.

For example, for calculating index number for battery charger equipment on first day of the month of October, the basic prices of copper rods, electrical steel lamination are to be considered as on first working day of October and the wholesale price index number for 'Iron and Steel' is to be considered as published by Economic Advisor for the first week ending Saturday of the month of August.

For Indian Electrical & Electronics Manufacturers' Association



Authorised Signatory

Cir. No.04/DIV/BUSDUCTS/05**02/01/2001**

To: All Members of Switchgear Division. (Busducts mailing list)
Members on the CHRG PVC mailing list for Busducts.
SEBS & Listed Purchasing Organization.

Sub: Updated price variation clause for Busducts effective from 1st January 2001.

You are aware that the work of updating IEEMA Price Variation Clauses was under taken during last 18 months. We had circulated drafts of updated clauses highlighting the modifications being carried out requesting users to send their comments.


This exercise was proposed to bring the uniformity in IEEMA's price variation clauses and to amend the workings of the existing clauses giving correct references to the basic prices and indices considered for calculations.

We are now please to enclosed a copy of this updated price variation clause effective from **1st January 2001** for your reference and perusal.

From **1st January 2001 onwards**, we request you to kindly incorporate these clauses in all your future tenders/contracts.

We will issue the indices applicable to this clause in our standard format every month giving reference to this updated clause. To enable users to claim variation on this basis of earlier clause, we will be circulating the indices applicable to the said earlier clause up to December 2001 only.

We request members to kindly make note of this.


Sr. Executive Officer

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IEEMA/PVC/BUSDUCT/2001

Effective from : 1st January, 2001

PRICE VARIATION CLAUSE FOR BUSDUCTS

The price quoted/confirmed is based on the cost of raw materials/components and labour cost as on the date of quotation and the same is deemed to be related to prices of raw materials, index number for busducts and all India average consumer price index number for industrial workers as specified in the price variation clause given below. In case of any variation in these Index numbers, the price payable shall be subject to adjustment up or down in accordance with the following formula:

$$P = \frac{P_0}{100} \left(15 + 65 \frac{IN - BUSDUCT}{IN_0 - BUSDUCT} + 20 \frac{W}{W_0} \right)$$

Wherein,

P = Price payable as adjusted in accordance with the above formula.

P₀ = Price quoted/confirmed.

IN₀-BUSDUCT= Index number for busduct is based on relative prices and weightages (as given in the brackets) busbar grade aluminium (50), wholesale price index number for iron and steel (5), epoxy resin (5) and copperwire bars (5) calculated considering their prices as on 1st June 2000 (as base =100) (refer notes).

This index number is as applicable on the first working day of the month, three months prior to the date of tendering.

W₀ = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base 1982 = 100).

This index number is as applicable for the month, three months prior to the date of tendering.

For example, if the date of tendering falls in May 2001, the applicable index number for busducts (IN₀-BUSDUCT) and all India average consumer price index number (W₀) both should be for the month of February 2001, Which would appear in the circular issued for the month of April 2001.

The above prices and indices are as published by IEEMA vide circular reference number IEEMA(PVC)BUSDUCT/_/_ prevailing as on first working day of the month..... i.e., one month prior to the date of tendering.

IN-BUSDUCT = Index number for busduct is based on relative prices and weightages (as given in the brackets) busbar grade aluminium (50), wholesale price index number for iron and steel (5), epoxy resin (5) and copperwire bars (5) calculated considering their prices as on 1st June 2000 (as base =100) (refer notes).

This index number is as applicable on the first working day of the month, three months prior to the date of delivery.

IEEMA/PVC/BUSDUCT/2001

Effective from : 1st January, 2001

W = All India average consumer price index number for industrial workers, general index as published by the Labour Bureau, Govt. of India (Base 1982 = 100).

This index number is as applicable for the month, three months prior to the date of delivery.

For example, if the date of delivery in terms of clause given below falls in December 2001 the applicable index number for busducts (IN-BUSDUCT) and the applicable all India average consumer price index number (W) should be for the month of September 2001, which would appear in the circular issued for the month of November 2001.

The "date of delivery" is the date on which the busduct is notified as being ready for inspection/despatch. (In the absence of such notification the date of manufacturer's despatch note is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension thereto), whichever is earlier.

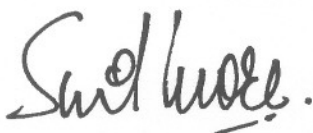
Notes: (a) All prices of raw materials considered for arriving at the index number for busduct are exclusive of modvatable excise/CV duty amount and exclusive of any other central, state or local taxes, octroi etc.

(b) All prices are as on first working day of the month.

(c) The details of prices considered for index number for busduct are as under:

1. The price of busbar grade aluminium (in Rs/MT) is the average of ex-works price as quoted by the two primary producers for the busbar size 152.4 x 6.35 mm flat approximately, of grade equivalent to E91E as per IS 5082-1981 (or the latest).
2. The wholesale price index number for iron and steel is as published by the office of the economic adviser, Ministry of industry, Govt. of India, New Delhi, with base (1993-94 = 100). This wholesale price index is being published weekly on provisional basis. However, the same gets finalised after 8 weeks and is normally available after two months. Therefore we are considering in our calculations this final index only as published by the economic adviser.
3. The price of Epoxy Resin (Rs/KG) is ex-works price as quoted by a resin manufacturer for their epoxy resin CT5900 or its nearest equivalent.
4. Price for electrolytic copper wire bars (in Rs/MT) is the ex-godown / ex-works price as quoted by the primary producer.

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Authorised Signatory