



NORTH BIHAR POWER DISTRIBUTION CO. LTD.
[Office of Chief Engineer, Project-II]
(Regd. Office: Vidvut Bhawan, Bailey Road, Patna)
CIN No: U40109BR2012SGC018920

Letter No: 191
[File No: NB/P-II/RDSSJ /Vendor/Rajasthan trans/36/2023]
Dated: 20/06/2023

Contact No: +91-9264437179

E-mail: cerdssnbpdc12@gmail.com

From,
Pranav Kumar
Chief Engineer (Project-II)

To,

M/s JSP Projects Limited.
Flat No.-5 2nd Floor, 3rd B-2,
Neharu Nagar, Ghaziabad (UP)- 201001
Email: contract@jssprojects.com, jkec1981@gmail.com, pathak.m1971@gmail.com

Sub: - Approval of GTP & Drawing of ACSR Weasel, Rabbit, Dog & Zebra conductor and 3cx35+1cx16+1cx25 LT AB Cable against NIT No: 31/PR/NBPDCL/2022 for Darbhanga Circle.

Ref: 1. This Office NOA No: 15 & 16 dated 06.03.2023.
2. Your Letter No- JSP/PAT/34 dated- 16.06.2023
3. Vendor Approval vide CE (Project-II) letter no. 110 Dated 24.05.2023 .

With reference to the subject noted above, please find enclosed herewith the GTP & drawing of ACSR Weasel, Rabbit, Dog & Zebra conductor and 3cx35+1cx16+1cx25 LT AB Cable for Development of Distribution Infrastructure against NIT No: 31/PR/NBPDCL/2022 for Darbhanga Circle under Revamped Reforms-Based And Results-Linked, Distribution Sector Scheme.

The Materials list is as follows:-

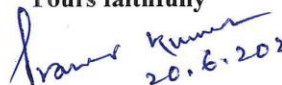
Sr. No.	Name of Items	Name of Vendor
1.	ACSR Weasel conductor	M/s Rajasthan Transmission wire Pvt.ltd.,Jaipur
2.	ACSR Rabbit conductor	
3.	ACSR Dog conductor	
4.	ACSR Zebra conductor	
5.	3cx35+1cx16+1cx25 LT AB Cable	

The Correction wherever required in GTP/ Drawing submitted by the manufacturer has been done. However, these Drawings shall be subject to correctness as per technical specifications of the tender document and the entire responsibility of the 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 responsibility of the contractor.

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

Please carry out the works immediately under conditions stated above.

Encl.:- As above.

Yours faithfully

20.6.2023
(Pranav Kumar)
Chief Engineer (Project-II)

Memo no...191...../

dated..20/06/2023...../

Copy forwarded M/s NCC Limited, Hyderabad/ M/s Vindhya Telelinks Ltd., Delhi / M/s Polycab Limited, Mumbai / M/s Ashoka Buildcon Limited, Nashik/ M/s Cabcon Limited, Kolkata/ M/s Techno Power Enterprises Private Limited, Kolkata/ M/s Vaishno Associates Vidyut Projects LLP, Jaipur for information.

Pranav Kumar
20.6.2023

(Pranav Kumar)

Chief Engineer (Project-II)

Memo No...191...../

dated..20/06/2023...../

Copy forwarded to Director (Projects)/ OSD to MD, NBPDC, Patna for kind information .

Pranav Kumar
20.6.2023

(Pranav Kumar)

Chief Engineer (Project-II)

233

CLIENT	NORTH BIHAR POWER DISTRIBUTION CO.LTD.	
Project	DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT DARBHANGA ELECTRIC SUPPLY CIRCLE (DARBHANGA AND MADHUBANI DISTRICTS) OF BIHAR UNDER REVAMPED REFORMS-BASED AND RESULTS-LINKED, DISTRIBUTION SECTOR SCHEME.	
NOA No.	15 & 16 DATED: 06.03.2023	
Contractor	J.S.P. PROJECT PVT. LTD., GHAZIABAD	
Manufacturer	Rajasthan Transmission Wires Pvt. Ltd. Jaipur	
Item Description	ACSR WEASEL & RABBIT CONDUCTOR AS PER IS: 398 (PART-2) 1996	

GUARANTEED TECHNICAL PARTICULARS OF ACSR CONDUCTOR

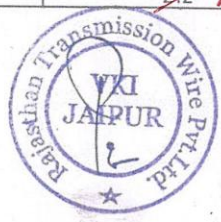
Sr. No.	PARTICULARS	PROPOSED VALUE	
		ACSR WEASEL CONDUCTOR	ACSR RABBIT CONDUCTOR
1	Name & Address of Manufacturer	M/s. Rajasthan Transmission Wires Pvt. Ltd. A-190, Road No. 1-D, VKI Area, Jaipur - 302013 (Rajasthan)	
2	Code, Name of Conductor	ACSR WEASEL CONDUCTOR	ACSR RABBIT CONDUCTOR
3	Aluminium Rods	Balco, Nalco & Hindalco	
4	Steel wire/ Rods	Bajarang Wire, Radha Rani & Ringus steel wire	
5	Complete Conductor	Rajasthan Transmission Wires	
6	Nominal Aluminium Area Sq.mm)	30 ✓	50 ✓
7	No. of Strands (A) Aluminium	6 ✓	6 ✓
	(B) Steel	1 ✓	1 ✓
8	Strand's Diameter in mm		
	(A) Aluminium (i) Standard	2.59 ✓	3.35 ✓
	(ii) Maximum	2.62 ✓	3.38 ✓
	(iii) Minimum	2.56 ✓	3.32 ✓
	(B) Steel (i) Standard	2.59 ✓	3.35 ✓
	(ii) Maximum	2.64 ✓	3.42 ✓
9	Approximate Overall diameter of Complete Conductor (mm)	7.77 ✓	10.05 ✓
10	Coefficient of Linear Expansion	19.1 x 10 ⁻⁶ ✓	19.1 x 10 ⁻⁶ ✓
11	Modulus of Elasticity	79 GN/m ² ✓	79 GN/m ² ✓
12	Minimum Breaking Load of Each Strand (KN)		
a)	Aluminium		
	i) Before Stranding	0.89 ✓	1.43 ✓
	ii) After Stranding	0.85 ✓	1.36 ✓
b)	Steel		
	i) Before Stranding	6.92 ✓	11.58 ✓
	ii) After Stranding	6.57 ✓	11.00 ✓
13	Approximate Calculated Breaking Load (KN)	11.12 ✓	18.25 ✓
14	Maximum Resistance of each Aluminium Strand at 20°C (Ohm/Km)	5.490 ✓	3.205 ✓
15	Maximum Calculated Resistance of Conductor (Ohm/Km) 20°C	0.9289 ✓	0.5524 ✓
16	Minimum Weight of Zinc Coating (Gm/m ²) (As per IS: 209/1977)		
	i) Before Stranding	230 ✓	250 ✓
	ii) After Stranding	218.6 ✓	237.5 ✓
17	Minimum No of Dips (Minute)		
	i) Before Stranding (As per IS: 4826)	1 Min X 2 & 1/2 Min X 1 ✓	1 Min X 3 ✓
	ii) After Stranding	1 Min X 2 ✓	1 Min X 2 & 1/2 Min X 1 ✓
18	Approximate mass of each strands in Kg/Km		
	a) Aluminium	14.24 ✓	23.82 ✓
	b) Steel	41.09 ✓	68.75 ✓
19	Approximate mass (Kg/Km)		
	a) Aluminium	85 ✓	143 ✓
	b) Steel	41.09 ✓	68.75 ✓
20	Approximate Total mass (Kg/Km)	126 ✓	212 ✓

CHECKED

APPROVED
Subject to the condition that you are not absolved of the responsibility of Correctness of materials

Chief Engineer (Project-II)

AEE(P-II) EEE(P-II) ESE(P-II)



25.1

21	Lay Ratio (Aluminium)		
	a) Maximum	14 ✓	14 ✓
	b) Minimum	10 ✓	10 ✓
22	Sectional area of Aluminium	31.61 Sq.mm ✓	52.88 Sq.mm ✓
23	Total Sectional Area	36.88 Sq.mm ✓	61.7 Sq.mm ✓
24	Co-Efficient of Linear expansion per degree centigrade of		
	a) Aluminium Wire	23.0×10^{-6} ✓	23.0×10^{-6} ✓
	b) Steel Wire	11.5×10^{-6} ✓	11.5×10^{-6} ✓
	c) Conductor	19.1×10^{-6} ✓	19.1×10^{-6} ✓
25	Standard Length in Drum (Km)	$2.5 \pm 5\% \times 3$ Nos ✓	$2.5 \pm 5\% \times 2$ Nos ✓
26	Max. length in One Drum (Km)	up to 7.5 ✓	up to 5.0 ✓
27	Applicable Standard		IS: 398 Part-2 : 1996 ✓

* Applicable IS and IEC:

- (i) IEC-209-1986. Al Conductors
- (ii) BS-215 (Part-I) - for GI Steel reinforced
- (iii) IS-1521-1972 - Tensile strength of steel wire
- (iv) IS-1778-1980 - Reels & Drums for Bare Conductors



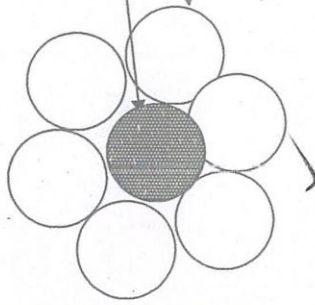
CHECKED
[Signature]
 AEE(P-II) EEE(P-II) ESE(P-II)

APPROVED
 Subject to the condition that
 you are not absolved of the
 responsibility of
 Correctness of materials
[Signature]
 Chief Engineer (Project-II)
 NBPDCL

KAJASIHAN TRANSMISSION WIRES.PVT.LTD

A-190, Road No. 1-D, V.K.I Area, Jaipur-302013

CONSTRUCTIONAL DRAWING OF 1/2.59 STEEL + 6/2.59 ALUMINIUM
ACSR WEASEL CONDUCTOR



(1/2.59 MM) WIRE OF STEEL
(6/2.59 MM) WIRE OF ALUMINIUM

CLIENT	NORTH BIHAR POWER DISTRIBUTION CO. LTD.
PROJECT	DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT DARBHANGA ELECTRIC SUPPLY CIRCLE (DARBHANGA AND MADHUBANI DISTRICTS) OF BIHAR UNDER REVAMPED REFORMS-BASED AND RESULT-S-LINKED, DISTRIBUTION SECTOR SCHEME.
NOA NO.	15 & 16 DATED: 06.03.2023
CONTRACTOR	J.S.P. PROJECT PVT. LTD., GHAZIABAD
SUPPLIER	RAJASTHAN TRANSMISSION WIRES PVT. LTD. JAIPUR
ITEM DESCRIPTION	ACSR WEASEL CONDUCTOR

APPROVED

Subject to the condition that you are not absolved of the responsibility of correctness of materials

CHECKED

(Signature)

AEE(P-II) EEE(P-II) ESE(P-II)

(Signature)

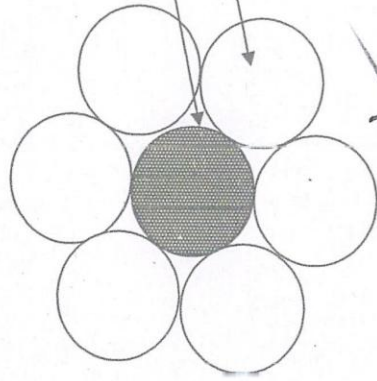
Chief Engineer (Project-II)
NBPDC



RAJASTHAN TRANSMISSION WIRES.PVT.LTD

A-190, Road No. 1-D, V.K.I Area, Jaipur-302013

CONSTRUCTIONAL DRAWING OF 1/3.35 STEEL + 6/3.35 ALUMINIUM
ACSR RABBIT CONDUCTOR



(1/3.35 MM) WIRE OF STEEL
(6/3.35 MM) WIRE OF ALUMINIUM

235

CLIENT	NORTH BIHAR POWER DISTRIBUTION CO. LTD.
PROJECT	DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT DARBHANGA ELECTRIC SUPPLY CIRCLE (DARBHANGA AND MADHUBANI DISTRICTS) OF BIHAR UNDER REVAMPED REFORMS-BASED AND RESULTS-LINKED, DISTRIBUTION SECTOR SCHEME.
NOA NO.	15 & 16 DATED: 06.03.2023
CONTRACTOR	J.S.P. PROJECT PVT. LTD., GHAZIABAD
SUPPLIER	RAJASTHAN TRANSMISSION WIRES PVT. LTD. JAIPUR
ITEM DESCRIPTION	ACSR RABBIT CONDUCTOR



APPROVED

Subject to the condition that you are not absolved of the responsibility of correctness of materials

[Signature]
Chief Engineer (Project-II)
NBPDC

CHECKED

[Signature]
AEE(P-II) EEE(P-II) ESE(P-II)



CLIENT	:	NORTH BIHAR POWER DISTRIBUTION CO. LTD.
Project	:	DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT DARBHANGA ELECTRIC SUPPLY CIRCLE (DARBHANGA AND MADHUBANI DISTRICTS) OF BIHAR UNDER REVAMPED REFORMS-BASED AND RESULTS-LINKED, DISTRIBUTION SECTOR SCHEME.
NOA No.	:	15 & 16 DATED: 06.03.2023
Contractor	:	J.S.P. PROJECT PVT. LTD., GHAZIABAD
SUPPLIER	:	Rajasthan Transmission Wires Pvt. Ltd. JAIPUR
Item Description	:	ALSR DOG CONDUCTOR

GUARANTEED TECHNICAL PARTICULARS OF ACSR DOG CONDUCTOR		
Sr. No.	PARTICULARS	PROPOSED VALUE
1	Name & Address of Manufacturer	M/s. Rajasthan Transmission Wires Pvt. Ltd. A-190, Road No. 1-D, VKI Area, Jaipur - 302013 (Rajasthan)
2	Code, Name of Conductor	ACSR DOG CONDUCTOR
3	Aluminium Rods	Dalco, Nalco & Hindalco
4	Steel wire	Bajarang Wire, Radha Rani & Ringus steel wire
5	Complete Conductor	Rajasthan Transmission Wires
6	Nominal Aluminium Area Sq.mm	100 ✓
7	No. of Strands (A) Aluminium	6 ✓
	(B) Steel	7 ✓
8	Strand's Diameter in mm	
	(A) Aluminium	
	(i) Standard	4.72 ✓
	(ii) Maximum	4.77 ✓
	(iii) Minimum	4.67 ✓
	(B) Steel	
	(i) Standard	1.57 ✓
	(ii) Maximum	1.6 ✓
	(iii) Minimum	1.54 ✓
9	Approximate Overall diameter of Complete Conductor (mm)	14.15 ✓
10	Coefficient of Linear Expansion	19.8×10^{-6} ✓
11	Modulus of Elasticity	75 GN/m ² ✓
12	Minimum Breaking Load of Each Strand (KN)	
a)	Aluminium	
	i) Before Stranding	2.78 ✓
	ii) After Stranding	2.64 ✓
b)	Steel	
	i) Before Stranding	2.7 ✓
	ii) After Stranding	2.57 ✓
13	Approximate Calculated Breaking Load (KN)	32.41 ✓
14	Maximum Resistance of each Aluminium Strand at 20°C (Ohm/Km)	1.65 ✓
15	Maximum Calculated Resistance of Conductor (Ohm/Km)	0.2792 ✓
16	Minimum Weight of Zinc Coating (Gm/m ²)	
	i) Before Stranding	190 ✓
	ii) After Stranding	180.5 ✓
17	Minimum No of Dips (Minute)	
	i) Before Stranding (As per IS-4826)	1-Min X 1 & 1/2 Min x 1 ✓ 2X1 min ✓
	ii) After Stranding	1 Min X 1 ✓
18	Approximate mass of each strands in Kg/Km)	
a)	Aluminium	47.3 ✓
b)	Steel	15.1 ✓
19	Approximate mass (Kg/Km)	
a)	Aluminium	284 ✓
b)	Steel	106 ✓
20	Approximate Total mass (Kg/Km)	390 ✓ 394
21	Lay Ratio	
	(i) Aluminium	
a)	Maximum	14 ✓
b)	Minimum	10 ✓
	(ii) Steel	
a)	Maximum	28 ✓
b)	Minimum	13 ✓
22	Sectional area of Aluminium	105 Sq.mm ✓
23	Total Sectional Area	118.5 Sq.mm ✓
24	Standard Length in Drum (Km)	2.5 + 5% X 1 Nos ✓

Applied as per IEC

i) Conductor for overhead transmission projects - IS 398-1996

ii) Method of tensile strength IS-1521-1972

iii) Drum for bare conductor - IS 1778-1980

iv) Qty of zinc IS-209-1970

APPROVED
subject to the condition that you are not absolved of responsibility of correctness of materials

Pranav Kumar
Chief Engineer (Project-II)
NBPDC



CHECKED

[Signature]
AEE(P-II) EEE(P-II) ESE(P-II)

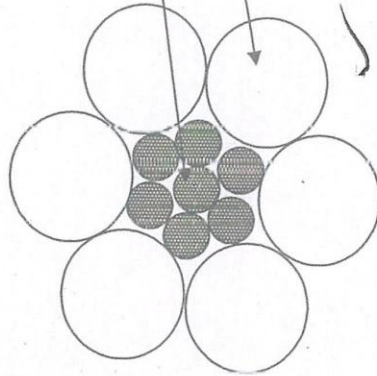


RAJASTHAN TRANSMISSION WIRES.PVT.LTD

A-190, Road No. 1-D, V.K.I Area, Jaipur-302013

CONSTRUCTIONAL DRAWING OF 7/1.57 STEEL + 6/4.72 ALUMINIUM

ACSR DOG CONDUCTOR



7 WIRE OF STEEL CORE
6 WIRE OF ALUMINIUM



NORTH BIHAR POWER DISTRIBUTION CO. LTD.

DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT DARBHANGA ELECTRIC SUPPLY CIRCLE (DARBHANGA AND MADHUBANI DISTRICTS) OF BIHAR UNDER REVAMPED REFORMS-BASED AND RESUL "S-LINKED, DISTRIBUTION SECTOR SCHEME.

NOA NO. 15 & 16 DATED: 06.03.2023

CONTRACTOR J.S.P. PROJECT PVT. LTD., GHAZIABAD

SUPPLIER RAJASTHAN TRANSMISSION WIRES PVT. LTD. JAIPUR

ITEM DESCRIPTION ACSR DOG CONDUCTOR

APPROVED
Subject to the condition that you are not absolved of the responsibility of correctness of materials



CHECKED
AEE(P-II) EEE(P-II) ESE(P-II)

Chief Engineer (Project-II)
NBPDCI

222

CLIENT	:	NORTH BIHAR POWER DISTRIBUTION CO. LTD.
Project	:	DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT DARBHANGA ELECTRIC SUPPLY CIRCLE (DARBHANGA AND MADHUBANI DISTRICTS) OF BIHAR UNDER REVAMPED REFORMS-BASED AND RESULTS-LINKED, DISTRIBUTION SECTOR SCHEME.
NOA No.	:	15 & 16 DATED: 06.03.2023
Contractor	:	J.S.P. PROJECT PVT. LTD., GHAZIABAD
SUPPLIER	:	Rajasthan Transmission Wires Pvt. Ltd. JAIPUR
Item Description	:	ACSR ZEBRA CONDUCTOR

SL. NO.	DESCRIPTION	UNIT	GUARANTEED VALUE FOR ACSR ZEBRA
1.	Manufacturer's Name and Address		Rajasthan Transmission Wires Pvt. Ltd. A-190, Road no. 1D, VKI Area, Jaipur-302013
2.	Raw Material		
	a. E.C. Grade Aluminium Rods		NALCO, BALCO & HINDALCO etc.
	b. High Tensile Galvanized steel wire		Bajrang Wire, Radha Rani, Balaji Wire & Bansal Wire etc.
3.	Indian Standard		
	a. for Conductor		IS:398(Part-II)
	b. for Drum		IS:1778
4.	Conductor Code		ACSR ZEBRA
5.	Stranding and wire diameter		
	a. Aluminium	mm	54/3.18
	b. Steel	mm	7/3.18
6.	E.C. Grade Aluminium Rods (Composition)		IS:5484:1978
	a. Purity (min.)	%	99.5
	b. Copper (max.)	%	0.04
7.	Chemical Composition of high Carbon Steel		
	a. Carbon	%	0.50 to 0.58
	b. Manganese	%	0.50 to 1.10
	c. Phosphorus	%	0.035 (max.)
	d. Sulphur	%	0.045 (max.)
	e. Silicon	%	0.10 to 0.35
8.	Aluminium Strands (Diameter) IS 398:1996		
	a. Standard	mm	3.18
	b. Maximum	mm	3.21
	c. Minimum	mm	3.15
8.1	Breaking load		
	a. Befor Stranding (min.)	KN	1.29
	b. After Stranding (min.)	KN	1.23
8.2	Electrical Resistance at 20°C (max.)	Ohms/km	3.626
8.3	Cross sectional area of nominal diameter wire	mm ²	7.942
8.4	Mass (Approximate)	Kg/km	21.47

subject to the condition that
 (i) are not absolved of the
 responsibility of
 Correctness of materials
 Chief Engineer (Project-II)
 NBPDC

CHECKED
 AEE(P-II) EEE(P-II) ESE(P-II)



Steel Strands (Diameter)				
	a.	Standard		
	b.	Maximum	mm	3.18 ✓
	c.	Minimum	mm	3.24 ✓
9.1		Breaking load	mm	3.12 ✓
	a.	Befor Stranding (min.)	KN	10.43 ✓
	b.	After Stranding (min.)	KN	9.91 ✓
9.2		Cross sectional area of nominal diameter wire	mm ²	7.942 ✓
9.3		Mass (Approximate)	Kg/km	61.95 ✓
9.4		Elongation of 200 mm gauge length on breaking		
	a.	Befor Stranding (min.)	%	4.0
	b.	After Stranding (min.)	%	3.5 ✓
9.5		Number of twists on a length equal to 100 times the diameter of wire (Torsion Test)		
	a.	Befor Stranding (min.)	Nos	18
	b.	After Stranding (min.)	Nos	16 ✓
10.		Galvanizing		
10.1		Minimum weight of zinc coating		(As per IS : 4826)
	a.	Befor Stranding (min.)	Gm/mm ²	250 ✓
	b.	After Stranding (min.)	Gm/mm ²	237.5 ✓
10.2		Minimum number of one minute dips duration which the strand can withstand (under pieces test)		(As per IS : 4826)
	a.	Befor Stranding	Nos	3 dips each 1 min. ✓
	b.	After Stranding	Nos	2 dips 1 min. & 1 dip ½ min. ✓
11.		Complete Conductor		
	a.	Nominal Copper area	mm ²	260
	b.	Sectional area of Aluminium	mm ²	428.9 ✓
	c.	Toatal Sectional area	mm ²	484.5 ✓
	d.	Over all Diameter (Approximate)	mm	28.62 ✓
11.1		Lay ratio of conductor		
		70 wire layer (Steel core)	mm	13 - 28 ✓
		12 wire layer (Aluminium)	mm	10 - 17 ✓
		18 wire layer (Aluminium)	mm	10 - 16 ✓
		24 wire layer (Aluminium)	mm	10 - 14 ✓
11.2		Calculated Breaking load (Approximate)	KN	130.32 ✓
11.3		Calculated Resistance at 20°C (max.)	Ohms/km	0.6868 0.06868
11.4		Final Modulus of Elasticity	GN/m ²	69 ✓
11.5		Coefficient of Linear Expansion	Per°C	19.3 x 10 ⁻⁶ ✓
2.		Weight in Kg./Km. (Approx)		
	a.	Aluminium (Approx)	Kg./Km.	1185
	b.	Steel (Approx)	Kg./Km.	436
	c.	ACSR Conductor (Approx)	Kg./Km.	1621 ✓
13.1		Standard length of conductor	Km	1.5 2.5
13.2		Tolerance in length	%	± 5 ✓

APPROVED
 subject to the condition that
 you are not absolved of any
 responsibility of
 Correctness of materials

[Signature]
 Chief Engineer (Project-II)
 NBPDC

CHECKED
[Signature]
 AEE(P-II) EEE(P-II) ESE(P-II)



Signature of the Tenderer
[Signature]
 Rajasthan Transmission Wire Pvt. Ltd.
 JAIPUR

- Applicable standards (vi) IS 1978-1980
 (i) IS: 209-1979
 (ii) IS: 398-1996
 (iii) IEC-209-1966
 (iv) BS. 215 - part 2
 (v) IS-1521-1972

229

CLIENT :	NORTH BIHAR POWER DISTRIBUTION CO. LTD.	
PROJECT	DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT DARBHANGA ELECTRIC SUPPLY CIRCLE (DARBHANGA AND MADHUBANI DISTRICTS) OF BIHAR UNDER REVAMPED REFORMS-BASED AND RESULTS-LINKED, DISTRIBUTION SECTOR SCHEME.	
NOA NO.	15 & 16 DATED: 06.03.2023	
CONTRACTOR:	J.S.P. PROJECT PVT. LTD., GHAZIABAD	
SUPPLIER	RAJASTHAN TRANSMISSION WIRES PVT.LTD. JAIPUR	
ITEM DESCRIPTION	3CX35+16+25 SQ.MM (Bare Messenger)	
S.N	DESCRIPTION	3CX35+16+25 SQ.MM (Bare Messenger) ✓
1	Manufacture name & address	M/s. Rajasthan Transmission Wires Pvt. Ltd. A-190, Road No. 1-D, VKI Area, Jaipur - 302013 (Rajasthan)
2	Applicable Standard	IS: 14255-1995 ✓
3	Rated voltage	1100 V ✓
4	Phase conductor details	
(i)	Grade of Aluminium	H2/H4 EC Grade As per IS:8130-1984 & Is:10462 (Part-1)1983 with latest Amendment
(ii)	Shape of Conductor	Stranded Compacted Circular ✓
(iii)	Minimum Tensile strength of each strand Before Stranding (N/sq.mm)	90
(iv)	Minimum Tensile strength of each strand After Stranding (N/sq.mm).	N.A. For Stranded Compacted Circular
(v)	No. of phase conductors	3 ✓
(vi)	Nominal sectional area of each conductor (sq. mm).	35 ✓
(vii)	Max. D.C. resistance at 20°C (Ohm/Km)	0.868 ✓ 0.986
(viii)	No. of Strands in Conductor	7 ✓
(ix)	Approximate Diameter of compacted conductor (mm)	6.90 ✓
(x)	Approximate Mass of Phase Conductor (Kg/Km)	95 ✓
5	Street light conductor details	
(i)	Grade of Aluminium	H2/H4 EC Grade As per IS:8130-1984 & Is:10462 (Part-1)1983 with latest Amendment
(ii)	Shape of Conductor	Stranded Compacted Circular
(iii)	Minimum Tensile strength of each strand Before Stranding (N/sq.mm)	90 ✓
(iv)	Minimum Tensile strength of each strand After Stranding (N/sq.mm).	N.A. For Stranded Compacted Circular
(v)	No. of street light conductor	1 ✓
(vi)	Nominal sectional area of each conductor (sq. mm).	16 ✓
(vii)	Max. D.C. resistance at 20°C (Ohm/Km)	1.91 ✓
(viii)	No. of Strands in Conductor	7 ✓
(ix)	Approximate Diameter of compacted conductor (mm)	4.60 ✓
(x)	Approximate Mass of Phase Conductor (Kg/Km)	42 ✓

APPROVED
 Subject to the condition that you are not absolved of the responsibility of the correctness of materials
 Chief Engineer (Project-II)
 NBPDCL

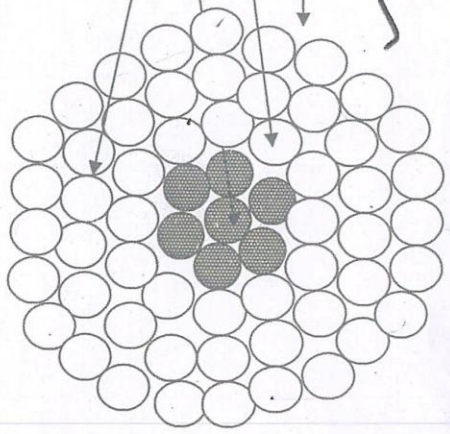
CHECKED
 AEE(P-II) EEE(P-II) ESE(P-II)



RAJASTHAN TRANSMISSION WIRES.PVT.LTD

A-190, Road No. 1-D, V.K.I Area, Jaipur-302013

CONSTRUCTIONAL DRAWING OF 7/3.18 STEEL + 54/3.18 ALUMINIUM
ACSR ZEBRA CONDUCTOR



- 7 WIRE OF STEEL CORE
- 12 WIRE LAYER OF ALUMINIUM
- 18 WIRE LAYER OF ALUMINIUM
- 24 WIRE LAYER OF ALUMINIUM

230

CLIENT	NORTH BIHAR POWER DISTRIBUTION CO. LTD.
PROJECT	DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT DARBHANGA ELECTRIC SUPPLY CIRCLE (DARBHANGA AND MADHUBANI DISTRICTS) OF BIHAR UNDER REVAMPED REFORMS-BASED AND RESULTS-LINKED, DISTRIBUTION SECTOR SCHEME.
NOA NO.	15 & 16 DATED: 06.03.2023
CONTRACTOR	J.S.P. PROJECT PVT. LTD., GHAZIABAD
SUPPLIER	RAJASTHAN TRANSMISSION WIRES PVT. LTD. JAIPUR
ITEM DESCRIPTION	ACSR ZEBRA CONDUCTOR APPROVED Subject to the condition that you are not absolved of the responsibility of correctness of materials



CHECKED

responsibility of correctness of materials
Chief Engineer (Project-II)
NBPDCI

EEE(P-II) ESE(P-II)



228

6		Messenger details:	
(i)	Standard Specification to which material shall confirm	As per IS: 398(Part-4)1984 & IS: 14255-1995	
(ii)	Material of Conductor	Aluminium Alloy	
(iii)	Shape of Conductor	Stranded Compacted Circular	
(iv)	Nominal sectional area of conductor (sq. mm).	25 ✓	
(v)	No. of Strands in Conductor	7 ✓	
(vi)	Approximate Diameter of compacted conductor (mm)	5.8 ✓ 8.00	
(vii)	Approximate Weight of Messenger Conductor (Kg/Km)	65 ✓	
(viii)	Minimum breaking load of the conductor (KN)	7.00 ✓	
(ix)	Max. D.C. resistance at 20°C (Ohm/Km)	1.38 ✓	
7		Insulation details	
(i)	Standard Specification to which material shall confirm	As per IS: 7098(Part-1)1988 & IS: 14255-1995	
(ii)	Material	XLPE ✓	
(iii)	Colour of Insulation	Black ✓	
(iv)	Nominal Insulation thickness of Phase Conductor (mm)	1.20 ✓	
(v)	Core Identification of Phase Conductor	Ridge 1, Ridge 2, & Ridge 3	
(vi)	Nominal Insulation thickness of Street light Conductor (mm)	1.20 ✓	
(vii)	Core Identification of Street light Conductor	No Ridge	
8	Tensile strength	12.5 N/mm ² (Min.) ✓ ✓	
9	Elongation at Break	200 % (Min.) ✓ ✓	
10	Hot set elongation under load at 200 ± 3 deg. C	175 % (Max.)	
11	Hot set permanent set after cooling	15 % (Max.)	
12	Volume resistivity (ohm-cm)		
	(a) at 27 deg. C	1x10 ¹³ (min)	
	(b) at 70 deg. C	1x10 ¹¹ (min)	
13	High Voltage Test	Should Withstand	
	(a) Voltage applied (KV)	3	
	(b) Duration (Minutes)	5	
14	Max. Temp. of Conductor at Full Load	90 deg. C	
15	Max. Temp. of Conductor During Short Circuit	250 deg. C	
16	Lay Length (mm)	35 times of core diameter	
17	Lay Direction	RHS	
18	Max. Continuous Current Carrying Capacity (Amp.)	As per IS: 3961(Part-5)	
19	For Wooden Drum Packing standard Applicable	IS: 10418-1982 with latest Amendments	
20	Standard Length in drum & Tolerance (Meters)	1000 ± 5% ✓ 500 ± 5%	
21	Non Standard Length (Meters)	Not less than 50% of the standard length shall be accepted to the extent of 10% of the order quantity. ✓	
22	Whether the material bears mark	Yes ✓	
23	Embossing	RTW/ELECTRIC/XLPE-90/1.1 KV/NBPDCL/RDSS/SIZE OF CABLE / YEAR OF MFG. /SI	
24	Total weight of cable (Kg/km) (Approx)	490	

Applicable Standards
 (i) IS-14255/1995 ABC class 1100V
 (ii) IS-813/1982 Conductors for insulated cable
 (iii) IS-398/Part-IV 1994 - Al Alloy conductor
 (iv) IS 10418/1982 Drums of electric cables



CHECKED

APPROVED
 Subject to the condition that you are not absolver of the responsibility of Correctness of materials
Pranav Kumar
 Chief Engineer (Project-II)
 NBPDCL

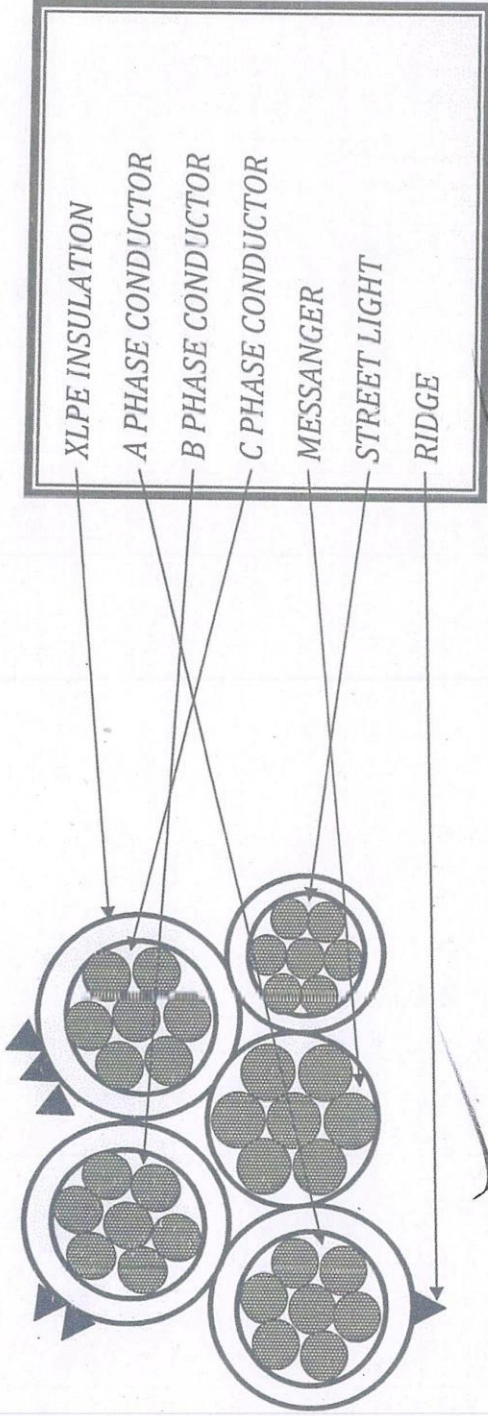
Handwritten signatures
 AEE(P-II) EEE(P-II) ESE(P-II)



RAJASTHAN TRANSMISSION WIRES.PVT.LTD

A-190, Road No. 1-D, V.K.I Area, Jaipur-302013

Constructional Drawing of LT AB XLPE CABLE 3X35 (Ph)+ 1x16 (insulated Street lighting) – 1x25 (bare messenger cum neutral) SQ. MM



CLIENT	NORTH BIHAR POWER DISTRIBUTION CO. LTD.		
PROJECT	DEVELOPMENT OF DISTRIBUTION INFRASTRUCTURE AT DARBHANGA ELECTRIC SUPPLY CIRCLE (DARBHANGA AND MADHUBANI DISTRICTS) OF BIHAR UNDER REVAMPED REFORMS-BASED AND RESULTS-LINKED, DISTRIBUTION SECTOR SCHEME APPROVED		
NOA NO.	15 & 16	DATED:	06.03.2023
CONTRACTOR	J.S.P. PROJECT PVT. LTD., GHAZIAEAD		
SUPPLIER	RAJASTHAN TRANSMISSION WIRES PVT. LTD. JAIPUR		
ITEM DESCRIPTION	3CX35+16+25 SQ MM (BARE MESSENGER)		

Subject to the condition that you are not absolved of the responsibility of correctness of materials

CHECKED

Correctness of materials

EEE(P-II) ESE(P-II)



Chief Engineer (Project-II) NBPDCI

