



**आरईसी पावर डिस्ट्रीब्यूशन कम्पनी लिमिटेड**  
**REC POWER DISTRIBUTION COMPANY LIMITED**

(A wholly owned subsidiary of REC Ltd., a 'Navratna CPSE' under Ministry of Power, Govt. of India)

CIN No. RECPDCL-U40101DL2007GOI165779

Corporate Office: 4th floor, KRIBHCO Bhawan, Sector-1, Noida, Gautam Budh Nagar-201301 (UP)  
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**NOTICE INVITING TENDER**

**(Tender invited through e-Tendering mode only)**

**For**

**Turnkey Execution as deposit work including Supply, Erection, Commissioning, Project Management, Design, Engineering, Inspection and supervision of work of Construction of Double Circuit Overhead Transmission Lines on Tubular Monopoles from T-off Point to the proposed 66KV Sub-Station at Institutional Area in Village Sarangpur, Chandigarh and Construction of 2 Nos. Line Bays at 66/11 KV Grid Substation, Village Sarangpur, Chandigarh for Chandigarh Electricity Department (CED), Chandigarh.**

**No. RECPDCL/TECH/CED/e-Tender/2017-18/136 Dated: 13.04.2017**

Description of task, Pre-qualifying criteria, e-tender submission format and procedure is available on

<b>Important Dates for E- Tendering mode</b>	
Date of Release of NIT	<b>13.04.2017</b>
Last date for queries / seeking clarification	<b>20.04.2017 at 1800 Hours</b>
Pre Bid Meeting	<b>21.04.2017 at 1300 Hours</b>
Last date of submission of Tender	<b>05.05.2017 at 1530 Hours</b>
Date of Opening of Technical bid	<b>05.05.2017 at 1600 Hours</b>
Date of Opening of Financial bid	<b>To be intimated later</b>

RECPDCL website ([www.recpdcl.in](http://www.recpdcl.in)), REC website ([www.recindia.com](http://www.recindia.com)), Central Publication Portal ([www.eprocure.gov.in](http://www.eprocure.gov.in))

**Note:**

Online registration shall be done on e-tendering website i.e. [www.tenderwizard.com/REC](http://www.tenderwizard.com/REC) & in general, activation of registration may takes 24 hours subject to the submission of all requisite documents required in the process.

**-Sd-**

**(S.C. Garg)**

**Addl. CEO**

[This document is meant for the exclusive purpose of Agencies participating against this bid and shall not be transferred, reproduced or otherwise used for purposes other than that for which it is specifically issued]

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**SECTION-I****TENDER INFORMATION****Name of the assignment:**

Turnkey Execution as deposit work including Supply, Erection, Commissioning, Project Management, Design, Engineering, Inspection and supervision of work of Construction of Double Circuit Overhead Transmission Lines on Tubular Monopoles from T-off Point to the proposed 66KV Sub-Station at Institutional Area in Village Sarangpur, Chandigarh AND Construction of 2 Nos. Line Bays at 66/11 KV Grid Substation, Village Sarangpur, Chandigarh for Chandigarh Electricity Department (CED), Chandigarh

**Important information**

Si. No.	Event	Information to the agencies
1	Date of Release of NIT	13.04.2017
2	Last date for queries / seeking clarification	20.04.2017 at 1800 Hours
3	Pre Bid Meeting	21.04.2017 at 1300 Hours
4	Last date of submission of Tender	05.05.2017 at 1530 Hours
5	Date of Opening of Technical bid	05.05.2017 at 1600 Hours
6	Date of Opening of Financial bid	To be intimated later
7	Pre- Bid Meeting Address	REC Power Distribution Company Limited, A-10, 4th Floor, Kribhco Bhawan, Sector-1, Noida – 201301 Tele : 0120-4383783
8	Tender Document	The details can be downloaded free of cost from the websites <a href="http://www.recpdcl.in">www.recpdcl.in</a> (or) <a href="http://portal.recpdcl.in">portal.recpdcl.in</a> (or) <a href="http://www.recindia.nic.in">www.recindia.nic.in</a> (or) <a href="http://www.eprocure.gov.in">www.eprocure.gov.in</a> (or) <a href="http://www.tenderwizard.com/REC">www.tenderwizard.com/REC</a>
9	EMD #	Rs 5,00,000/-
10	Address for Bid submission	<b>Shri. Subhash Chandra Garg,</b> Addl. Chief Executive Officer, REC Power Distribution Company Limited, A10, 4th Floor, Kribhco Bhawan, Sector-1, Noida – 201301 Tele : 0120-4383755 Email- <a href="mailto:ced.projects@recpdcl.in">ced.projects@recpdcl.in</a> / <a href="mailto:scgarg@recpdcl.in">scgarg@recpdcl.in</a>
11	Contact Person	<b>Shri Sunil Bisht ,</b> Deputy Manager (Technical) REC Power Distribution Company Limited (RECPDCL) Phone:0120-4383759/773 Email- <a href="mailto:ced.projects@recpdcl.in">ced.projects@recpdcl.in</a> / <a href="mailto:sunil.bisht@recpdcl.in">sunil.bisht@recpdcl.in</a>

# **The EMD (Earnest Money Deposit)** is to be submitted by all the participating bidders in the form of demand draft/Bank Guarantee of an amount of Rs.5,00,000/- (Rupees Five Lakhs Only) of any

schedule Indian bank in favor of REC Power Distribution Company Limited, Payable at New Delhi .The EMD of unsuccessful bidder will be returned within 180 days from the contract and EMD of successful bidder will also be returned after acceptance of work order and submission of PBG (Performance Bank Guarantee) i.e. 10% of the Contract Value.

- The bid shall remain valid for a period of 180 days from the last date of bid opening.

## **SECTION-II**

### **PREFACE**

Chandigarh Electricity Department (CED) has recently awarded Project Management Agency works for **Turnkey Execution as deposit work including Supply, Erection, Commissioning, Project Management, Design, Engineering, Inspection and supervision of work of Construction of Double Circuit Overhead Transmission Lines on Tubular Monopoles from T-off Point to the proposed 66KV Sub-Station at Institutional Area in Village Sarangpur, Chandigarh AND Construction of 2 Nos. Line Bays at 66/11 KV Grid Substation, Village Sarangpur, Chandigarh for Chandigarh Electricity Department (CED), Chandigarh** to M/s REC Power Distribution Company Limited (RECPDCL) with Tata Power Delhi Distribution Limited as its Technology Partner.

Chandigarh is a union territory in the northern part of India that serves as the capital of the states of Punjab and Haryana. The Local Distribution of electricity in Chandigarh was taken over by the Chandigarh Administration from the PSEB on 2nd May, 1967. Chandigarh Electricity Department is responsible for Transmission and Distribution of power supply up to consumer's doorstep for making quality and continuous power supply available to each resident.

This RFP is being floated on behalf of CED to appoint Turnkey Execution Agency including Supply, Erection, Commissioning, Project Management, Design, Engineering, Inspection and supervision of work of Construction of Double Circuit Overhead Transmission Lines on Tubular Monopoles from T-off Point to the proposed 66KV Sub-Station at Institutional Area in Village Sarangpur, Chandigarh AND Construction of 2 Nos. Line Bays at 66/11 KV Grid Substation, Village Sarangpur, Chandigarh for Chandigarh Electricity Department (CED), Chandigarh. The activities for agency are described in the detailed scope of work.

Figure 1 (Route Plan)



**1. Electricity Profile of UT Chandigarh**

The electricity profile of Chandigarh, in the year 2014-15 is as under:

1. The peak demand of Chandigarh Electricity Department is around 282 MW, which is being met from different Central/State Generating stations.
2. UT Chandigarh has no generating capacity of its own.
3. At present, the City is receiving 47% of its power through Mohali (PSEB), about 3% through Dhulkote (BBMB) and remaining 50% through Nalagarh.
4. The city has a transmission network which comprises of one no. 220 kV Sub Station at Kishangarh Manimajra, 11 nos. 66 kV Sub Stations and 6 nos. 33 kV Sub Stations.
5. At present the city has approx. 2 Lakh consumers which includes 1,72,653 domestic consumers, 21,428 commercial consumers and about 2,300 industrial consumers.
6. The average power requirement is around 32.49 lac units per day.
7. UT has an allocation of 166 - 236 MW of power from different Central/State Generating Stations during different hours of the day.
8. Per capita consumption is 1168 units per person per annum.
9. Besides this, Chandigarh administration is maintaining 19437 numbers of street light points within sectors roads.

## **SECTION-III**

### **INSTRUCTIONS TO BIDDERS**

#### **3.1 Submission of Bid**

Agency shall submit their responses online through e-tendering website [www.tenderwizard.com/REC](http://www.tenderwizard.com/REC)

#### **A. The submission and opening of Bids will be through e-tendering process.**

Agency can download Bid document from the RECPDCL web site i.e. <http://www.recpdcl.in> or [portal.recpdcl.in](http://portal.recpdcl.in) or [www.recindia.com](http://www.recindia.com) or eprocure.gov.in and e-tendering regd. link is given in RECPDCL website i.e. [www.tenderwizard.com/REC](http://www.tenderwizard.com/REC)

*(Note: To participate in the e-Bid submission, it is mandatory for agency to have user ID & Password. For this purpose, the agency has to register them self with REC PDCL through tender Wizard Website given below. Please also note that the agency has to obtain digital signature token for applying in the Bid. In this connection vendor may also obtain the same from tender Wizard.)*

#### **Steps for Registration**

- (i) Go to website <http://www.tenderwizard.com/REC>
- (ii) Click the link 'Register Me'
- (iii) Enter the details about the E-tendering as per format
- (iv) Click 'Create Profile'
- (v) E-tender will get confirmation with Login ID and Password
- (vi)

**Note-** Online registration shall be done on e-tendering website i.e. [www.tenderwizard.com/REC](http://www.tenderwizard.com/REC) & in general, activation of registration may takes 24 hours subject to the submission of all requisite documents required in the process. It is sole responsibility of the bidder to register in advance.

#### **B. Steps for application for Digital Signature from Bid Wizard:**

Download the Application Form from the website <http://www.tenderwizard.com/REC> free of cost. Follow the instructions as provided therein. In case of any assistance you may contact RECPDCL officers whose address is given at the Bid.

Bid to be submitted through online mode on website [www.tenderwizard.com/REC](http://www.tenderwizard.com/REC) in the prescribed form.

#### **C. The Agency qualifying the criteria mention in section VI should upload Bid document with duly signed scanned soft copy of all the annexures & forms mentioned in in this NIT & GCC documents for the prequalifying response:**

Financial bid to be submitted in the specific format designed same may be downloaded from website [www.tenderwizard.com/REC](http://www.tenderwizard.com/REC) and after filling the form it is to be uploaded through digital signature. The all document should be addressed to.

**Addl. Chief Executive Officer** REC Power Distribution Company Ltd., 4th Floor, Kribhco Bhawan, A-10, Sector-1 , Noida-201301, U.P.

***(Note: All papers that comprise the Bid document of the concerned Bid must be numbered. An index of each page should also be provided)***



## **SECTION-IV**

### **SCOPE OF WORK**

#### **BROAD SCOPE OF WORK**

Broad scope of work:-

The brief scope of work covers as under

1. Turnkey Execution of complete system (Concept to Commissioning) including Design, Engineering, procurement, inspection, supervision, erection, project management, testing & commissioning and other works incidental thereto.
2.
  - a. **Transmission Line:** 66 KV Double Circuit Transmission Line of around 2 Kms. length on Steel Monopoles from T-off point to the new proposed 66/11 KV Grid Sub Station comprising of:
    - i. DA type towers along-with extensions: 3 nos.
    - ii. DB type towers along-with extensions: 4 nos.
    - iii. DO type tower (up to 90 degree) along with extensions: 2 nos.
    - iv. ACSR Zebra conductor & GS Earth wire (7/3.15mm)
    - v. 70 kN & 120 kN Disc insulator.
    - vi. Hardware fittings
    - vii. Line Materials viz. Anti-climbing devices, bird-guards, danger plates etc.
    - viii. Accessories for Conductor and earth wire viz VD, MSCJ, flexible copper bonds etc.
    - ix. Detailed Survey including profiling, tower- spotting & Check Survey, Soil investigation, bore log data etc.
    - x. Tower foundations, line stringing, final checking, testing and commissioning.
  - b. **2 Nos. Line Bays**  
66KV Line Bays for termination of Line with following Scope of Work.
    - i. 72.5KV Circuit breakers along with structure and foundation – 2 Nos.
    - ii. 72.5KV CTs with structure and foundation – 6 Nos.
    - iii. 72.5KV Isolators with structure and foundation – 6 Nos.
    - iv. 60KV Lightning arrestors with structure and foundation – 6 Nos.
    - v. 66KV Control, Relay and Protection panels.
    - vi. Switchyard structure.
    - vii. 1.1 KV power and control cables as per requirement.
    - viii. All other works Incidental to the main work.

## DETAILED SCOPE OF WORK

1. 66 kV D/C Transmission line of Route length 2 Kms on Steel Monopole from T off point( Tower no-2) to new proposed Sarangpur Grid S/S.
2. Conductor: ACSR Zebra as per requirement of client.
3. Total no of Monopole Tower: 14 No (C+3 Type: 2 Nos, C+6 type: 2 Nos, C+9 Type: 5 Nos, C+12 Type: 5 No) considering span length of 150 Mtr.
4. LILO of front side ckt to be done when facing from the entry gate side for feeding 2 No proposed 66 kV ckt.
5. Two no (C+3) Type Mono pole Tower shall be proposed near Tower-2 (T off point) for LILO of one no existing Line and rest 12 No monopoles shall be proposed in the proposed Route.
6. 4 no Towers of submerged foundation be proposed in Canal of C+12 Type: 4 No.
7. There exists 66 kV double bus bar System at Sarangpur Grid S/S.
8. 2 No Line Bays to be proposed at Sarangpur Grid S/S.
9. 2 No C/R panels to be installed in Control room.
10. Control cable trench of 50 Mtr length to be required.
11. ROW for installation of Mono pole Tower and stringing of O/H conductor to be required from concerned Road owning agency, Canal owning agency, Park owning agency.
12. Road restoration charges and EI Fees shall not be considered in estimate.
13. Soil investigation report of Sarangapur S/S to be required.

***NOTE: The scope of work is not only limited to as mentioned above or in the approved RFP, but also includes any other change/modification/addition necessary for the execution of the contract, as per actual requirement in view of site conditions. Selected Agency will seek prior approval from M/s RECPDCL in case of any change/addition/modification in the work by submitting complete detailed documents.***

All the bidders are requested to fill in the GTPs attached as part of this bid document / specification. Bidders to clearly state the deviation from GTPs and specifications with relevant cl. No. / Point No. of the specification in Schedule of Deviations (format attached). Bidders to note that deviation highlighted in the Schedule of Deviation only shall be treated as deviations from specification for all the contractual purposes. In case of no deviation wrt GTP/ specification bidders to submit No Deviation Certificate.

In case any deviation has been mentioned in submitted GTPs but not in Schedule of Deviation, shall not be deemed as deviation from the specification and bidder shall be bound to ensure the RECPDCL's defined GTP/specs.

In case Bidder has not submitted any schedule of deviation, it will be understood that bidders shall all the specifications / requirements as defined in GTP/specifications.

### Guaranteed Technical Particulars

All the bidders are requested to fill in the GTPs attached as part of this bid document / specification. Bidders to clearly state the deviation from GTPs and specifications with relevant cl. No. / Point No. of the specification in Schedule of Deviations (format attached). Bidders to note that deviation highlighted in the Schedule of Deviation only shall be treated as deviations from RECPDCL/CED's specification for

all the contractual purposes. In case of no deviation wrt GTP/ specification bidders to submit No Deviation Certificate.

*In case any deviation has been mentioned in submitted GTPs but not in Schedule of Deviation, shall not be deemed as deviation from the specification and bidder shall be bound to ensure the RECPDCL/CED's defined GTP/specs.*

*In case Bidder has not submitted any schedule of deviation, it will be understood that bidders shall all the specifications / requirements as defined in RECPDCL/CED's GTP/specifications.*

#### **TECHINICAL SPECIFICATIONS**

List of equipments for those Technical Specifications are attached is as under. Bidders to furnish the compliance of these technical specifications in totality. For all other items specification shall be as per relevant IS/IEC as approved by RECPDCL.

S. No.	Technical specification for
1	ACSR Zebra Conductor
2	66 KV Outdoor Circuit Breaker
3	66 KV Current Transformer
4	66 KV Potential Transformer
5	66 KV Isolator
6	1.1 KV Control Cable
7	66 KV Monopole

**TECHNICAL SPECIFICATION FOR ACSR Zebra Conductor**

This specification provides standard specification for ACSR Zebra Conductor.

**APPLICABLE STANDARDS**

The equipment covered by this specification shall unless otherwise stated, be designed, manufactured and tested in accordance with latest revisions of relevant Indian Standards /IEC and shall conform to the regulations of local statutory authorities.

Sr. No.	Indian Standards	Title	International Standards
1	IS : 209	Specification BS : 3436 for zinc	
2	IS : 398 Part I to V (As relevant)	Specification IEC : 209 for aluminium BS : 215 conductor for (Part-II) overhead Transmission purpose.	
3	IS : 1778	Reels and BS : 1559 Drums for Bare Conductors	
4	IS : 1521	Method of Ten-ISO / R 89 site testing of steel wire.	
5	IS : 2629	Recommended practice for Hot dip galvanizing of Iron and Steel.	
6	IS : 2633	Method of Testing uniformity of coating of zinc coated articles.	
7	IS : 4826	Galvanized coating quoting on round steel wire.	ASTM A – 472 729 BS : 443
8	IS : 6745	Methods of determination of weight of zinc coating of zinc coated iron and steel articles.	BS : 443
9	IS : 8263	Method of radio Interference tests on high voltage Insulators	IEC:437 NEMA : 107 CISPR
10	IS : 1841	EC grade aluminium rod produced by rolling (Second Revision)	
11	IS : 5484	EC grade aluminium rod produced by continuous casting and rolling (first revision)	

However, in an event where the supplier offers ACSR conductor conforming to standards other than the above, then the salient points of comparison between the standards adopted and the standards quoted herein shall be detailed in relevant schedule with an authenticated English version of such standards referred to.

Climate conditions of the installation	
Max. Ambient Temperature	55°C
Max. Daily average ambient temp.	40°C

Ref. Temperature For Design	50°C
Min Ambient Temp	-4°C
Maximum Humidity	100%
Minimum Humidity	10%
Average No. of thunderstorm days per annum	50
Maximum Annual Rainfall	750 mm
Average No. of rainy days per annum	60
Rainy months	June to October
Altitude above MSL not exceeding	300 Meters
Wind Pressure	126 kg/sq m up to an elevation at 10 m
Atmosphere	Atmosphere is generally laden with mild acid and dust suspended during dry months and subjected to fog in cold Months. the design of the equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.1 G

**GUARANTEED TECHNICAL PARTICULARS FOR ACSR 'ZEBRA' CONDUCTOR**

The Guaranteed Technical particulars furnished below shall be duly attested by the Bidder. Any correction / alterations in this GTP will lead to outright rejection of the Bid.

Sr.	Description	Alumunium	Steel
1)	Number Of Strands – Nos.	54	7
2)	Diameter Of Strand – mm.		
	I) Strands		
	o) Nominal	3.18	3.18
	p) Maximum	3.21	3.24
	q) Minimum	3.15	3.12
	II) Overall Of Conductor	28.62	
3)	Cross Sectional Area Of – Sq. mm.		
	e) Whole Conductor	484.5	
	f) Each Strand	7.94	7.94
4)	Laying Of Strands – Nos.		
	h) Center	N.A.	1
	i) First Layer	12	6
	j) Second Layer	18	N.A.
	k) Third Layer	24	N.A.
5)	Weight (Excl. Wt. Of Grease) – Kg / Km.		
	g) Whole Conductor	1621	
	h) Strand (At Nominal Dia.)	21.47	61.95

6)	Calculated D.C. resistance at 20 OC - Ohms / Km		
	g) Whole Conductor	0.06868	N.A.
	h) Strand	3.626	N.A.
7)	Ultimate Tensile Stress – KN		
	g) Whole Conductor		
	h) Strand	130.3	N.A.
	vii) Before Stranding	1.29	10.43
	viii) After Stranding	1.23	9.91
8)	Modulus of Elasticity –	07036x106	
	d) Kg / Sq. Cm.		
	e)		
9)	Coefficient of linear expansion - per deg. C.	19.3x10-6	11.5x10^-6
10)	Chemical Composition - %		
	v) EC Grade Al.	99.5	
	w) Copper (Max.)	0.04	N.A N.A.
	x) Carbon	N.A	0.50 – 0.85
	y) Manganese	N.A	0.50 – 1.10
	z) Phosphorous	N.A	Max. 0.035
	aa) Sulphur	N.A	Max. 0.045
	bb) Silicon	N.A	0.10 – 0.35
11)	Grease Make Protectilo – 56 -57 or Rustilo – 442	As per IS 398 (Part – 2) 1996 Neutral Grease between the layers of steel wires	
12)	Zinc Purity - %	99.95	
13)	Resistivity – Ohms Sq. mm / Mtr.	0.028264	N.A.
14)	Density (At 20°C) – Gm / CuCm.	2.703	7.8
15)	Constant Mass Temp. Co- efficient Of resistance – Per°C	0.004	N.A.
16)	Lay Ratios		
	g) First Layer (o)		
	i) Maximum	17	28
	ii) Minimum	10	13
	h) Second Layer (p)	10	13
	i) Maximum	16	
	ii) Minimum	10	N. A.
	i) Third Layer (q)		
	i) Maximum	14	
	ii) Minimum	10	N. A.
17)	Elongation (Minimum) - % Before stranding	N. A.	4

## TECHNICAL SPECIFICATION FOR 66 kV, CIRCUIT BREAKER

This specification provides standard specification for 66 kV, 3 poles SF6 gas filled outdoor circuit breakers.

### APPLICABLE STANDARDS

All standards, specifications and codes of practice referred to herein shall be the latest editions including all applicable official amendments and revisions as on date of opening of bid. The following standards and codes shall be applicable: -

S. No.	STANDARDS	DESCRIPTION
1	IS-13118	Specification for high voltage alternating current circuit breaker
2	IS-12063	Degree of protection provided by enclosure for low voltage Switchgear control gear.
3	IS-2099	Bushing for alternating voltage above 1000 volts.
4	IS-12063	Degree of protection provided by enclosure for low voltage Switchgear control gear
5	IS -996	Single phase small AC and Universal Electric Motors.
6	IS-335	Insulating oil for Transformer & Switchgear
7	IS-2147	Degree of protection provided by enclosure for low voltage
8	IS-2544	Porcelain Post Insulator
9	IS-5621	Hollow insulators for use in electrical equipment
10	IS-2629	Recommended practice for hot dip galvanizing of iron and steel
11	IEC 62271-100	High Voltage switchgear& control gear – Alternating Current Circuit Breaker
12	IEC 60736-100	Specification of technical grade sulfur hexafluoride (SF6) for use in electrical equipment
13	IS-1554 Part-I 1988	PVC insulated cables up to & including 1100 volts.
14	IS-2208	HRC Cartridge fuses links up to 650 volts.

### GENERAL TECHNICAL REQUIREMENT

Sl. No.	Particulars	Standard Specification
1	Type	3
2	Application	Outdoor
3	Highest System voltage	66 kV

4	Rated voltage	72.5 kV
5	Rated Frequency	50 Hz
6	No. of Phases	3
7	Rated normal current	2000 A
8	Rated short circuit withstand current for 3 Sec	31.5 kA (rms)
9	Rated operating sequence	0-0.3 sec-CO-3 min-CO
10	Total break time (max)	60 ms
11	Total close time (max)	60 ms
12	First pole to clear factor	1.5 for terminal fault
		1 for short line fault
		2.5 for out of phase fault
13	Rated lightning Impulse with Stand voltage	
a.	To earth & between pole	325 kVpeak
b.	Across the isolating distance	375 kVpeak
14	Rated power frequency withstand voltage	
a.	To earth & between pole (Dry test for 1 min.)	140kVrms
b.	Across the isolating distance(dry test for 1 min.	160 kVrms
c.	To earth & between pole & across the isolating distance (wet test for 10 sec.)	140 kVrms
15	Rated load breaking current	26.3 kArms
16	Percentage DC component	Less than 50 %
17	Rated short circuit making current	66 kA
18	Rated line charging breaking current	10 A rms
19	Rated cable charging breaking current	125 A rms
20	Rated Single capacitor bank breaking current	400 A rms



21	Capacitor bank with series reactor switching capacity	28 .8 MVAR capacitor
22	Maximum switching over voltage for cable charging & capacitor bank breaking current	2.5 p.u.
23	Rated supply voltage for control circuit	220 V /110 V /50 V DC
24	Range for satisfactory operation of trip circuit	70 % to 110 %
25	Range for satisfactory operation of closing & other circuit	85 % to 110 %
26	Transient recovery voltage	As per IEC 62271-100
27	No. of auxiliary contact	10 NO & 10 NC
28	Clearance in air	
a.	Between Phases	630 mm
b.	phase to earth	630 mm
29	Min creepage distance of insulator	31 mm/kV
30	Degree of protection	IP-55
31	Operating mechanism	Spring charge by
32	Rated voltage for Spring Charging motor	240 V A.C.
33	Minimum vertical clearance of live conductor from ground level	4.6 Mtr.
34	Temperature rise at rated normal current	As per IEC 62271-100
35	Material of main contact	Copper chromium,

## TECHNICAL SPECIFICATION FOR 66 kV, CURRENT TRANSFORMER

This specification provides standard specification for 66 kV, CT.

### APPLICABLE STANDARDS

All standards, specifications and codes of practice referred to herein shall be the latest editions including all applicable official amendments and revisions as on date of opening of bid. The following standards and codes shall be applicable:

S. No.	STANDARDS	DESCRIPTION
1	IS-2705	Specification for current transformer.
2	IS-5621	Hollow insulator for use in electrical equipment.
3	IS-9676	Summation current transformer.
4	IS 11332	Method for partial discharge measurement in instrument transformer.
5	IS-2099	High voltage porcelain bushings.
6	IS: 335	New insulating oil.
7	IS - 5561	Specification of electric power connectors.
8	IS – 8603	Dimension for porcelain transformer bushing for use in heavily polluted atmosphere.

### GENERAL TECHNICAL REQUIREMENT

Sl. No.	Particulars	Standard Specification
1	Rated voltage	66kV
2	Highest System voltage	72.5kV
3	Rated Frequency	50 Hz
4	Rated primary current	800-400 A
5	Rated lightning impulse withstand voltage	325 kVP
6	Rated power frequency dry withstand voltage	140 KV rms
7	Rated power frequency wet withstand voltage	140 KV rms
8	Transformation ratio (CT Ratio )	800-400/1 A
9	Rated secondary current	1. A
11	Rated continuous thermal current	1.2 Times of primary current
12	Rated dynamic current	2.5 Times of short time thermal current rating

13	Short time thermal current rating for 3 Sec.	31.5 kA
14	core details	<b>Core-1, core-2 , Core-3 , Core-4</b>
a.	accuracy class	PS      0.2      5P20      PS
b.	Rated burden	30 VA      30 VA
g	Purpose	Metering      protection      Prot.      Prot.
c.	knee point voltage Min	Grt than 500      Grt than 500
d.	Resistance of secondary winding	Less than 10 Ohm      Less than 10 ohm
e	Max. exciting current	Less than 30 mA      Less than 10 mA
f	Instrument security factor	Less than 5
15	Ten delta Value	Shall be within 0.7 % for new & shall remain less than 1 % for at least 5 years
16	Limits of current (ratio error) & phase displacement for protection core	Ratio error $\pm 1 \%$ & phase displacement $\pm 60$ deg
17	Limits of Current error for PS class	Ratio error $\pm 0.25 \%$
18	Max. Temp. rise over ambient temp.	55 deg C
19	Minimum creepage for HT Bushing	25mm/kV
20	Gauge of the Tank	3 mm

## TECHNICAL SPECIFICATION FOR 66 kV, POTENTIAL TRANSFORMER

This specification covers the standard technical requirements of outdoor type; oil immersed 66 KV Potential Transformer (PT).

### APPLICABLE STANDARDS

The equipment covered by this specification shall conform to the requirements stated in latest editions of relevant Indian/ IEC standards and shall conform to the regulations of local statutory authorities.

S. No.	Standard	Description
1	IS: 5	Colour for ready mix paints.
2	IS: 335	New insulating oils for transformer
3	IS: 1554	PVC insulated (Heavy duty) electrical cables for working voltage up to and including 1100 volts.
4	IS: 1570	Stainless and heat resisting steels
5	IS: 1866	Maintenance and supervision of mineral insulating oil in the equipment
6	IS: 2099	Bushing for alternating voltages above 1000 volts
7	IS: 3156	Voltage transformer
8	IS: 5561	Electric power connectors
9	IS: 5621	Hollow insulator for use in electrical equipment
10	IS: 9224	Low voltages fuses
11	IS: 10028	Code of practice for selection, installation and maintenance of transformers
12	IS: 11322	Method of Partial discharge measurement in instrument transformer
13	IEC 60044	Instrument Transformers – Part 2: Inductive Voltage Transformers for use with electrical measuring instruments and electrical protective devices at frequencies from 15 to 100 Hz.

### GENERAL TECHNICAL REQUIREMENT

S. No	Particulars	Standard Specifications
1	Highest System voltage	72.5 kV rms
2	Rated voltage	66 kV rms
3	Rated Frequency	50 Hz
4	Rated primary voltage	66KV/ $\sqrt{3}$
5	Rated secondary voltage	110V/ $\sqrt{3}$

6	Rated lighting impulse withstand voltage	325 kV peak	
7	Rated power frequency dry withstand voltage on		
	i. On primary	140 kV rms	
	ii. On Secondary	3 kV rms	
8	Power frequency withstand voltage for one minute – dry & wet	140 kV rms	
9	Rated Transformation ratio	66 kV/ $\sqrt{3}$ /110 v/ $\sqrt{3}$	
10	Core Details	Core - 1	Core - 2
	a) Rated Output	100 VA	100 VA
	b) Purpose	Metering	Protection
	c) Accuracy Class	0.5	3P
11	Winding connection for PT	Star- Star	
12	Rated voltage factor & time	1.2 continuous & 1.5 for 30 Second	
13	Creep-age Distance	25 mm/kV	
14	Creep-age factor (max.)	4	
15	Limit of Voltage Error	$\pm 0.2\%$	
16	Limit of Phase displacement	$\pm 10\%$	
17	Max temp rise over ambient temp	55 deg. C	
18	Gauge of the Tank	3 mm	

## TECHNICAL SPECIFICATION FOR 66 kV ISOLATOR

This specification covers the standard technical requirements for 66 KV class Isolators.

## APPLICABLE STANDARDS

All standards, specifications and codes of practice referred to herein shall be the latest editions including all applicable official amendments and revisions as on date of opening of bid. The following standards and codes shall be applicable: -

S. No.	STANDARDS	DESCRIPTION
1	IS: 9921	Alternating current isolators (dis-connectors) and earthing Switches for voltage above 1000 V
2	IS: 2544	Specification for Porcelain post insulators for systems with nominal voltage Greater than 1000V

3	IS: 2147	Degree of protection provided by enclosures for low voltage switchgear & control gear.
4	IS: 2544	Specification for Porcelain post insulators for systems with nominal voltage Greater than 1000V
5	IS: 4691	-do-
6	IS: 4759	Hot dip galvanization coating on structural steel
7	IS: 2633	Method of testing weight, thickness and uniformity
8	IS: 1573	Electroplated coating of zinc on iron and steel
9	IS: 6735	Spring washers.
10	IS: 2016	Plain washers.
11	IS: 1771	Electroplated coating of silver and silver alloys for general engineering purpose

**GENERAL TECHNICAL REQUIREMENT**

Sl.No.	Particulars	Standard Specification
1	Type	Motor operated, central rotating double break with turn & twist mechanism
2	No. of phases	3
3	Services	Outdoor
4	Nominal System Voltage	66 kV
5	Highest System Voltage	72.5 kV
6	Rated frequency	50 Hz
7	Rated continuous current of isolator	1600 A
8	Rated short time withstand current for 3 Sec	31.5 kA
9	Rated peak withstand current	78.75 kA peak

10	System earthing	Solidly Earthed
12	power frequency withstand Voltage	
(i)	To Earth & between pole	140 kVrms
(ii)	Across isolating Switch	160 kVrms
13	Lighting impulse withstand voltage	
(i)	To Earth & between pole	325 kVpeak
(ii)	Across isolating Switch	375 kVpeak
14	Minimum total creepage distance	1810 mm
15	Minimum clearance	
(i)	between phases	630 mm
(ii)	between phases & earth	630 mm
16	Phase to phase spacing adopted in the layout	2000 mm
17	No. of breaks per circuit pole	2 for double
18	Operating mechanism	
(i)	Isolator Type	Manual/ Motor
(ii)	Earth Switch	Manual/ Motor
19	Type of Interlocking	
	Mechanical	Kestle Key
	Electrical	Solenoid
20	Auxiliary Switch	
(i)	Isolator operating mechanism	10 NO + 10 NC
(ii)	Earth Switch	4 NO + 4 NC
21	Current Supply voltage	220 V /110 V
22	Max current density	1.5 A/sq. mm
23	Current rating	10 A, DC

24	Type of main contact	Finger & fist type
25	Material of main switch Contact	
(i)	Material for rotating blade	Electrolytic tinned
(ii)	Material of contact	Silver plated
26	Material of Earth switch Contact	
(i)	Material for rotating blade	Electrolytic tinned
(ii)	Material of contact	Silver plated
27	Torque required to operate each Isolator	500 Nm
28	Rated magnetizing/capacitive current make/break at 0.15 pf	0.7 Arms

#### TECHNICAL SPECIFICATION FOR 1.1 kV CONTROL CABLE

This specification covers the standard technical requirements for 1.1 kV Control Cable.

#### APPLICABLE STANDARDS

The equipment covered by this specification shall unless otherwise stated, be designed, manufactured and tested in accordance with latest revisions of relevant Indian Standards /IEC and shall conform to the regulations of local statutory authorities.

S. No.	STANDARDS	DESCRIPTION
1.	IS 7098(Part-1)-1988	Specification for Cross-linked polyethylene insulated PVC sheathed Cables Part: 1.
2.	IS 8130-1984	Specification for Conductor for insulated electric cables & flexible cords.
3.	IS 398(Part-IV)-1994	Aluminium conductor for overhead transmission purposes. Part 4- Aluminium alloy stranded conductors.
4.	IS 10418-1982	Specification for Drums for Electric Cables
5.	IS 5831-1984	Specification for PVC insulation and sheath of electric Cables.
6.	IS:3975-1999	Mild steel wires, formed wires and tapes for armouring of cables
7.	IEC-60228:2004	Conductor for insulated cables.
8.	IEC-60502 (Part-1)	Power Cables with extruded insulation and their associated Voltages from 1KV (Um = 1.2KV) upto 30KV (Um=36KV)



9.	IS-5216	Guide for safety procedures and practices in electric works
10.	IEC-332	Flame Retardant, Characteristics of electric cables.

**GENERAL TECHNICAL REQUIREMENT**

Sl. No.	Paticulars	Standard Specification						
	Core & Size of cable	2 CX6	2 CX10	4 CX10	4 CX16	4 CX25		
1	Voltage grade	1.1 kV						
2	Type of cable	AL conductor,, PVC inner sheath,GI wire armoured						
3	Conductor							
a.	Material & Grade	H2/H4 Grade AL conductor						
b.	No.of core	2	2	4	4	4		
c.	Size (Sq. mm)	6	10	10	16	25		
d	Min No. of wires in each conductor	min no. of strand & dia in each strand shall be such as to satisfy the specified resistance requirement as per IS 8130-1984						
e	Shape of the conductor	Solid Circular						
4	Insulation							
a.	material	Type –A PVCCompound						
b.	Nominal thickness				1 mm			
5	Inner Sheath							
a.	material	Extruded Inner Sheath of Black PVC type ST-2						
b.	min. thickness	0.3 mm Min						
6	Armour							
a.	Material	Galvanised Steel wire						
b.	size	1.4 mm to 2.5 mm						
c.	Type	wire	wire	wire	wire	wire	wire	wire
7	Outer sheath							
a.	Material	Outer Sheath of PVC type ST-1						
b.	Nominal thickness/Dia	1.24 mm Min.						
9	Tolerance on dia	±3 %						
10	Standard length with tolerance	500 ± 5 %						
11	Max. Conductor temp.							
a.	Continuous	90°C						
b.	Short time	250°C						

**TECHNICAL SPECIFICATION FOR 66 kV MONOPOLE**

< Please refer to the specification of 66 KV monopole attached as annexure >

### General scope of work

1. Selected Bidder to execute the **work within 6 months** from the date of award of work order.
2. Selected bidder to **provide 12 months** “Warranty support” after Completion of work.
3. For the maintenance phase, selected bidder to dedicatedly post at-least one (01) support engineer (Diploma in Electrical Engineering with at-least 3 years relevant experience) per circle for resolving field related matters and at-least one (01) dedicated Project – In-charge (B. Tech / B. E. in Electrical Engineering with at-least 5 years relevant experience) during entire warranty period of 12 months.
4. Bidders to provide complete plan for implementation of project.
5. Selected Bidder to setup a Project Management Office in Chandigarh within 30 days from the date of award of work order. This office shall remain operational till the successful completion of this project i.e. Implementation stage (6 Months) and Warranty Stage (12 months post implementation). All the dedicated resources are to be deployed in Chandigarh for day-to-day coordination with Utility.
6. All supplied items must conform to the detailed technical specifications mentioned in this tender document.
7. Packaging and transportation from the manufacturer’s work to the site including ports and customs clearance will be borne by the bidder.
8. Unloading, Receipt, storage, preservation and conservation of equipment at the site.
9. The Bidder in consultation with RECPDCL Project In-charge and CED Local In-charge shall determine the exact positioning of equipment Installation, housing of equipment.
10. Insurance of all equipment from manufacturer’s site till installation, commissioning, handing over and user acceptance will be borne by the bidder.
11. Maintain the mandatory and recommended (a minimum of 2%) spares during warranty period and provide the list of the same.
12. Install the equipment, obtain CED acceptance and submit a copy of the same to designated authority of RECPDCL.
13. Post completion of installation and commissioning works, the selected bidder shall provide a complete and final location table and spreadsheet indicating all locations including all the relevant information.
14. The Bidder shall be responsible for providing all material, equipment and services specified or otherwise, which are required to fulfil the intent of ensuring operability, maintainability and the reliability of the complete work covered under this specification.
15. It is not the intent to specify all aspects of design and installation of associated systems mentioned herein. The systems, sub-systems and equipment/devices shall conform in all respect to high standards of engineering, design and workmanship, and shall be capable of performing continuous commercial operation.
16. The bidder shall make his own necessary arrangements for the following and for those not listed anywhere else:
  - Office and store.
  - Transportation.
  - Boarding & lodging arrangement for their personnel.

- 17.** The supplier shall submit the data sheets for each of the equipment model detailing the specifications of the equipment.

**WARRANTY SUPPORT & REQUIREMENTS**

The bidder shall be responsible for providing the warranty support after installation of system for next 1 year. The scope shall include the following but not limited to the following

- a. Post implementation support and management shall be governed by performance parameters as mentioned in this NIT.
- b. Post implementation shall also cover the new requirement of tools, application, reports etc. of utility.
- c. The bidder shall provide the off-site support of experts also to resolve the issues in shortest time.

## TIMELINES FOR DELIVERY AND INSTALLATION

The bidder is expected to complete the entire work **within 6 months** from the date of award of work order by the RECPDCL.

The successful bidder immediately after award of contract is required to start the work of route survey and route alignment of through cable at sites. It is expected that the Contractor will commence the construction activity at sites within 01 month from the date of award of contract and the Cable and Equipment will start arriving at sites within 2 months after the date of award of contract.

The bidder shall include in his proposal his programme for Planning's, optimization of route, Gantry locations, erecting the Gantries and laying Cable covered in the specification. The Programme shall be in the form of a master network illustrating all necessary activities identifying key phases in various areas of the total work like design, procurement, manufacture and field activity under the scope are commissioned within timelines. The contract agreement will be signed within 30 days of issue of letter of Award (LOA). In case, there is delay in signing of contract, the contractual completion period will be counted from the 30th day of issue of letter of award, irrespective of the reason of delay in signing of the contract. Offers, which do not confirm to the requirements of the above time schedule, are liable to be rejected.

Bidder shall submit a detail Gantt chart along with the following implementation schedule. Bidders shall drill down these activities into sub/sub-sub activity in the chart. The chart shall also detail out time and resource effort required to execute each activity. The detailed bar charts for all the work activity shall however, be discussed and agreed to by the successful Bidder with the owner before start of the execution of work.

Sr. No	Activity Name	Start Date	Weekly Plan						End Date
			W1	W2	W3	W4	W5	.....	
1	Resource Mobilization and establishment of site office								
2	System Design, drawings and approval								
3	Material Inspection & MDCC								
4	Material Delivery and Installation & Commissioning								
5	Handing over								
6	Warranty Services (12 months)								

## PAYMENT TERMS

### 1. Payment Criteria:

The payment will be made on milestone basis which are given below:

S. No.	Milestone	Payment
1	<p>1. 10% of the Contract price shall be paid as initial interest bearing advance on fulfilment of the following by the bidder:</p> <ol style="list-style-type: none"> <li>Unconditional acceptance of PO/LOI/LOA.</li> <li>Unconditional &amp; irrevocable Bank Guarantees with a validity period upto 02 years from the date of LOA in favor of RECPDCL amounting to 110% of total advance amount.</li> <li>Unconditional &amp; irrevocable Performance Bank Guarantee (PBG) as per GCC Annexure-C for ten percent (10%) of the total Contract price towards Contract Performance with a validity till completion of 1.5 years period from the date of Operational Acceptance Test and Taking Over of the complete systems</li> </ol>	<p>Interest bearing 10% advance of Contract Price which will be prorata adjusted in each milestone till the advance is fully adjusted. (The annual interest rate shall be calculated based on SBI MCLR as applicable from time to time.)</p>
2	Approval of drawings under Category-1 of major drawings, Quality Plans, Pert Chart, Field Quality Plan, posting of Project Manager and commencement of the first mile stone of the work mutually agreed including C-3 Form, and submission of a true copy of 'Erection All Risk Insurance Policy' taken for the awarded jobs. The drawing list shall be mutually agreed at the time of award of work.	10% of Contract Price **
3	Against delivery/receipt of material at vendor Store at Project site in good condition and certification by RECPDCL along with bills complete in all respects viz. MDCCs For Major Items i.e. 66 KV Breaker, C & R Panel, Poles, CT's, Conductor, Isolators, LA's, PT's etc.	50% of Contract Price **
4	Against mechanical completion of erection on prorata basis against monthly bills. In case this milestone is not completed beyond 120 days for reasons attributable to RECPDCL, the payment corresponding to supply part shall be released subject to submission of BG of equivalent amount by the BA valid for a period of further 12 months. If required, it shall be extended by the BA on request of RECPDCL.	20% of Contract Price **
5	After completion of Operational Acceptance Test and Taking Over of the complete systems specified in the enquiry, including clearance of Electrical Inspection, compliance of final punch point and after reconciliation & adjustment of payments, if any, towards Quantities of materials issued from purchaser's stock and consumed by the contractor for expeditious completion of the job. In	15% of Contract Price **

	case this milestone is not completed beyond 120 days beyond schedule for reasons attributable to RECPDCL, the payment corresponding to supply part shall be released subject to submission of BG of equivalent amount by the BA valid for a period of further 12 months. If required, it shall be extended by the BA on request of RECPDCL.	
6	Upon submission of all Operational & Maintenance Manuals and "As Built drawings" etc. and Completion of 1 year warranty. The payment may be released earlier provided the supplier submits the Bank Guarantee (BG) for an amount equivalent to 5% of contract Price. This BG shall remain valid for a period of 1.5 years from the date of Operational Acceptance Test and Taking Over of the complete systems. The associate shall also submit 'No Demand Certificate' at the time of receipt of full and final payment.	5% of Contract Price **

**\*\* Price is sum total of all-inclusive taxes, duties, cess etc as applicable. The difference between newly introduced taxation structure (if applied i.e. GST) will be reimbursed to the firm after submission on proof of having deposited the same to appropriate authorities/offices on actuals.**

## 2. Pre-Requisites for Payment

- Associate should have completed execution of that part of contract, for which payment is sought, to the satisfaction of RECPDCL/CED's Engineer-in-Charge responsible for the contract and obtained certification for execution of the work.
- Associate has undertaken joint measurement of the work executed along with RECPDCL/CED's Engineer-in-charge.
- Associate's bills/invoices submitted have been certified by Engineer-In-Charge.

## 3. Bills & Invoices

Unless specified otherwise in the special conditions of contract, Associate shall raise not more than one invoice/contract per month for the services rendered in the prescribed Tax Format and the invoice shall be submitted within 15 days of the following month at RECPDCL Corporate office.

All Bills shall be supported by joint measurement of work done, quality test report and a copy of wage sheet, if applicable (showing proof of having disbursed wages as per applicable law) and a copy of statement substantiating that statutory payments having been affected.

Bills/ invoices shall mention contractor's 'Sales, Service, WCT Tax Registration Number, PAN number as applicable.

Final bill submission after completion of project or execution of job must be within 30 days from the actual date of completion/execution of work awarded.

All invoices/claims shall be raised by the bidder in the name of Chandigarh Electricity Department (CED), Chandigarh (owner) C/O RECPDCL. All the payment shall be released directly to the bidder by RECPDCL within 30 days of submission of invoices on receipt of funds from CED. Further tax will be deducted as per applicable law by RECPDCL from the payment made on behalf of CED.

#### **4. Payments & Statutory Deductions**

Payment shall be released within 30 days from the submission of the bills. The associate shall submit “No Demand Certificate” in the format as per Annexure-D at the time of receipt of full and final payment. In case any non-compliance to contract conditions comes to RECPDCL’s notice, RECPDCL will be entitled to deduct 30% of estimated wages plus 20% of wages as RECPDCL’s overheads. Associates would be obliged to provide the copy of monthly wage sheet in any case, failing which no payment shall be made. RECPDCL at their sole discretion may deposit the PF etc. with statutory authorities. RECPDCL will deduct the amounts of TDS as per statutory requirement under the income tax act and the VAT Act and certificates (wherever applicable) will be issued to associate accordingly.

In case of non-submission of PAN No TDS @ 20% shall be deducted from all payable amounts for which no TDS certificate shall be issued. TDS once deducted as above shall not be revised in any condition.

##### **1.1. Statutory Deductions**

RECPDCL will deduct the amounts of TDS as per statutory requirement under the income tax act and the DVAT Act and certificates (wherever applicable) will be issued to associate accordingly.

The Engineer-in-Charge as stated in the Order shall be responsible for certification of the work executed and the bills. Bills (including original) shall be submitted in triplicate at RECPDCL Corporate Office, Noida.

#### **5. Quantity Variation**

Payment will be made on the basis of actual quantity of supplies/actual measurement of works accepted by RECPDCL and not on the basis of contract quantity.

#### **6. Full and Final Payment**

Full & Final Payment in all contracts shall be made subject to the associate submitting “No Demand Certificate” in the format as per Annexure-D.

#### **7. Mode of Payment**

Payment shall be made through NEFT/Cheque/RTGS mode for which Business Associated shall submit the details of Bank Account and other details. Further, for any payments made, RECPDCL is not responsible for any consequences/disputes Associate have among the owners channel partners, sub-Associates and all such dispute/concerns shall be settled solely by the Associate.

The quantities of items indicated are estimated and preliminary. However, payments shall be made on the basis of actual quantity of work carried out and measured jointly by the Company and the Associate. Associates shall be responsible to organize joint measurements of works with RECPDCL Engineer-in-Charge before raising any bill of work done. In the event Associate fails to do so, RECPDCL at their sole discretion, may take measurements of work done and proceed as deemed fit and in such an event Associate’s right to lodge any subsequent claim shall stand forfeited.

**8. Penalty:**

The completion time of the project shall be monitored as per milestones mentioned above. Any delay in compliance to the milestone timelines shall lead to Penalty, and shall be deducted from the payments due under the Contract or by invoking the Contract Performance Bank Guarantee and/or otherwise, as per the following Penalty table–

Milestone	Timelines	% age penalty on Price
On Completion of works in all respects and Operational acceptance & Taking over of the complete system by RECPDCL and CED Project In-charge.	Within 6 months	Not Applicable
	Beyond 6 months	0.5% of Contract Value (excluding Post Implementation phase Value) per week or part thereof with maximum 5% of the contract value may be levied from the bill of the contractor.



#### **TAKING DELIVERY AND INSURANCE:**

1. The contractor has to materials in safe custody and transport to the respective sites and will be fully responsible for any damage to or loss of all materials at any stage during transportation or erection till taking over of the cable line by CED.
2. The Contractor has to open site store and ensure for safe custody of all the stored materials at his own cost.
3. The Contractor shall have total responsibility for the entire materials stored, loose, semi assembled and/or erected by him at site in his custody. The Contractor shall make suitable security arrangements at his own cost to ensure the protection of all materials, equipment and works from theft, fire pilferage and any other damages and loss. It shall be the responsibility of the contractor to arrange for security till the works are finally taken over by the CED.

#### **STORAGE-CUM-INSURANCE**

The contractor shall take suitable storage-cum-erection insurance cover at his cost to the extent of 100 % cost of all major materials, which are required to complete the work under scope of contractor. Contractor shall have to take comprehensive insurance policy against any loss, damage, theft, pilferage, fire etc. for the complete period of storage, erection and commissioning up to the time of taking over of installation work by CED. The Contractor shall deal directly and pursue the claim with the Insurance Company and shall be responsible in regard to maintenance of all insurance coverage as well as for settlement of claim. The proof of insurance policy taken by the successful Contractor shall be furnished to Engineer-In-Charge. In absence of the above insurance policy, R.A. Bill payment will be withheld.

In the event of any damage, theft, loss, pilferage, fire etc., Contractor will be responsible to lodge, pursue and settle all the claims with the Insurance Company for all items, materials and the RECPDCL/CED shall be kept informed about it. Contractor shall replace the lost / damaged materials / items promptly irrespective of the settlement of the claims by underwriter and ensure that the work progress is as per agreed schedule. The loss, if any, such replacement will have to be borne by the Contractor and RECPDCL/CED will not entertain any claim / representation in this regard. However it will be contractor's responsibility to insure the entire project till the cable lines are taken over by the CED.

#### **Insurance:**

The Contractor at his cost shall arrange, secure and maintain all insurance as may be pertinent to the Works and obligatory in terms of law to protect his interest and interests of the Owner against all perils detailed herein. The form and the limit of such insurance as defined herein together with the underwriter in each case shall be acceptable to the Owner. However, irrespective of such acceptance, the responsibility to maintain adequate insurance coverage at all time during the period of Contract shall be of Contractor alone. The Contractor's failure in this regard shall not relieve him of any of his contractual responsibilities and obligations. The insurance covers to be taken by the Contractor shall be in the joint name of the CED and the Contractor. The Contractor shall, however, be authorized to deal directly with Insurance Company or Companies and shall be responsible in regard to maintenance of all insurance covers. Further the insurance should be in freely convertible currency.

Any loss or damage to the equipment/materials during handling, transportation, storage, erection, putting into satisfactory operation and all activities to be performed till the successful completion of commissioning of the equipment/materials cable line shall be to the account of the Contractor. The Contractor shall be responsible for preference of all claims and make good the damages or loss by way of repairs and/or replacement of the equipment, damaged or lost. The transfer of title shall not in any way relieve the Contractor of the above responsibilities during the period of Contract. The Contractor shall provide the Owner with copy of all insurance policies and documents taken out by him in pursuance of the Contract. Such copies of documents shall be submitted to the Owner immediately after such insurance coverage. The Contractor shall also inform the Owner in writing at least sixty (60) days in advance regarding the expiry/cancellation and/or change in any of such documents and ensure revalidation, renewal etc., as may be necessary well in time.

The perils required to be covered under the insurance shall include, but not be limited to fire and allied risks, miscellaneous accidents (erection risks) workman compensation risks, loss or damage in transit, theft, pilferage, earth quake, riot and strikes and malicious damages, civil commotion, weather conditions, accidents of all kinds, etc. The scope of such insurance shall be adequate to cover the replacement/reinstatement cost of the equipment for all risks up to and including delivery of goods and other costs till the equipment is delivered at Site. The insurance policies to be taken should be on replacement value basis and/or incorporating escalation clause. Notwithstanding the extent of insurance cover and the amount of claim available from the underwriters, the Contractor shall be liable to make good the full replacement/rectification value of all equipment/materials and to ensure their availability as per project requirements.

All costs on account of insurance liabilities covered under the Contract will be on Contractor's account and will be included in Contract Price, However, the Owner may from time to time, during the pendency of the Contract, ask the Contractor in writing to limit the insurance coverage, risks and in such a case, the parties to the Contract will agree for a mutual settlement, for reduction in Contract price to the extent of reduced premia amount. The Contractor, while arranging the insurance shall ensure to obtain all discounts on premia which may be available for higher volume or for reason of financing arrangement of the project.

The clause entitled 'Insurance' covers the insurance requirements for the portion of the works to be performed at the Site.

The completion time of the project shall be monitored as per milestones mentioned above. Any delay in compliance to the milestone timelines shall lead to Penalty, and shall be deducted from the payments due under the Contract or by invoking the Contract Performance Bank Guarantee and/or otherwise, as per the Penalty table under payment terms.

**SECTION-V****GENERAL CONDITIONS OF TENDER**

1. The bidder must fulfil the above eligibility criteria/pre-qualifying conditions for evaluation of their bids. Bids of bidders fulfilling the above eligibility/pre-qualifying conditions will only be evaluated by the duly constituted evaluation committee. Bids of the bidders not fulfilling the eligibility/pre-qualifying conditions given above may be summarily rejected. Undertaking for subsequent submission of any of the above documents will not be entertained under any circumstances.
2. RECPDCL reserves the right to conduct the reverse auction (if required) for the products/ services being asked in the tender. The terms and conditions for such reverse auction event shall be as per the Acceptance Form attached as GCC Annexure - F of this document. The bidders shall mandatorily submit a duly signed copy of the Acceptance Form along with the tender document as a token of acceptance.
3. RECPDCL reserve the right to verify/confirm all original documentary evidence submitted by the bidder in support of above mentioned clauses of eligibility criteria, failure to produce the same within the period as and when required and notified in writing by RECPDCL shall result in summarily rejection of the bid.
4. Engagement with RECPDCL does not confer any right to the agencies to be invited for participating in any bids, tender etc. floated by RECPDCL. RECPDCL reserves the right to call bids/assign work/associate the agency/agencies in any area as may be deemed fit by RECPDCL depending upon the profile provided by the agencies and requirement of assignment.
5. RECPDCL reserves the right to accept or reject any or all requests for engagement without assigning any reason or to accept in parts and engage more than one agencies at its sole discretion.
6. Acceptance of the application(s) constitutes no form of commitment on the part of RECPDCL. Furthermore, this acceptance of the application confers neither the right nor an expectation on any application to participate in the proposed project.
7. RECPDCL reserve the right to waive off any shortfalls; accept the whole, accept part of or reject any or all responses to the Tender.
8. RECPDCL reserve the right to call for fresh tenders at any stage and /or time as per the present and /or envisaged RECPDCL requirements even if the tender is in evaluation stage.
9. RECPDCL reserve the right to modify, expand, restrict, scrap, and re-float the tender without assigning any reason for the same.
10. The responder shall bear all costs associated with the preparation and submission of its response, and RECPDCL will in no case be responsible or liable for these costs, regardless of the conduct or the outcome of the tender process.
11. RECPDCL reserves the right to increase or decrease the quantity (on same rate and terms and conditions) by another  $\pm 20\%$  if required.
12. For all equipment, the bidder shall provide warranty for a period of 12 months from the date of commissioning for all supplied, installed and commissioned equipment.
13. Sub-contracting of the work is not permitted. In case of minor or field work, sub-contracting shall be permitted subject to RECPDCL prior approval.

**14. Performance Security:** The agency need to deposit within fifteen (15) working days from the date of acceptance of work order, a Performance Security in the form of Bank Guarantee or Demand Draft (DD), for an amount of 10% (Ten per cent) of the Tender value for the due performance and fulfilment of the contract by your firm which is valid for 60 months in the format placed at Annexure – C.

- a The Performance Bank Guarantee may be drawn from a scheduled commercial bank in favour of The “REC Power Distribution Company Ltd”, New Delhi.
- b The Performance Bank Guarantee may be discharged/ returned by the RECPDCL after the completion of the contract upon being satisfied for the performance of the obligations of your firm under the contract.
- c Failing to comply with the above requirement, or failure to enter into contract within 30 days or within such other extended period, as may be decided by the CEO, RECPDCL shall constitute sufficient grounds, among others, if any, for the annulment of the award of the tender.
- d In the event the firm being unable to provide the services, during the engagement period as per the contract for whatever reason, the Performance Bank Guarantee would be invoked by RECPDCL.
- e No Bank Charges/ interest shall be payable for the Performance Bank Guarantee.

**15. Rates and Prices**

- a Bidders should quote item-wise rates/ prices including all taxes and duties as mentioned in Form-III by explicitly mentioning the breakup of basic prices and applicable taxes.
- b Price quoted by bidder shall be firm for entire contract period.
- c Price quoted shall be firm and any variation in rates, prices or terms during validity of the offer shall lead to forfeiture of the EMD of said bidder.
- d The quoted prices shall be for delivery and installation at Chandigarh. The prices shall be FOR destination and shall include all charges, levies and duties for delivery and installation at the specified locations in Chandigarh UT. The exact details of location address etc. shall be provided along with the release order.
- e If it is found that the tax quoted is higher than the applicable tax, in that case only applicable taxes will be paid by RECPDCL and if the tax quoted is lower than the applicable tax, in that case only the quoted taxes will be paid by the RECPDCL and difference shall be on part of bidder.
- f In case of implementation of GST/New taxation policy etc. difference arises due to such taxes will be payable as per prevailing laws.
- g Rate quoted by the bidder shall remain firm & fixed and shall be binding on the Successful Bidder till completion of work irrespective of actual cost of execution of the project.

- h No escalation in rate quoted by the bidder will be granted on any reason whatsoever. The bidder shall not be entitled to claim any additional charges, even though it may be necessary to extend the completion period for any reasons whatsoever.
  - i The offer must be kept valid for a period of 180 days from the last date of bid submission. No escalation clause would be accepted. The validity can be further extended as per requirement of RECPDCL.
- 16. In case of default in services or denial of services, RECPDCL, at its sole discretion, will be free to avail services of other service providers at your "Risk & Cost".
- 17. All other terms and conditions of the GENERAL CONDITIONS OF CONTRACT shall be applicable.
- 18. Bidders are advised to refrain from taking any deviations on this TENDER. Still in case of any deviations, all such deviations from this tender document shall be set out by the Bidders, Clause by Clause in the format as mentioned in **Form IV** and submit the same as a part of the Technical Bid. Please note that in case of deviations to the tender terms, bids may be liable for rejection.
- 19. The equipment related drawings, manuals and other related document to be submitted and will remain the exclusive property of the CED, even after the termination or expiry of the contract. The ownership shall also remain with the CED in case the selected vendor fails to execute tasks to the satisfaction of the CED.
- 20. All Post implementation support period shall start from the date of Operational Acceptance and taking over of the project Work by RECPDCL/CED.
- 21. The above mentioned general terms and conditions will be integral part of detailed GCC attached as Annexure-GCC.
- 22. **INTEGRITY PACT (Annexure-H):-**The bidders have to submit integrity pact as per prescribed format on a non-judicial stamp paper of Rs. 100/- in 2 copies duly signed by the person signing the bid. The bidder shall not change the contents of "Integrity Pact".
- 23. In a tender either the Indian agent on behalf of the Principle /OEM or Principle / OEM itself can bid but both cannot bid simultaneously for the same item/product.
- 24. If an agent submits bid on behalf of the principal /OEM, the same agent shall not submit a bid on behalf of another principal /OEM in the same tender for the same item/product.

## **SECTION-VI**

### **ELIGIBILITY CRITERIA**

<b>PRE QUALIFYING REQUIREMENT</b>			
<b>TECHNICAL QUALIFYING REQUIREMENT</b>			
<b>Sr. No.</b>	<b>Description</b>	<b>Qualification Criteria</b>	<b>Evaluation/Documents Required</b>
1	Firm/Company Registration	Bidders can be a company incorporated under Companies Act, 1956 or 2013 including any amendment thereto or a Proprietorship Firm registered with competent authorities.	Certificate of Incorporation issued under Indian Companies Act 1956 or 2013 from Registrar of Companies to be submitted and/or firm registration certificate. In addition to above, copy of PAN and applicable VAT/ Service Tax Certificate should also be submitted.
2	Quality Certification	The Bidder should be an ISO 9001:2008 certified.	A valid ISO certificate on or before the date of publication of the tender.
3	Financial Strength	The minimum average annual turnover of the bidder shall be a minimum of ₹ 6 Crores during the any of 03 FYs during last 05 FYs ending 31st March of the previous financial year.	CA certified Annual financial statements, Audited Balance Sheet and P&L Account for the respective financial years to be submitted in this regard
4	Workforce Capability	The Bidder should have at least 5 personnel on its rolls with following criteria: 1. Minimum Qualification (B.E./B.Tech.) 2. Min. 03 years of experience in execution of such contracts of comparable nature. 3. 01 Project Manager with 05 years of experience	Signed resume of employees need to be submitted. Scanned signatures shall be accepted
5	"A" class electrical license	The bidder should possess "A" Class license issued by the Electrical inspectorate of Govt. of UT /Central Inspectorial organization of Govt. of India/ other state Govt. In case bid submitted in consortium, any of partner should possess "A" class electrical license as stated.	Copy of "A" class electrical license
<b>Note: Bids may also be submitted in consortium (having not more than three partners with one partner as lead partner) In such case lead partners of the Consortium should possess the above eligibility criteria except at Sr. no. 5.</b>			

Experience Qualification		
6	<p>i. The bidder must have successfully erected, tested, commissioned and laid 66 KV or higher voltage class Double Circuit Overhead Transmission Lines on Tubular Monopoles along with associated 66 KV line or higher voltage class Bays in a Single (1) turnkey contract in last 7 years as on the date of bid opening, having installation of at least 1.6 Km of route length and the system so created must be in satisfactory operation for at least two (2) years as on date of opening of bid,</p> <p>Or</p> <p>ii. The bidder must have successfully erected, tested, commissioned and laid 66 KV or higher voltage class Double Circuit Overhead Transmission Lines on Tubular Monopoles along with associated 66 KV line or higher voltage class Bays in a Two (2) turnkey contracts in last 7 years as on the date of bid opening, having installation of at least 1 Km each of route length and the system so created must be in satisfactory operation for at least two (2) years as on date of opening of bid,</p> <p>Or</p> <p>iii. The bidder must have successfully erected, tested, commissioned and laid 66 KV or higher voltage class Double Circuit Overhead Transmission Lines on Tubular Monopoles along with associated 66 KV line or higher voltage class Bays in a Three (3) turnkey contract in last 7 years as on the date of bid opening, having installation of at least 0.8 Km each of route length and the system so created must be in satisfactory operation for at least two (2) years as on date of opening of bid,</p>	Client's PO / WO / LOI / LOA / Contract and Certification on client letterhead/Performance certificate and contact details of clients as proof provided for the last 7 years needs to be submitted.
Consortium Guidelines & Experience		
7	<p>iv. Bids may also be submitted in consortium (having not more than three partners with one partner as lead partner) wherein</p> <p>a) All the partners should jointly meet qualification requirements set forth in para I(i) / I(ii) / I (iii) above,</p> <p>AND</p> <p>b) The lead partner should have successfully erected, tested, commissioned and laid 66 KV or higher voltage class Double Circuit Overhead Transmission Lines on Tubular Monopoles along with associated 66 KV line or higher voltage class Bays in a Single (1) turnkey contract in last 7 years as on the date of bid opening, having installation of at least 1 Km of route length and the system so created must be in satisfactory operation for</p>	Client's PO / WO / LOI / LOA / Contract and Certification on client letterhead/Performance certificate and contact details of clients as proof provided for the last 7 years needs to be submitted.

	<p>at least two (2) years as on date of opening of bid,</p> <p style="text-align: center;">AND</p> <p>c) Each of the other partners should have successfully erected, tested, commissioned and laid 66 KV or higher voltage class Double Circuit Overhead Transmission Lines on Tubular Monopoles along with associated 66 KV line or higher voltage class Bays in a Single (1) turnkey contract in last 7 years as on the date of bid opening, having installation of at least 0.5 Km of route length and the system so created must be in satisfactory operation for at least two (2) years as on date of opening of bid,</p>	
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**SECTION-VII****TENDER EVALUATION METHODOLOGY****OPENING OF BID:**

The Bidder or his authorized representative may be present at the time of opening of bid on the specified date, but a letter in the form annexed at (Form – I) hereto must be forwarded to this office along with bid and a copy of this letter must be produced in the office by the person attending the opening of bid. Unless this letter is presented by him, he may not be allowed to attend the opening of bid.

In case of unscheduled holiday on the closing/opening day of bid, the next working day will be treated as scheduled prescribed day of closing/opening of bid; the time notified remaining the same.

**EVALUATION OF BID****PRE-QUALIFYING CRITERIA**

Evaluation and comparison of bids will be done as per provisions of Pre-Qualifying Criteria supporting documents as proof of pre-qualifying criteria at section – VI. RECPDCL reserves the right to verify the site of operation for above activity and list of persons provided as per qualifying criteria and accordingly decide upon meeting the requirement.

The RECPDCL will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed and whether the bids are generally in order qualifying to which bids shall be summarily rejected.

**PRICE EVALUATION CRITERIA**

- 1.1 Bidders should quote their rates/prices in Indian Rupees only which shall be inclusive of all applicable taxes, duties, levies, insurance, transportation etc., applicable for entire scope of work as per Price Schedule included to Form - III of this tender document.
- 1.2 Bids shall be evaluated on the basis of the total evaluated value as per the quoted rates for the services mentioned in Scope of Work. The total evaluated price as per the evaluation methodology mentioned as under at Form - III of this tender document and the other details mentioned therein will be the basis for the evaluation purposes and for arriving at inter-se ranking of the various bidders of the tender.
- 1.3 Bid shall be evaluated as per the “Total Price of the Bidder for this tender” as mentioned in Form-III, which shall be filled by the bidder as a Financial Bid.

**AWARD CRITERIA**

The purchaser will award the contract to the successful bidder whose bid has been determined to be in full conformity to the bid documents and has been determined as the lowest evaluated bid.

**SECTION-VIII**  
**TENDER FORMATS**

< REFER ANNEXURE-GCC FOR DETAILED FORMS & ANNEXURES TO BE SUBMITTED >