



NORTH BIHAR POWER DISTRIBUTION CO. LTD.

[Office of Chief Engineer, Project-I/Urban]

(Regd. Office: Vidhyut Bhawan, Bailey Road, Patna)

CIN No: U40109BR2012SGC018920

Letter No: 1670

[File No:-N-XIII/RDSS/V.A./Chapra Circle-3140/2023-

Dated: 08-11-23

E-mail: cerdssnbpdc@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 11 KV 5 KN Polymer Pin Insulators, 11 KV 45 KN Polymer Disc Insulator of make M/s Radiant Energy Solution Pvt. Ltd., Morbi, Gujrat 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.-266 dated 30.10.2023

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	11 KV 5 KN Polymer Pin Insulators	M/s Radiant Energy Solution Pvt. Ltd.,
2	11 KV 45 KN Polymer Disc Insulator	Vill- Chhattar, Tal-Tankara, Dist.-Morbi, Gujrat

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.- 1670

Dated- 08-11-23

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.- 1670

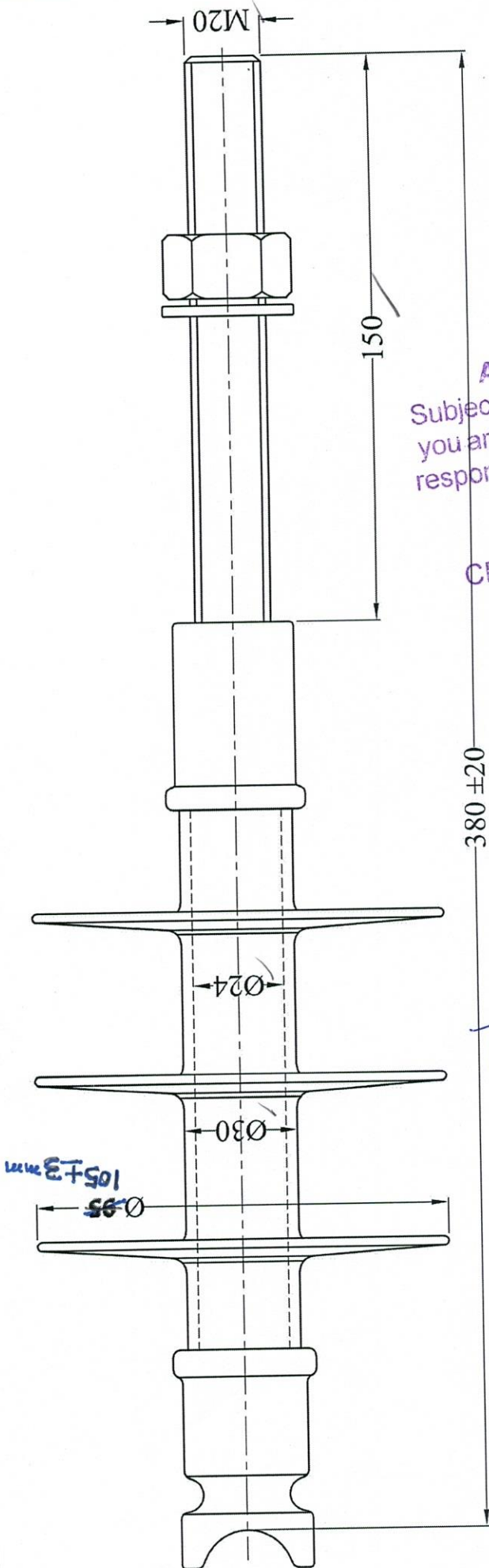
Date- 08-11-23

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

Encl:-As above

(Shriram Singh)

Chief Engineer, Project-I (Urban)



GUARANTEED TECHNICAL SPECIFICATIONS

S.No	DESCRIPTION	VALUE	UCM
A DIMENSIONS			
01	CREEPAGE DISTANCE (min.)	320	mm.
02	DRY ARC DISTANCE (min.)	170	mm.
03	SECTIONAL LENGTH	380 ± 20	mm.
B ELECTRICAL CHARACTERISTICS			
01	NOMINAL SYSTEM VOLTAGE	11	kV
02	MAX. SYSTEM VOLTAGE	12	kV
03	SYSTEM FREQUENCY	50	Hz
04	WITHSTAND VOLTAGE LEVELS		
a	P.F. Dry Withstand Voltage (1 min.)	70	kV(rms)
b	P.F. Wet Withstand Voltage (1 min.)	45	kV(rms)
c	Lightening Impulse Withstand Voltage	+ve	110 kvp
		-ve	110 kvp
f	RIV at 1 MHz when energized 10KV (rms) Under dry Condition	<50	µV
C MECHANICAL CHARECTERISTICS			
a	Minimum Failing Load (SML)	05	KN

Checked
 AEE(P-1) EEE(P-1) ESE(P-1)






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

CE (Project-1), Urban NBPDCL

10% ± TOLERANCE ON ALL DIMENSIONS

<p>RADIANT ENERGY SOLUTIONS PVT. LTD.</p>	<p>Survey No. 1692, Rajkot - Morbi Highway Village : Chhatter, Tal.: Tankara, Dist: Morbi (Guj.) INDIA Pin No. 363650 Cell No: +91 989501999, 909919064 P. h. : + 9 1 2 8 2 2 2 2 3 3 3 3 EMAIL: nesp@radiantenergy.com, info@radiant.co.in</p>
	<p>TOL : As Per Specification DIMENSIONS ARE IN mm. DRAWN : CHINTAN B CHECKED : J. D. BHADIA APPROVED : A. D. PATEL</p>
<p>Scale : Not to scale DATE : 21/08/2023</p>	<p>DRAWING NO : RSP/11KV/PIN 20230821</p>
<p>REF :</p>	<p>11KV Composite Polymer Pin Insulator</p>

135

Title Block for Bihar NBDCL- RDSS - CHAPRA. (Saran, Siwan and Gopalganj) Zones	
Scheme	Revamped Reforms-Based and Result- Linked, Distribution Sector Scheme (RDSS) - Bihar
Project	Development of Distribution Infrastructure at Chapra Electric Supply Circle (Saran, Siwan and Gopalganj) of Bihar State On Turnkey Basis.
Customer	North Bihar Power Distribution Co.Ltd 
Contractor	M/s NCC LIMITED - Hyderabad 
LOA No.	244/N-XIII/P-I(U)/Tender (RDSS)-3050/2022 Dt:- 06-03-2023
Manufacturer	Radiant Energy Solutions Pvt. Ltd. - Morbi - 363650 (Gujarat) India 
Item Description	11 Kv Polymer Composite Pin Insulator
Drawing No.	RESPL/11KV/PIN/20230821

RADIANT ENERGY SOLUTIONS PRIVATE LIMITED
Survey No.169/2, Rajkot - Morbi Highway Village. Chhattar, Tal. Tankara Dist. Morbi
(Gujarat) India Pin. 363650.
Ph. (02822) 293456

Guaranteed Technical Particulars
11 KV 5 KN POLYMER PIN INSULATOR

Sl. No	Description	Unit	Details to be furnished by Bidder
1	Name & address of the bidder	-	RADIANT ENERGY SOLUTIONS PRIVATE LIMITED
2	Type of insulator	-	OUTDOOR
3	Standard according to which the insulators manufactured and tested	-	IEC 61109:2008
4	Name of material used in manufacture of the insulator with class/grade	-	SILICONE RUBBER
a	Material of Core(FRP Rod)	-	-
	i) E-glass or ECR - glass	-	ECR
	ii) Boron Content	-	BORRON FREE
b	Material of housing & whethersheds(Silicon content by weight)	-	SILICON RUBBER 30 % min.
c	Material of end fittings	-	SGI/FORGED, HDG
d	Sealing compound for end fittings	-	RTV SILICON
5.	Colour	-	GREY
6	Electrical Characteristics:		
a	Nominal System Voltage	kV(rms)	11 Kv
b	Highest System Voltage	kV(rms)	12 KV
c	Dry Power frequency withstand voltage	kV(rms)	70 KV
d	Wet Power frequency withstand voltage	kV(rms)	45 KV
e	Dry flashover voltage	kV(rms)	80 KV
f	Wet flashover voltage	kV(rms)	50 KV
g	Dry lighting impulse withstand voltage		
	i) Positive	kV(Peak)	110 KV
	ii) Negetive	kV(Peak)	110 KV
h	Dry lighting impulse flashover voltage		
	i) Positive	kV(Peak)	120 KV
	ii) Negetive	kV(Peak)	130 KV

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j	RIV at 1 MHz when energized at 10 KV/30KV(rms) under dry condition	Microvolt	≤100 micro volts
k	Creepage Distance(Min)	mm	320 MM (MIN)
7	Mechanical Characteristics:		
a	Minimum failing load	kN	5 KN Bending
8	Dimensions of insulator		
ii	Dia. Of FRP Rod	mm	24
iii	Length of FRP Rod	mm	200±5
iv	Dia. Of whethersheds	mm	(95) 105 ± 2mm
v	Thickness of housing	mm	3
vi	Dry arc distance	mm	170 MM (min)
9	Dimensional drawing of insulator (including weight with tolerances in weight) enclosed.	Yes/No	ATTACHED
10	Method of fixing of sheds to housing (specify:) : Single mould or Modular construction(injection moulding/compression moulding)		Injection moulding
11	No. of weathersheds		3
12	Type of sheds		
i	Aerodynamic		AERODYNAMIC
ii	With underribs		-
13	Packing details		
a	Type of packing	-	HDPE BAG
b	No. of insulators in each pack	NOS	20
c	Gross weight of package	Kg.	100 kg (max)
14	Any other particulars which the bidder may like to give	-	NIL



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CE (Project-1), Urban
 NBPDC

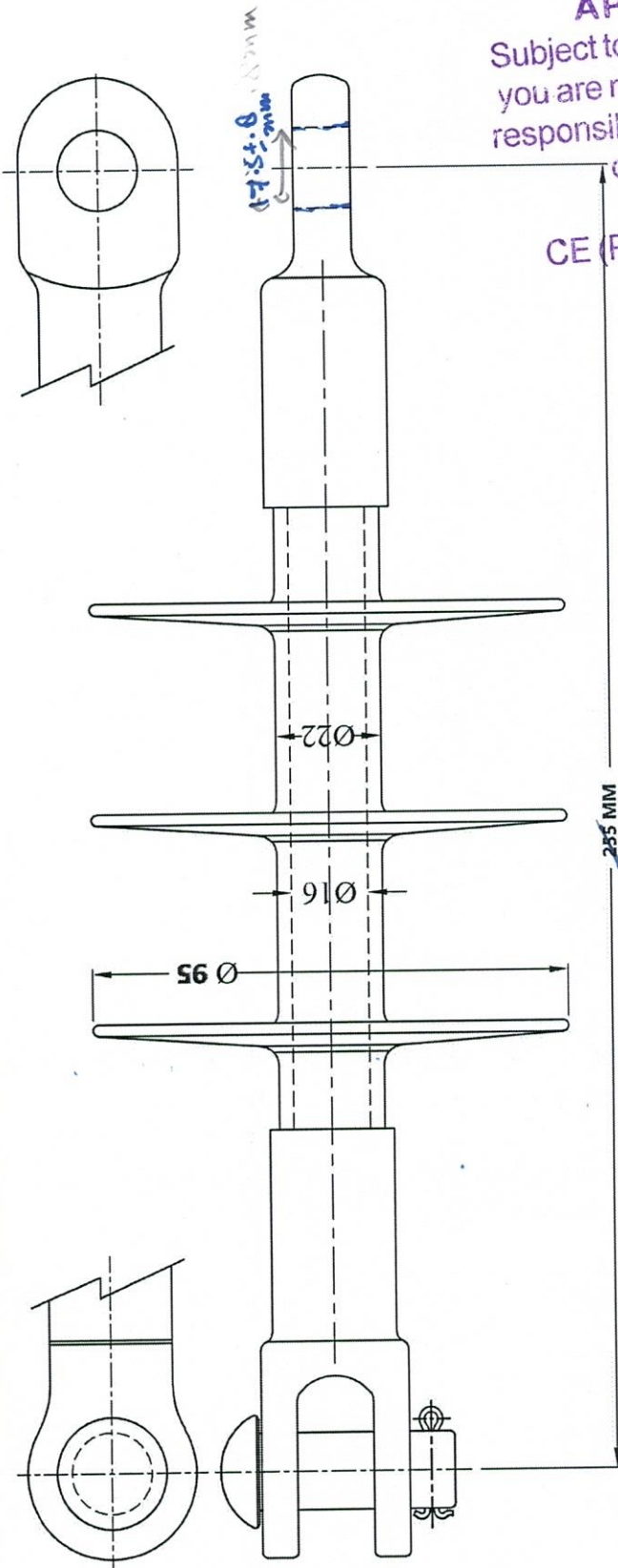
Marking on Insulator - All Insulators should be legibly and indelibly marked with following

- a) Name of trademark of the Manufacturer
- b) 11 KV, Polymer Composite
- c) Month and year of manufacturing
- d) Min failing load / Guaranteed mechanical strength in kilo Newton followed by the word 'KN' to facilitate easy identification
- e) RDSS - LR (NBPDC)

• Tolerance as per IEC 61109, TS of RDSS

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CE (Project-1), Urban
 NBPDCL

10% ± TOLERANCE ON ALL DIMENSIONS

Checked
 AEE(P-1) EEE(P-1) ESE(P-1)

GUARANTEED TECHNICAL SPECIFICATIONS

S.No	DESCRIPTION	VALUE	UCM
A DIMENSIONS			
01	CREEPAGE DISTANCE (min.)	320	mm.
02	DRY ARC DISTANCE (min.)	170-165	mm.
03	SECTIONAL LENGTH	255	mm.
B ELECTRICAL CHARACTERISTICS			
01	NOMINAL SYSTEM VOLTAGE	11	kV
02	MAX. SYSTEM VOLTAGE	12	kV
03	SYSTEM FREQUENCY	50	Hz
WITHSTAND VOLTAGE LEVELS			
04	P.F. Dry Withstand Voltage (1 min.)	70	kV(rms)
	P.F. Wet Withstand Voltage (1 min.)	45	kV(rms)
	Lightening Impulse Withstand Voltage +ve	110	kvp
	-ve	110	kvp
	RIV at 1 MHz when energized 10KV (rms) Under dry Condition	<50	µV
C MECHANICAL CHARECTISTICS			
	Minimum Tensile Load	45	kN



RADIANT
 ENERGY SOLUTIONS PVT. LTD.




Survey No. 169/2, Raikod, Morbi Highway
 Village Morbi, Tal. Tal. Morbi, Dist. Talasari
 Gujarat INDIA Pin. No. 383650
 Cell No:-91 9898601999, 9099919064
 P h. : + 9 1 2 8 2 2 2 9 3 4 5 6
 EMAIL: resppl@yahoo.co.in, info@resppl.co.in

TOL : As Per Specification	SCALE : Not to scale
DIMENSIONS ARE IN mm.	DATE : 21/08/2023
DRAWN : CHINTAN B	DRAWING NO :
CHECKED : J. D. BHADIA	RESP/11KV/DISC/TSC/
APPROVED : A. D. PATEL	20230821

Title : 11KV 45KN Disc Insulator
 T&C Type

REF :

Title Block for Bihar NBPDC - RDSS - CHAPRA. (Saran, Siwan and Gopalganj) Zones

Scheme	Revamped Reforms-Based and Result- Linked, Distribution Sector Scheme (RDSS) - Bihar	
Project	Development of Distribution Infrastructure at Chapra Electric Supply Circle (Saran, Siwan and Gopalganj) of Bihar State On Turnkey Basis.	
Customer	North Bihar Power Distribution Co.Ltd	
Contractor	M/s NCC LIMITED - Hyderabad	
LOA No.	244/N-XIII/P-I(U)/Tender (RDSS)-3050/2022 Dt:- 06-03-2023	
Manufacturer	Radiant Energy Solutions Pvt. Ltd. - Morbi - 363650 (Gujarat) India	
Item Description	11 Kv 45KN Polymer Composite Disc Insulator T&C Type	
Drawing No.	RESPL/11KV/DISC/T&C/20230821	

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 CE (Project-1), Urban NBPDC

RADIANT ENERGY SOLUTIONS PRIVATE LIMITED
 Survey No.169/2, Rajkot - Morbi Highway Village, Chhattar, Tal. Tankara Dist. Morbi (Gujarat) India Pin. 363650.

Checked
 AEE(P-1) EEE(P-1) ESE(P-1)

Guaranteed Technical Particulars
11 KV 45 KN POLYMER DISC INSULATOR (T & C- TYPE)

Sl. No	Description	Unit	Details to be furnished by Bidder
1	Name & address of the bidder	-	RADIANT ENERGY SOLUTIONS PRIVATE LIMITED
2	Type of insulator	-	OUTDOOR
3	Standard according to which the insulators manufactured and tested	-	IEC 61109:2008
4	Name of material used in manufacture of the insulator with class/grade	-	SILICONE RUBBER
a	Material of Core (FRP Rod)	-	-
	i) E-glass or ECR - glass	-	ECR
	ii) Boron Content	-	BORON FREE
b	Material of housing & whethersheds (Silicon content by weight)	-	SILICON RUBBER 30 % min.
c	Material of end fittings	-	SGI/HDG- (SGCI/MCI)
d	Sealing compound for end fittings	-	RTV SILICON
5	Colour	-	GREY
6	Electrical Characteristics:		
a	Nominal System Voltage	kV(rms)	11 Kv
b	Highest System Voltage	kV(rms)	12 KV
c	Dry Power frequency withstand voltage	kV(rms)	70 KV
d	Wet Power frequency withstand voltage	kV(rms)	45 KV
e	Dry flashover voltage	kV(rms)	80 KV
f	Wet flashover voltage	kV(rms)	50 KV
g	Dry lighting impulse withstand voltage		
	i) Positive	kV(Peak)	75KV 110
	ii) Negative	kV(Peak)	75KV 110
h	Dry lighting impulse flashover voltage		
	i) Positive	kV(Peak)	110KV 120
	ii) Negative	kV(Peak)	120 KV
j	RIV at 1 MHz when energized at 10 KV/30KV(rms) under dry condition	Microvolt	≤50 micro volts
k	Creepage Distance (Min)	mm	320 MM (min)
7	Mechanical Characteristics:		
a	Minimum failing load		45 KN



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9	Dimensions of insulator		
i	Dia. Of FRP Rod	mm	16 ✓
ii	Length of FRP Rod	mm	200 ✓
iii	Dia. Of whethersheds	mm	95 (96+2mm)
iv	Thickness of housing	mm	3 (2mm)
v	Dry arc distance	mm	165MM (min) 170mm
10	Dimensional drawing of insulator (including weight with tolerances in weight) enclosed.	Yes/No	ATTACHED
11	Method of fixing of sheds to housing (specify): Single mould or Modular construction(injection moulding/compression moulding)		Injection moulding ✓
12	No. of weathersheds		3 ✓
13	Type of sheds		
i	Aerodynamic		AERODYNAMIC ✓
ii	With underribs		-
14	Packing details		
a	Type of packing		HDPE BAGS ✓
b	No. of insulators in each pack	NOS	20
c	Gross weight of package	Kg.	100 kg (max)
15	Any other particulars which the bidder may like to give		-



Marking on Insulator

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CE (Project-1), Urban
NBPDCI

- All insulators should be legibly and indelibly marked with following
- a) Name of Trademark of Manufacture
 - b) 11kv (Voltage & Type)
 - c) Month & year of manufacturing
 - d) Min failing load/gauranteed mechanical strength in kilo Newton followed by work KN to facilitate easy identification
 - e) RDSS-LR (NBPDCI)

* Tolerance as per IEC 61109, TS of RDSS.

Checked

ST AFF(D-1) EFF(P-1) ECF(D-1)