



NORTH BIHAR POWER DISTRIBUTION CO. LTD.

[Office of Chief Engineer, Project-I/Urban]
(Regd. Office: Vidyut Bhawan, Bailey Road, Patna)
CIN No: U40109BR2012SGC018920

Letter No: 966

[File No:-N-XIII/RDSS/V.A./Chapra Circle-3082/2023-

Dated: 08-08-23

E-mail: cerdssnbpddl@gmail.com

From,

Shriram Singh
Chief Engineer, Project-I (Urban)

To,

M/s NCC Ltd
NCC House, Survey no. 64, Madhapur,
Hyderabad, 500081, Email: elec.tenders@nccltd.in

Sub:-

Regarding approval of GTP & Drawing of ACSR Weasel Conductor, ACSR Rabbit Conductor & ACSR Dog Conductor of make M/s D & M Cable Pvt. Ltd., Kolkata for Loss Reduction Component works under "Revamped Reforms-Based and Results-Linked Distribution Sector Scheme."

Ref:-

(i) NOA No.-244 & 245 dated 06.03.2023
(ii) Your letter no.-149 dated 07.08.2023

Sir,

With reference to the above, please find the copy of approved GTP & Drawing of following item for Loss Reduction Component works under "Revamped Reforms-Based and Results-Linked Distribution Sector Scheme":-

S.N.	Material Description	Vendor Name
1	ACSR Weasel Conductor	M/s D & M Cable Pvt. Ltd., Killa No.-39/6/2, 1/7,
2	ACSR Rabbit Conductor	Village-Asswarpur, GT Road, Rai District- Sonipat,
3	ACSR Dog Conductor	Haryana-131021

Correction where required in GTP & Drawing submitted by you has been done. However, these drawings shall be subject to correctness as per technical specifications of the tender document and the entire responsibility of correctness of the drawing as per the specifications as well as supply of material according to the technical specifications of the contract agreement shall be that of the contractor.

In case of any conflict or contradiction between GTP/Drawing & Technical Specifications, the decision of Chief Engineer, Project-I (Urban) shall be final and binding on both parties. Contractor shall have to replace the material to the entire satisfaction of the purchaser in case the material is found unsuitable for use in the project, at any stage.

Please carry out the works immediately under the conditions stated above.

Encl:- As above

Yours faithfully

(Shriram Singh)

Chief Engineer, Project-I (Urban)

Memo No.- 966

Dated- 08-08-23

Copy forwarded M/s Vindhya Telelinks Limited, Club 125, 6th floor, Tower A, Plot No- 3, 4 & 5, Sector 125, Noida, UP-201301/M/s Polycab India Ltd., Polycab House, 771, Pandit Satwalekar Marg, Mumbai/M/s Ashoka Buildcon Ltd., S.No.-861, Ashoka House, Ashoka Marg, Vadala, Nashik-422011 for information and necessary action.

Encl:-As above

(Shriram Singh)

Chief Engineer, Project-I (Urban)

Memo No.- 966

Date- 08-08-23

Copy forwarded to Chief Engineer, Project-II, NBPDCI for information and necessary action.

Encl:-As above

(Shriram Singh)

Chief Engineer, Project-I (Urban)

Name of Project :	Development of Distribution Infrastructure at Chapra Electric Supply Circle under Loss Reduction Component of RDSS-Scheme
Name of TKC :	M/s NCC Ltd. NCC House, Survey No. 64, Madhapur, Hyderabad-500081
NOA No.	244 & 245 dated 06.03.2023
Name of DISCOM	North Bihar Power Distribution Company Ltd.
Name of Manufacturer	M/s D&M Cable Pvt. Ltd.
Address of Manufacturer	Killa No. 39/6/2, 1/7, Village-Assawarpur G.T. Road Rai, District-Sonapat, Haryana-131021

GTP FOR ACSR WEASEL CONDUCTOR

SL. NO.	Description	Unit	Guaranteed Value for ACSR WEASEL CONDUCTOR
1	Particulars of Raw Materials		
a	Aluminium		
i	Minimum purity of Aluminum	%	99.5% (Min.)
ii	Maximum Copper Content	%	0.04 % (Max.)
b	Steel wires/Rods		
i	Carbon	%	0.50 to 0.85
ii	Manganese	%	0.50 to 1.10
iii	Phosphorous	%	0.035 Maxi.
iv	Sulphur	%	0.045 maxi.
v	Silicon	%	0.10 to 0.35
c	Zinc		
i	Minimum purity of Zinc	%	99.95%
2	Aluminium Strands after stranding		
a	Diameter		
i	Nominal	mm	2.59 ✓
ii	Maximum	mm	2.62
iii	Minimum	mm	2.56 ✓
b	Minimum Breaking load of strand (After stranding)	KN	0.85 ✓
c	Calculated D.C. resistance at 20 degrees C., maximum.	ohm/Km	5.490 ✓
3	Steel Strands after stranding		
	Diameter		
i	Nominal	mm	2.59 ✓
ii	Maximum	mm	2.64 ✓
iii	Minimum	mm	2.54
4	Galvanising		
a	Minimum weight of zinc coating per sq. mm of uncoated wire surface	g/m ²	230 (Before stranding)
b	Minimum number of one minute dips. That the Galvanised strand can withstand preece test	Nos	2x1 mints, 1x1/2 mins (As per IS : 4826) (Before stranding)
c	Minimum number of twists in a guage length times dia of wire which the strand can in the torsion test (after stranding)	Nos	16 ✓

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NBPDCC



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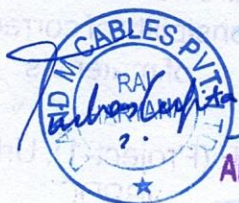
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SL. NO.	Description	Unit	Guaranteed Value for ACSR WEASEL CONDUCTOR
5	ACSR Conductor (AI 6/2.59 + St. 1/2.59)		
a	UTS of the Conductor	KN	11.12
b	Lay ratio of conductor		
i	Outer steel layer (max.)	Nos	NA
ii	12 wire aluminium layer (max.)	Nos	NA
iii	18 wire aluminium layer	Nos	NA
iv	6 wire aluminium layer	Nos	14 (max.) , 10 (min.)
c	DC resistance of conductor at 20° C (max.)	ohm/Km	0.9289
d	Standard length of Conductor	M	2500 (±5%)
e	Non standard length	M	10% of order quantity, no length less than 70% of standard length
f	Tolerance on standard length of conductor	%	(±5%)
6	Direction of lay for outside layer		Right hand Lay
7	Linear mass of conductor		
i	Standard	Kg/Km	128.00
ii	Minimum	Kg/Km	As per IS
iii	Maximum	Kg/Km	As per IS
8	No. of cold pressure but welding equipment available at works	Nos	As per IS
9	Co efficient of linear expansion / °		19.1x10 ⁻⁶
10	Modulus of Elasticity	GN/m ²	79
11	Total sectional area of conductor	sq.mm	36.88 ✓
12	Overall Dia of the Conductor (min.)	mm	7.77 ✓
13	Sectional area of aluminium conductor	sq.mm	31.61
14	Minimum break load of the strand Alu.		
A	Before stranding	KN	0.89 ✓
B	After Stranding	KN	0.85
15	Minimum break load of the strand ST.		
A	Before stranding	KN	6.92 ✓
B	After Stranding	KN	6.57
16	Linear wt. of Al- strand	Kg/Km	14.24
17	Linear wt.of St- strand	Kg/Km	41.09 ✓
18	Zinc coating of steel core		
i	Number of 1 minute dips		Please refer sl.no. 4(b) above ✓
ii	Minimum weight of zinc coating per sq. mm of uncoated wire surface		230 gms/sqm coating (Before stranding) ✓
iii	Process of galvanizing		Hot dips
iv	Quality of zinc		IS : 209/1979 or latest amendment
19	No. of Strands		
i	Steel layer		1
ii	1 st steel layer		N/A
iii	1 st Aluminium layer		6 ✓
20	Minimum no. of twists in a guage length equal to 100 times dia wire which the strands can withstand in the torsion test (after stranding) (Before stranding)		16 18

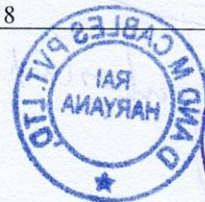
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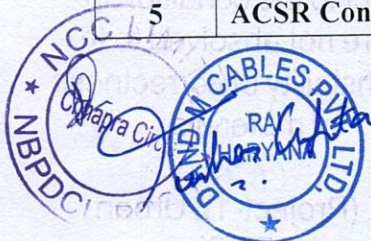


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Name of TKC :	M/s NCC Ltd. NCC House, Survey No. 64, Madhapur, Hyderabad-500081
NOA No.	244 & 245 dated 06.03.2023
Name of DISCOM	North Bihar Power Distribution Company Ltd.
Name of Manufacturer	M/s D&M Cable Pvt. Ltd.
Address of Manufacturer	Killa No. 39/6/2, 1/7, Village-Assawarpur G.T. Road Rai, District-Sonipat, Haryana-131021

GTP FOR ACSR DOG CONDUCTOR

SL. NO.	Description	Unit	Guaranteed Value for ACSR DOG
1	Particulars of Raw Materials		
a	Aluminium		
i	Minimum purity of Aluminum	%	99.5% (Min.)
ii	Maximum Copper Content	%	0.04 % (Max.)
b	Steel wires/Rods		
i	Carbon	%	0.50 to 0.85
ii	Manganese	%	0.50 to 1.10
iii	Phosphorous	%	0.035 Maxi.
iv	Sulphur	%	0.045 maxi.
v	Silicon	%	0.10 to 0.35
c	Zinc		
i	Minimum purity of Zinc	%	99.95%
2	Aluminium Strands after stranding		
a	Diameter		
i	Nominal	mm	4.72 ✓
ii	Maximum	mm	4.77 ✓
iii	Minimum	mm	4.67
b	Minimum Breaking load of strand (After stranding)	KN	2.64 ✓
c	Calculated D.C. resistance at 20 degrees C., maximum.	ohm/Km	1.650 ✓
3	Steel Strands after stranding		
a	Diameter		
i	Nominal	mm	1.57 ✓
ii	Maximum	mm	1.6
iii	Minimum	mm	1.54 ✓
4	Galvanising		
a	Minimum weight of zinc coating per sq. m of uncoated wire surface	g/m ²	190 (as per IS : 4826) (Before Stranding)
b	Minimum number of one minute dips. That the Galvanised strand can withstand preece test	Nos	2x1 mints (As per IS : 4826) (Before Stranding)
c	Minimum number of twists in a gauge length times dia of wire which the strand can in the torsion test (after stranding)	Nos	16 ✓
5	ACSR Conductor (AI 6/4.72 + St. 7/1.57)		

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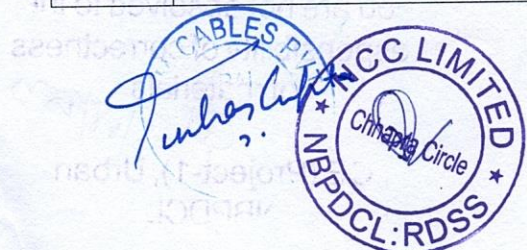


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a	UTS of the Conductor	KN	32.41
b	Lay ratio of conductor		
i	Outer steel layer (max.)	Nos	28 (max.) ,13 (min.)
ii	12 wire aluminium layer (max.)	Nos	NA
iii	18 wire aluminium layer	Nos	NA
iv	6 wire aluminium layer	Nos	14(max.) ,10 (min.)
c	DC resistance of conductor at 20° C (max.)	Ohm/Km	0.2792
d	Standard length of Conductor	M	2500 ± 5%
e	Non standard length	M	10% of order quantity, no length less than 70% of standard length
f	Tolerance on standard length of conductor	%	(± 5%)
6	Direction of lay for outside layer		Right hand Lay
7	Linear mass of conductor		
i	Standard	Kg/Km	394
ii	Minimum	Kg/Km	As per IS
iii	Maximum	Kg/Km	As per IS
8	No. of cold pressure but welding equipment available at works	Nos	As per IS
9	Co efficient of linear expansion / °		19.8x10 ⁻⁶
10	Modulus of Elasticity	GN/m ²	75
11	Total sectional area of conductor	sq.mm	118.5 ✓
12	Overall Dia of the Conductor (min.)	mm	14.15 ✓
13	Sectional area of aluminium conductor	sq.mm	105
14	Minimum break load of the strand Alu.		
a	Before stranding	KN	2.78
b	After Stranding	KN	2.64 ✓
15	Minimum break load of the strand ST.		
a	Before stranding	KN	2.70
b	After Stranding	KN	2.57 ✓
16	Linear wt. of Al- strand	Kg/Km	47.30 ✓
17	Linear wt.of St- strand	Kg/Km	15.10
18	Zinc coating of steel core		
i	Number of 1 minute dips		Please refer sl.no. 4 (b) above
ii	Minimum weight of zinc coating per sq. mm of uncoated wire surface		190 gms/sqm coating (Before Stranding) ✓
iii	Process of galvanizing		Hot dips
iv	Quality of zinc		IS : 209/1979 or latest amendment
19	No. of Strands		
i	Steel layer		1
ii	1 st Steel layer		6 ✓
iii	1 st Aluminium layer		6 ✓
20	Minimum no. of twists in a guage length equal to 100 times dia wire which the strands can withstand in the torsion test (after stranding) (Before stranding)		16 18



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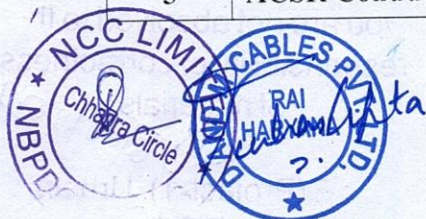
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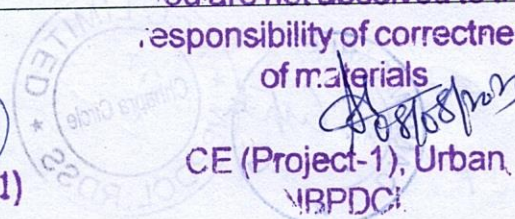
MODEL GTP FOR ACSR RABBIT CONDUCTOR

SL. NO.	Description	Unit	Guaranteed Value for ACSR Rabbit
1	Particulars of Raw Materials		
a	Aluminium		
i	Minimum purity of Aluminium	%	99.5% (Min.)
ii	Maximum Copper Content	%	0.04 % (Max.)
b	Steel wires/Rods		
i	Carbon	%	0.50 to 0.85
ii	Manganese	%	0.50 to 1.10
iii	Phosphorous	%	0.035 Maxi.
iv	Sulphur	%	0.045 maxi.
v	Silicon	%	0.10 to 0.35
c	Zinc		
i	Minimum purity of Zinc	%	99.95%
2	Aluminium Strands after standing		
a	Diameter		
i	Nominal	mm	3.35 ✓
ii	Maximum	mm	3.38 ✓
iii	Minimum	mm	3.32 ✓
b	Minimum Breaking load of strand (After stranding)	KN	1.36 ✓
c	Calculated D.C. resistance at 20 degrees C. maximum.	ohm/Km	3,265
3	Steel Strands after stranding		
a	Diameter		
i	Nominal	mm	3.35
ii	Maximum	mm	3.42 ✓
iii	Minimum	mm	3.28 ✓
4	Galvanising		
a	Minimum weight of zinc coating per sq. m of uncoated wire surface	gm/m ²	250 (as per IS : 4826) (Before Stranding)
b	Minimum number of one minute dips. That the Galvanised strand can withstand preece test	Nos	2x1 mints, 1x1/2 mins
c	Minimum number of twists in a guage length times dia of wire which the strand can in the torsion test (after stranding)	Nos	16
5	ACSR Conductor (AI 6/3.35 + St 1/3.35)		

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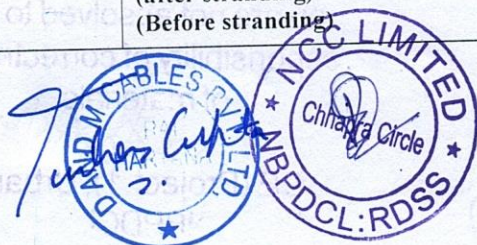


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a	UTS of the Conductor	KN	18.25
b	Lay ratio of conductor		
i	Outer steel layer (max.)	Nos	NA
ii	12 wire aluminium layer (max.)	Nos	NA
iii	18 wire aluminium layer	Nos	NA
iv	6 wire aluminium layer	Nos	14 (Max) , 10 (Min.)
c	DC resistance of conductor at 20° C (max.)	ohm/Km	0.5524
d	Standard length of Conductor	M	2500 ± 5%x2
e	Non standard length	M	10% of order quantity, no length less than 70% of standard length
f	Tolerance on standard length of conductor	%	(± 5%)
6	Direction of lay for outside layer		Right hand Lay
7	Linear mass of conductor		
i	Standard	Kg/Km	214
ii	Minimum	Kg/Km	As per IS
iii	Maximum	Kg/Km	As per IS
8	No. of cold pressure but welding quipment available at works	Nos	As per IS
9	Co-efficient of linear expansion /°		19.1x10 ⁻⁶ ✓
10	Modulus of Elasticity	GN/m ²	79 ✓
11	Total sectional area of conductor (sq.mm)	sqmm	61.7 ✓
12	Overall Dia of the conductor (min)	mm	10.05 ✓
13	Sectional area of Aluminium conductor	sqmm	52.88 ✓
14	Minimum break load of the strand Alu.		
a	Before stranding	KN	1.43 ✓
b	After Stranding	KN	1.36 ✓
15	Minimum break load of the strand ST.		
a	Before stranding	KN	11.58 ✓
b	After Stranding	KN	11.00 ✓
16	Linear wt. of Al-strand (Kg/km)	sqmm	23.82
17	Linear wt. of St-strand	sqmm	68.75 ✓
18	Zinc coating of steel core		
i	Number of 1 minute dips		3 (Before Stranding)
ii	Minimum weight of zinc coating per sq. mm of uncoated wire surface		250 gms/sqm coating (Before Stranding) ✓
iii	Process of galvanizing		Hot dips
iv	Quality of zinc		IS : 209/1979 or latest amendment ✓
19	No. of Strands		
i	Steel layer		1
ii	1 st steel layer		N/A
iii	Aluminium layer		6 ✓
20	Minimum no. of twists in a guage length equal to 100 times dia wire which the strands can withstand in the torsion test (after stranding) (Before stranding)		16 18



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