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All Members of Cable Division & All SEBs, Utilities & Listed Purchasing organisations

Sub: i) Revision in Price Variation Formulae for Medium Voltage Power Cables
ii) New Price Variation Formula for 6 Quad Railway signalling Cables as per RDSO specs

IEEMA was working on inclusion of Metallic screen factors of copper tape applicable for the MV Power Cables and on specific request from Railways, IEEMA was also working on evolution of factors and formula for 6 Quad Railway Signalling Cables as per RDSO specifications.

IEEMA has been discussing internally on evolution of standards weight factors of metals and polymers applicable for EHV Cables for various standard rating and for specific short circuit test requirements.

After compilation of all inputs of factors from major manufacturers, the revised Price Variation Formulae for EHV Cables, MV Power Cables including metallic screen factor (Cu tape) have been prepared. Similarly a new PV formula for 6 Quad Railway signalling cables as per RDSO specification has also been prepared. The same in the draft form were circulated vide cir. No. 73/DIV/CAB/05 dated 23rd August 2019 for your reviews.

Since there are no adverse comments received; we are making these formulae operational from 1st September 2019. We request and recommend all the users & stakeholders including Utilities, PSUs etc. to incorporate these PV formulae in all the new tenders/contracts.

For pending contracts of EHV Cables and MV Power Cables, the date of delivery on or after 1st September 2019, to arrive at the final price variation, we recommend using the following two stage method, which is a standard institutionalized methodology adopted by IEEMA for change over in all IEEMA PV clauses.

1. Calculate price variation 'P' from applicable prices/indices from your base date / date of tendering up to September 2019 i.e. considering all prices/indices published in PV circular of September 2019 at numerator place; using IEEMA PV clause effective from 1st November 2017.
2. Treat the above calculated 'P' as 'P₀' and calculate final price variation considering all prices / indices published in September 2019 as base prices/indices (at the denominator place) up to the applicable prices/indices as per your date of delivery; using revised PV clause of MV Power Cable effective from 1st September 2019.

Director

Encl: Revised PV Formulae for EHV Cables, Medium Voltage Power Cables
New PV Formula for 6 Quad Railway signaling Cables as per RDSO specs

IEEMA (PVC)/MV SCREEN CABLE/2019**Effective from: 1st September 2019****Price Variation Clause for 3.3-33 KV XLPE Insulated Armoured Single & Three core Screen 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 Ex-Works Price quoted/confirmed **(in Rs/Km)**

ALUMINIUM

AIF Variation factor for Aluminium

Al Price of Aluminium. This price is as applicable one month prior to the date of delivery.

Alo Price of Aluminium. This price is as applicable 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 one month prior to the date of delivery.

Cuo Price of CC copper rods. This price is as applicable 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.

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.

IEEMA (PVC)/MV SCREEN CABLE/2019

Effective from: 1st September 2019

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.

COPPER TAPE

SMIFS	Variation Factor for Copper Tape
SMIF1	Price of CC copper rods. This price is as applicable one month prior to the date of delivery.
SMIF0	Price of CC copper rods. This price is as applicable 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, date of manufacturer's dispatch note is to be considered as the date of delivery) or contracted delivery date (including any agreed extension thereto) whichever is earlier.

Notes: All prices of raw materials are exclusive of GST amount. 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).

Price variation formulae

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

$$P = P_o + AIF (AI - ALo) + XLFAL(CC-Cco) + SMIFS (SMIF1-SMIF0) + CCFAI (PVCc - PVCco)$$

For Single Core unarmoured cables Aluminium factor (AIF) shall be referred from Table ALP

Table References:

ALP	Aluminium conductor Factor in single core (for unarmoured cable) ; AIF
H1	Aluminium Armour Factor for Armour with Al Cond.
H2(a)	XLPE Compound Factor ; XLFAI
H3(a)	Copper Tape Factor ; SMIFS
H5(a)	Polymer factor for Single core cable ; CCFAI

IEEMA (PVC)/MV SCREEN CABLE/2019

Effective from: 1st September 2019

Note: For cases where specific Earth Fault Current through Screen is required, Screen area as approved by the customer in Datasheet/Earth Fault Current calculation of Screen shall be used to derive SMIF as below

If A= Area of Metallic Screen in Approved Datasheet / Calculation Sheet

D= Density= 8.89 for Cu. & 2.703 for Al **SMIFS=(A*D)/1000**

H. For Copper conductor XLPE insulated 3.3 to 33 kV Single Core Armoured power cables

$$P = P_o + CuF (Cu - Cu_0) + XLFCu(CC-Cco) + SMIFS (SMIF1-SMIF_0) + AIF(Al-Alo) + CCFAI (PVCc - PVCco)$$

For Single Core unarmoured cables Aluminium factor (AIF) shall be 0

Table References:

CuP	Copper conductor Factor in single core ; CuF
H2(a)	XLPE Compound Factor ; XLFCu
H3(a)	Copper Tape Factor ; SMIFS
H4(a)	Aluminium Armour factor ; AIF
H5(a)	Polymer factor for Single core cable ; CCFCu

Note: For cases where specific Earth Fault Current through Screen is required, Screen area as approved by the customer in Datasheet/Earth Fault Current calculation of Screen shall be used to derive SMIF as below

If A= Area of Metallic Screen in Approved Datasheet / Calculation Sheet

D= Density= 8.89 for Cu. & 2.703 for Al

SMIFS=(A*D)/1000

I. For Aluminium conductor XLPE insulated 3.3 to 33 kV Three Core Armoured power cables

$$P = P_o + AIF (Al - Alo) + XLFAL(CC-Cco) + SMIF (SMIF1-SMIF_0) + FeF(FeF1-FeF_0) + CCFAI (PVCc - PVCco)$$

For unarmoured Three Core cables , Steel Armour factor (FeF for Strip & FeW for Wire) shall be 0

Table References:

ALP	Aluminium conductor Factor in three core ; AIF
H2(b)	XLPE Compound Factor ; XLFAI
H3(b)	Copper Tape Factor ; SMIF
H4(b)	Steel Strip Armour Factor ; FeF. For Steel Wire Armour Refer Table H4(c); FeW
H5(b)	Polymer factor for Three Core cable ; CCFAI

Note: For cases where specific Earth Fault Current through Screen is required, Screen area as approved by the customer in Datasheet/Earth Fault Current calculation of Screen shall be used to derive SMIF as below

If A= Area of Metallic Screen in Approved Datasheet / Calculation Sheet

D= Density= 8.89 for Cu. & 2.703 for Al

SMIF=(A*D)/1000

IEEMA (PVC)/MV SCREEN CABLE/2019

Effective from: 1st September 2019

J. For Copper conductor XLPE insulated 3.3 to 33 kV Three Core Armoured power cables

$$P = P_o + CuF (Cu - Cu_o) + XLFCu(CC-Cco) + SMIF(SMIF1-SMIF0) + FeF(FeF1-FeF0) + CCFCu (PVCc - PVCco)$$

For Three Core unarmoured cables , Steel Armour factor (FeF for Strip & FeW for Wire) shall be 0

Table References:

CuP	Copper conductor Factor in three core ; CuF
H2(b)	XLPE Compound Factor ; XLFCu
H3(b)	Copper Tape Factor ; SMIF
H4(b)	Steel Strip Armour Factor ; FeF. For Steel Wire Armour Refer Table H4(c); FeW
H5(b)	Polymer factor for Three Core cable ; CCFCu

Note: For cases where specific Earth Fault Current through Screen is required, Screen area as approved by the customer in Datasheet/Earth Fault Current calculation of Screen shall be used to derive SMIF as below

If A= Area of Metallic Screen in Approved Datasheet / Calculation Sheet

D= Density= 8.89 for Cu. & 2.703 for Al

$$SMIF=(A*D)/1000$$

The PV factor for metallic screen will be computed based on approved screen area in case of cables having a specific short circuit capacity



Authorized 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

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 : 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(E) unscreened Arm	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 (a)
VARIATION FACTOR FOR XLPE(XLFAI/XLFCu)
SINGLE CORE ARMoured /UNARMoured XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH
Al / Cu CONDUCTOR

Nominal Cross- Sectional Area (in Sq. mm.)	XLPE Factor for Armoured/ Unarmoured Cable with AL /CU Conductor					
	3.3 KV(E) unscreened Arm	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 – H2 (b)
VARIATION FACTOR FOR XLPE (XLFAI/XLFCu)
THREE CORE ARMoured /UNARMoured XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH
Al / Cu CONDUCTOR

Nominal Cross- Sectional Area (in Sq. mm)	3.3 KV unscreened 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
500	0.956	1.421	1.446	2.148	2.381	3.588
630	1.129	1.582	1.609	2.382	2.630	3.940

Note : XLPE factors include Semicons for Conductor & Insulation screen

TABLE – H3 (a)
VARIATION FACTOR FOR COPPER TAPE (SMIFS)
SINGLE CORE ARMoured /UNARMoured XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH
Al / Cu CONDUCTOR

Nominal Cross- Sectional Area in sq.mm.	6.6 KV (E)	6.6 KV (UE) / 11 KV (E)	11 KV (UE)	22 KV (E)	33 KV (E)
	ARM	ARM	ARM	ARM	ARM
35	0.0181	0.0201	0.0249	0.0263	0.0163
50	0.0194	0.0215	0.0263	0.0277	0.0348
70	0.0217	0.0237	0.0285	0.0299	0.0370
95	0.0237	0.0257	0.0305	0.0319	0.0387
120	0.0254	0.0275	0.0323	0.0337	0.0408
150	0.0273	0.0291	0.0339	0.0353	0.0424
185	0.0292	0.0313	0.0361	0.0375	0.0446
240	0.0322	0.0340	0.0388	0.0401	0.0472
300	0.0351	0.0364	0.0426	0.0426	0.0497
400	0.0403	0.0411	0.0457	0.0471	0.0543
500	0.0446	0.0450	0.0499	0.0513	0.0582
630	0.0494	0.0496	0.0544	0.0558	0.0630
800	0.0545	0.0547	0.0595	0.0609	0.0681
1000	0.0598	0.0584	0.0645	0.0659	0.0731

TABLE – H3 (b)
VARIATION FACTOR FOR COPPER TAPE (SMIF)
THREE CORE ARMoured /UNARMoured XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH
Al / Cu CONDUCTOR

Nominal Cross- Sectional Area in sq.mm.	6.6 KV (E)	6.6 KV (UE) / 11 KV (E)	11 KV (UE)	22 KV (E)	33 KV (E)
	ARM	ARM	ARM	ARM	ARM
35	0.0549	0.0607	0.0717	0.0790	0.0000
50	0.0590	0.0649	0.0755	0.0831	0.1044
70	0.0654	0.0712	0.0822	0.0895	0.1110
95	0.0714	0.0773	0.0882	0.0955	0.1171
120	0.0771	0.0829	0.0939	0.1012	0.1225
150	0.0818	0.0878	0.0989	0.1062	0.1278
185	0.0884	0.0943	0.1052	0.1125	0.1341
240	0.0968	0.1026	0.1136	0.1209	0.1425
300	0.1062	0.1102	0.1216	0.1289	0.1497
400	0.1216	0.1238	0.1348	0.1422	0.1638
500	0.1353	0.1356	0.1467	0.1545	0.1762
630	0.1485	0.1491	0.1602	0.1680	0.1897

TABLE : H4 (a)
VARIATION FACTOR FOR ALUMINIUM (AIF)
SINGLE CORE ARMOURED XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH
Cu CONDUCTOR

Nominal Cross Sectional Area (in Sq. mm.)	Aluminium Factor for Aluminium Armoured Cable with Copper Conductor					
	3.3 KV(E) unscreened Arm	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 : H4 (b)
VARIATION FACTOR FOR STEEL STRIP ARMOUR (FeF)
THREE CORE ARMOURED XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH
Al / Cu CONDUCTOR

Nominal Cross Sectional Area Sq. mm.	3.3 KV (E) unscreened arm	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 (c)
VARIATION FACTOR FOR STEEL WIRE ARMOUR (FeW)
THREE CORE ARMoured XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH
Al / Cu CONDUCTOR

Nominal Cross Sectional Area in Sq. mm	3.3 KV (E) Unscreened arm	6.6 KV (E)	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
500	6.716	6.777	6.861	7.588	7.797	8.830
630	7.492	7.465	7.477	8.209	8.386	9.413

TABLE : H5 (a)
VARIATION FACTOR FOR Polymer (CCFAL/CCFCu)
SINGLE CORE ARMOURED XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH
 Al / Cu CONDUCTOR

Nominal Cross Sectional Area (in Sq. mm)	3.3 KV(E) Unscreened 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	0.123	0.259	0.278	0.330	0.376	0.468
50	0.152	0.272	0.294	0.379	0.394	0.483
70	0.170	0.295	0.317	0.404	0.419	0.508
95	0.184	0.317	0.338	0.435	0.449	0.554
120	0.197	0.337	0.392	0.457	0.472	0.576
150	0.194	0.389	0.413	0.477	0.492	0.597
185	0.224	0.414	0.445	0.502	0.539	0.674
240	0.276	0.456	0.479	0.558	0.573	0.711
300	0.294	0.489	0.506	0.587	0.602	0.811
400	0.333	0.569	0.578	0.687	0.703	0.866
500	0.367	0.675	0.679	0.809	0.826	1.056
630	0.438	0.735	0.739	0.873	0.928	1.168
800	0.529	0.863	0.866	1.027	1.05	1.189
1000	0.648	1.031	1.035	1.138	1.158	1.402

TABLE : H5 (b)
VARIATION FACTOR FOR POLYMER (CCFAI / CCFCu)
THREE CORE ARMOURED XLPE INSULATED 3.3 to 33 KV POWER CABLES WITH
 Al / Cu CONDUCTOR

Nominal Cross Sectional Area (in Sq. mm)	3.3 KV ARM Unscreen 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
500	1.652	3.925	3.971	4.621	4.878	5.913
630	1.949	4.487	4.982	5.225	5.477	6.696

Fillers added in PVC consumption