

Amendment No. III

Tender Package Name:

Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15 on Turn Key Basis

Tender Specification No-

RECTPCL/PIA/JKPTCL/SS & LILO-I of 2020 Dated: 19-07-2017

S. No.	Clause No.	Existing Clause	To be Read As
1	Vol-I, Section –II, ITB	New Clause	Bidders are required to submit Notarized Undertaking related to Make in India, fundamental principles to public buying & Cyber Security (as per the Format being issued along with Amendment-III) as hard copy along with their Bid
2	Vol-I, Section-V, Special Conditions of Contract (SCC), Clause 3.0	“The Defect Liability Period: (i) Forty Eight (48) months from the date of Taking Over/Completion of Facilities for 220kV and 33kV voltage level GIS Circuit Breaker bay* to be supplied by the manufacturer who have established manufacturing/testing facilities for 220kV or above voltage level Gas Insulated Switchgear (GIS) in India based on technological support of Parent Company (Principals) or Collaborator(s) or Subsidiary Company as per the provision of bid document. (ii) Sixty (60) months from the date of Taking	“The Defect Liability Period: i) Sixty (60) months for (132kV/220kV/400kV Class) Transformer from the date of Taking Over/Completion of Facilities (or part thereof). For the purpose of this clause, the Measurable Defects as per the Technical Specifications shall also be considered for Transformer.

S. No.	Clause No.	Existing Clause	To be Read As
		<p>Over/Completion of Facilities for 220kV and 33kV voltage level GIS Circuit Breaker bay* to be supplied by the bidder from their Subsidiary or Group Company or a Joint Venture Company as per the provision of bid document.</p> <p>(iii) Sixty (60) months for (132kV/220kV/400kV Class) Transformer from the date of Taking Over/Completion of Facilities (or part thereof). For the purpose of this clause, the Measurable Defects as per the Technical Specifications shall also be considered for Transformer.</p> <p>(iv) Twelve (12) months from the date of Taking Over/Completion of Facilities for all equipment/materials other than those specified at (i), (ii) and (iii) above”.</p> <p><i>* One no. of Circuit Breaker bay shall be considered as a bay used for controlling a line or a transformer or a reactor or a bus section or a bus coupler and comprising of at least one circuit breaker, one disconnecter and three nos. of single phase CTs / Bushing CTs.</i></p> <p>Where any part of the Works is taken over separately, the Defects Liability Period for that part shall commence on the date it was taken over.</p>	<p>ii) Twelve (12) months from the date of Taking Over/Completion of Facilities for all equipment/materials other than those specified at (i) above”.</p> <p>Where any part of the Works is taken over separately, the Defects Liability Period for that part shall commence on the date it was taken over.</p>
3	Vol-I, Section-II, Instruction To Bidder, Clause 5.4	All the Bidders except those exempted pursuant to ITB Sub-Clause-5.5 shall submit along with the hard copy part of bid a non-refundable fee as mentioned below towards the cost of Bidding Documents in the form of demand draft in favour of REC Transmission Projects Company Limited, payable at New Delhi.	All the Bidders except those exempted pursuant to ITB Sub-Clause-5.5 shall submit along with the hard copy part of bid a non-refundable fee as mentioned below towards the cost of Bidding Documents in the form of demand draft in favour

S. No.	Clause No.	Existing Clause	To be Read As
		<p>The non-refundable fee towards the cost of Bidding Documents shall be INR 25,000/- Any bid not accompanied by an acceptable Demand Draft towards the cost of Bidding Documents, except as exempted in ITB Sub- Clause 5.5 below, shall be rejected by the Employer as being nonresponsive.</p>	<p>of REC Transmission Projects Company Limited, payable at New Delhi.</p> <p>The Fee may also be paid through on line mode as per below mentioned details:</p> <p>Account Name: REC TRANSMISSION PROJECTS COMPANY LIMITED Bank Name: YES BANK LTD. Bank Branch Address: 56, Janpath, Alps Bldg, Connaught Place, New Delhi – 110001 Bank Account No.: 013681400001736 IFSC Code: YESB0000136</p> <p>The non-refundable fee towards the cost of Bidding Documents shall be INR 25,000/- Any bid not accompanied by an acceptable mode of payment towards the cost of Bidding Documents, except as exempted in ITB Sub- Clause 5.5 below, shall be rejected by the Employer as being nonresponsive.</p>
4	Vol-I, Section-II, Instruction To Bidder, Clause 9 (I)	<p>Documents Comprising the Bid</p> <p>I. Hard Copy Part</p> <p>Hard copy part of the bid shall comprise of following documents to be submitted in sealed envelope, as part of First Envelope</p>	<p>Documents Comprising the Bid</p> <p>I. Hard Copy Part</p> <p>Hard copy part of the bid shall comprise of following documents to be submitted in sealed envelope, as part of First Envelope</p> <p>(i) DD towards Bidding Document fee/Proof for deposit of Tender Fee of the amount as</p>

S. No.	Clause No.	Existing Clause	To be Read As
		(i) DD towards Bidding Document fee of the amount as specified in the in accordance with clause 5.4 of ITB or documentary evidence in support of exemption of Bidding Document fee as per ITB 5.5 -----	specified in the in accordance with clause 5.4 of ITB or documentary evidence in support of exemption of Bidding Document fee as per ITB 5.5 -----
5	Vol-II List Of Approved Makes Of Materials	-	Please find attached List of Approved Makes for EHV equipment at Annexure-A of Amendment-III.
6	Vol-II, Section-XXIII, Drawings	Single Line Diagram	Please find attached Single Line Diagram at Annexure-B of Amendment-III.
7	Vol-II, Section-I, Technical Specification Part-II (Lilo), Clause 1.0, Sub-Clause 1.4	Access to the Line and Right of Way Right of way and way leave clearance shall be arranged by the Employer in accordance with work schedules. Employer will secure way leave and Right of way in the Forest area.	Employer's/ Owner's Responsibilities 1. The Employer/ Owner shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract, including all requisite rights of way, to the Contract Agreement. 2. The Employer/Owner shall acquire and pay for all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located which such authorities or undertakings require the

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			<p>Employer/owner to obtain them in the Employer's/Owner's name, are necessary for the execution of the Contract (they include those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract).</p> <p>Successful Bidder shall facilitate the Employer/ Owner in preparation of requisite documents etc. for getting RoW, Forest Clearance etc.</p>																																													
8	Vol-I; Section IX; Appendix-8 (Pre Contract Integrity Pact)	Integrity Pact	2 Nos. Original Copies of Pre Contract Integrity Pact is to be submitted on Rs. 100 Stamp Paper.																																													
9	<p>Vol. II Technical Specification Section –I Project Clause No. 2 Point B “Part-II Staff Quarters at Nagrota AIS”</p> <p>&</p> <p>Technical Specifications for Civil Works Clause 1</p>	<p>..... Details of Residential Quarters:</p> <table border="1" data-bbox="604 1052 1318 1382"> <thead> <tr> <th>S. No.</th> <th>Particulars</th> <th>Qty.</th> <th>Area</th> <th>Configuration</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Ornamental Works such as development of lawns and landscaping</td> <td>L/S</td> <td>Job</td> <td></td> </tr> <tr> <td>2.</td> <td>LT Distribution and Street Lighting</td> <td>L/S</td> <td>Job</td> <td></td> </tr> <tr> <td>3.</td> <td>Residential Quarters</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	S. No.	Particulars	Qty.	Area	Configuration	1.	Ornamental Works such as development of lawns and landscaping	L/S	Job		2.	LT Distribution and Street Lighting	L/S	Job		3.	Residential Quarters				<p>..... Details of Residential Quarters:</p> <table border="1" data-bbox="1381 943 1976 1414"> <thead> <tr> <th>S. No.</th> <th>Particulars</th> <th>Qty.</th> <th>Area</th> <th>Configuration</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Ornamental Works such as development of lawns and landscaping</td> <td>L/S</td> <td>Job</td> <td></td> </tr> <tr> <td>2.</td> <td>LT Distribution and Street Lighting</td> <td>L/S</td> <td>Job</td> <td></td> </tr> <tr> <td>3.</td> <td>Residential Quarters</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.1</td> <td>JEs Quarter -4 nos.</td> <td>4</td> <td>2500</td> <td>Double</td> </tr> </tbody> </table>	S. No.	Particulars	Qty.	Area	Configuration	1.	Ornamental Works such as development of lawns and landscaping	L/S	Job		2.	LT Distribution and Street Lighting	L/S	Job		3.	Residential Quarters				3.1	JEs Quarter -4 nos.	4	2500	Double
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	General Scope of Work under “Scope of Work” (Page No. 2 of 22) & Clause No. 14.2 Residential Staff Quarters under Table “Tentative Carpet Area Requirement” (Page No. 10 of 22)	3.1	JEs Quarter -4 nos. (1 Block of 2 GF+2FF with common stairs)	4 Nos.	2500 Sq.Ft.	Double Story		(1 Block of 2 GF+2FF with common stairs)	Nos.	Sq.Ft.	Story
		3.2	SBA's Quarter – 4 nos.	4 Nos.	1200 Sq.Ft.		3.2	SBA's Quarter-total 8 Nos. in 2 Blocks. Each Block having 2 Units of GF and 2 units of FF with Common Stairs)	8 Nos.	2400 Sq.Ft.	Double Story
		4.	Roads for colony	L/S					L/S		
		5.	Water supply incl. tube-well reservoirs etc.	Job		Job			Job	Job	
		6.	Santry/Security Post	L/S	Job		6.	Santry/Security Post	L/S	Job	
										
										
										

(Format for Notarized Undertaking, related to Make in India & Cyber Security)

(To be Submitted by the Bidder on Rs. 100 Stamp Paper)

We hereby agree and undertake to procure the products associated with the Transmission System under **Tender Specification No-RECTPCL/PIA/JKPTCL/SS & LILO-I of 2020 Dated: 19-07-2017**, i.e. “ Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15 on Turn Key Basis” in compliance with the following:

- a) As per provisions of Public Procurement (Preference to Make in India) orders issued by Ministry of Power vide orders No. 11/5/2018 - Coord. dated 28.07.2020 for transmission sector, as amended from time to time read with Department for Promotion of Industry and Internal Trade (DPIIT) orders in this regard.
- b) As per Ministry of Power, GoI, Order No.25-1 I/6/2018-PG, dated 02.07.2020 related to cyber security, as amended from time to time.
- c) As per Department of Expenditure, Ministry of Finance, GoI Office Memorandum no. 6/18/2019-PPD dated 23.07.2020 regarding amendment to fundamental principles to public buying, as amended from time to time.

(Authorized Signatory)

Date -

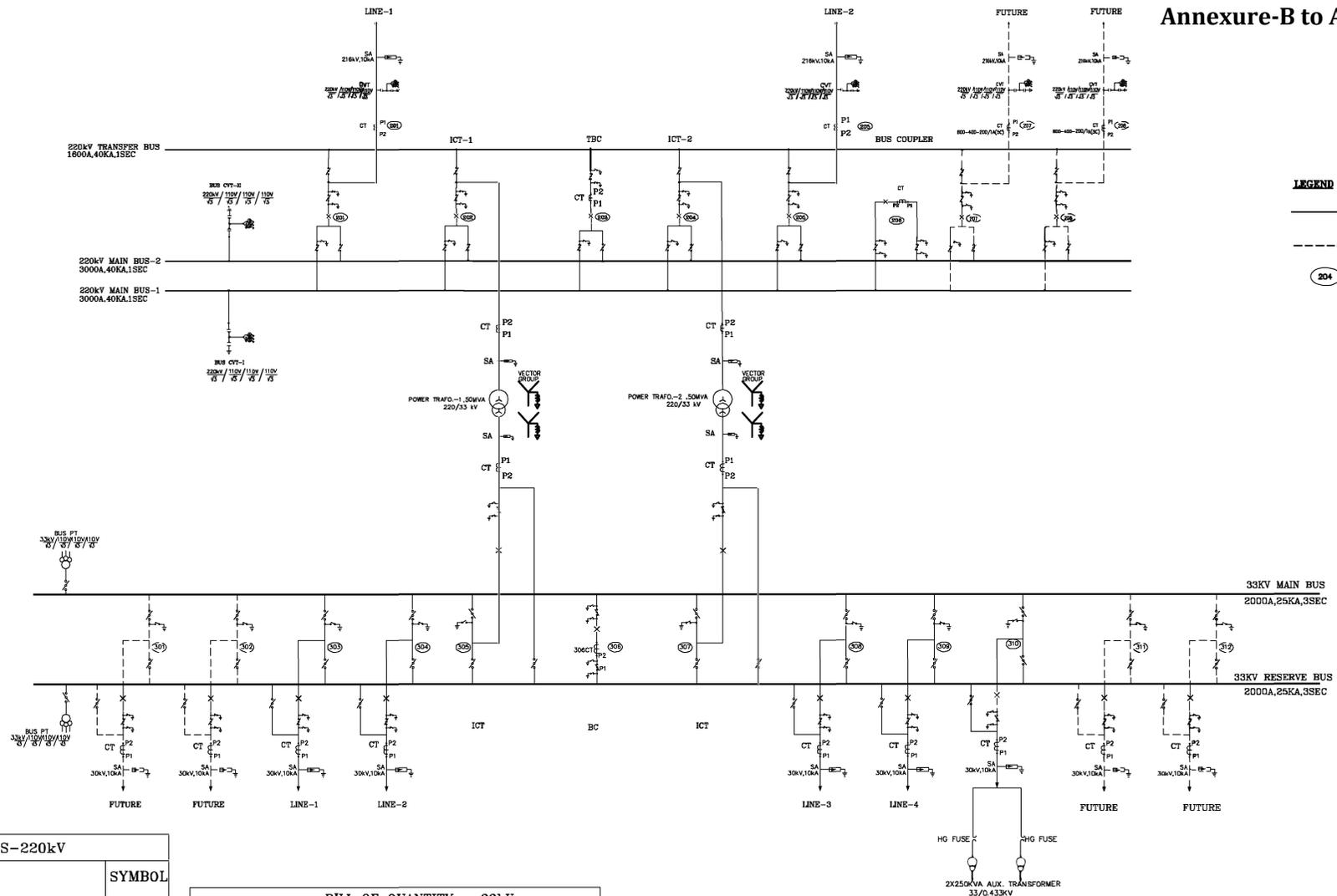
Place -

<u>LIST OF PROPOSED SUPPLIERS/SUB-CONTRACTORS</u>		
Sl. No.	DESCRIPTION OF EQUIPMENT	NAME OF THE SUPPLIERS
1	220/33-33kV Auto Transformer	Toshiba/CGL/Bharat Bijlee/ABB/Siemens/BHEL/Kanohar/ EMCO/T&R
2	SHUNT REACTOR	CG/ALSTOM/Siemens/TBEA and Other Approved Vendor of POWERGRID
3	245kV Circuit Breaker	CGL/GE/ABB/Siemens/ALSTOM
4	245kV Capacitive Voltage Transformer	CGL/GE/ABB/Siemens/ALSTOM/BHEL/MEHRU
5	245kV Voltage Transformer	CGL/GE/ABB/Siemens/ALSTOM/MEHRU/SCT and Other Approved Vendor of POWERGRID
6	245kV Current Transformer	CGL/GE/ABB/Siemens/Mehru/ BHEL/ALSTOM/TOSHIBA/SCT and Other Approved Vendor of POWERGRID
7	245kV ISOLATOR	ABB /Siemens/GR Power/S&S/HIVELM/Switchgear & Structures
8	36kV ISOLATOR	ABB /Siemens/GR Power/HIVELM/Universal/Electrolites/Ultima/Switchgear & Structures
9	245 kV & 36kV Surge Arrester	Oblum/Lamco/CGL
10	Control & Relay Panel	Schneider/ABB/Siemens /GE India/BHEL/ALSTOM/ZIV/L&T and Other Approved Venders of POWERGRID
11	Substation Automation	Schneider/ABB/Siemens /GE India/ALSTOM/ZIV/L&T and Other Approved Vendor of POWERGRID
12	DIGITAL PROTECTION COUPLER	ABB/ALSTOM/ZIV-Spain/Siemens and Other Approved Vendor of POWERGRID
13	33kV HT Cable	KEI/Paramount/HAVELLS/Polycab/RPG
14	1.1 kV Power & Control Cables(PVC)	Polycab Cables/ KEI/Gemscab/Paramount Cables/Havells/RPG/ LASER and Other Approved Vendor of POWERGRID
15	1.1 kV XLPE Power Cables	KEI/ Paramount/Universal Gemscab/Krishna/Havells and Other Approved Vendor of POWERGRID
16	110V & 48V Battery	Amara Raja/Exide/HBL
17	110V & 48V Battery Charger	STATCON/HBL/Amara Raja/ Chabbl/Caldyne/Chloride
18	LT Switchgear	Vikas Engg./Unilec/ Jackson/SPACEAGE/Jasper/Nitya/BHEL/Maktel/Control & Switchgear and Other Approved Vendor of POWERGRID
19	LT Transformer	ABB/ TESLA/Toshiba/Technical Associate/East India/Vijay

20	33kV Indoor Switchgear (GIS Type)	Siemen Germany/Switchgear/CGL/ABB/L&T/Scheinder
21	132 & 220 kV INDOOR SWITCHGEAR (GIS TYPE)	ABB/GE/Siemens/NHVS/HYOSUNG/CGL

Note:

1. Contractor may propose new make/sub-vendor meeting technical (qualifying) requirement as stipulated in technical Specification for above mentioned brought-out items within 90 days from the date of NOA for approval of RECTPCL. The cost of assessment shall borne by contractor in case of new vendors as per RECTPCL requirement.



LEGEND

———— PRESENT SCOPE

----- FUTURE

(204) BUS NUMBERS

BILL OF QUANTITIES-220kV

SL. NO.	DESCRIPTION	SYMBOL
1	50 MVA,220/33kV POWER TRANSFORMER (3-PH).	
2	2500A,40KA,1SEC, SF-6 CIRCUIT BREAKER (3-PH).	
3	160DA,40KA DOUBLE BREAK ISOLATOR WITH ONE EARTH SWITCH (3-PH).	
4	160DA,40KA DOUBLE BREAK ISOLATOR WITH TWO EARTH SWITCHES (3-PH).	
5	250DA,40KA DOUBLE BREAK ISOLATOR WITH TWO EARTH SWITCHES (3-PH).	
6	160DA,40KA DOUBLE BREAK ISOLATOR WITHOUT EARTH SWITCH (3-PH) - TANDEM TYPE	
7	800A,40KA,5CORE 120% CURRENT TRANSFORMER (1-PH)	
8	1600A,40KA,5CORE 150% CURRENT TRANSFORMER (1-PH)	
9	245kV CAPACITOR VOLTAGE TRANSFORMER (1-PH) 4400 PF, $\frac{220kV}{\sqrt{3}} / \frac{110V}{\sqrt{3}} / \frac{110V}{\sqrt{3}}$	
10	216kV, 10KA SURGE ARRESTOR (1-PH)	

BILL OF QUANTITY - 33kV

SL. NO.	DESCRIPTION	SYMBOL
1	LT TRANSFORMER 250kVA, 33/0.433kV (3-PH).	
2	1250A, 25kA, 3-PH CIRCUIT BREAKER	
3	2500A, 25kA, 3-PH CIRCUIT BREAKER	
4	36kV,120DA,25KA,1-PH 120% CURRENT TRANSFORMER (1-PH)	
5	36kV,200DA,25KA,1-PH 150% CURRENT TRANSFORMER (1-PH)	
6	33kV POTENTIAL TRANSFORMER, $\frac{33kV}{\sqrt{3}} / \frac{110V}{\sqrt{3}} / \frac{110V}{\sqrt{3}}$	
7	HORIZONTAL DOUBLE BREAK ISOLATOR WITH ONE E/S 1250A, 25kA, 1SEC (3-PH)	
8	HORIZONTAL DOUBLE BREAK ISOLATOR WITHOUT E/S 1250A, 25kA 1SEC (3-PH)	
9	HORIZONTAL DOUBLE BREAK ISOLATOR WITH TWO E/S 1250A, 25kA, 1SEC (3-PH)	
10	HORIZONTAL DOUBLE BREAK ISOLATOR WITH TWO E/S 2500A, 25kA, 1SEC (3-PH)	
11	SURGE ARRESTER 30KV, 1DKA (1-PH).	
12	HORNGAP FUSE 36KV, 400A (1-PH).	

FOR TENDER PURPOSE ONLY

REC Transmission Project Company Limited

**PROJECT :
2X50MVA,220/33KV NAGROTA GRID STATION(DISTRICT JAMMU)**

**TITLE :
SINGLE LINE DIAGRAM**

PRICE ADJUSTMENT

- 1.0 General
- 1.1 Prices for work and materials covered under the scope of this Specification shall be furnished by the bidder in the manner specified in the Bid Form & Price Schedules. The bidder shall quote base prices for the Ex-Works price component of the equipment/materials, the complete equipment procured as spares (Transformers, CB, ISO, CT, CVT & SA only) and installation (including civil works) price component of the equipment/materials. These price components for certain equipment/ materials, as specified, shall be subject to price adjustment to reflect changes in the cost of labour and material components as per the provisions given below:
- 1.2 All Ex-Works Price Components for Installation Hardware, Control and Relay Panels, PLCC Equipment, Wave Traps, Bus Post Insulators, Fire Protection Systems, Illumination System, L.T. Switchgear, IPS Aluminium Tube, Spares etc. and other items not specifically mentioned below shall remain firm and no price adjustment shall be applicable for the price components of these items.
- 1.3 The Ex-Works Price Components for tower accessories such as danger plate, phase plate, circuit plates, number plate, anti-climbing device, span marker, bird guards, pipe, counterpoise earthing, obstruction lights, Flexible Copper Bond, Insulators etc. shall remain firm and no price adjustment shall be applicable for the price components of these items. Ex-Works Price Components for OPGW shall also remain firm and no price adjustment shall be applicable for this item.
- 1.4 Other Charges viz. inland transportation, inland insurance, type test charges, survey, soil investigation & painting of towers computer studies (if any) & training charges etc. shall be firm and no price variation shall be payable for these components.
- 2.0 Ex-works Price Component for Substation Portion

The formulae for calculating the price adjustment to be applied to the Ex-works price component of the equipment/material will be as follows:

A (i). Power Transformer (excluding Insulating Oil)

$$P_1 = P_0 \times \{0.15 + a \times (A_1/A_0) + b \times (B_1/B_0) + c \times (C_1/C_0) + d \times (D_1/D_0) + l \times (L_1/L_0)\} - P_0$$

Where,

P_1 = Price adjustment amount, shipment-wise (if it works out negative, that would mean the amount to be recovered by the Employer from the Contractor).

P_0 = Ex-works price of Power Transformer (excluding Insulating Oil).

A, B, C, D & L = Corresponding recognized price indices published by IEEMA for various materials used in the equipment (except insulating oil) and Labour respectively.

a, b, c & d = Coefficients for copper, electrical lamination steel, Ferrous metals & insulating material respectively for Power Transformer. The sum of these coefficients shall be between 0.65 and 0.73

l = Coefficient of labour, value of which shall be between 0.12 and 0.20. Further the coefficient a, b, c, d & l should be so selected that their summation shall be equal to 0.85.

A(ii). For Insulating Oil for Power Transformer

$$P_2 = P_0 \times \{0.15 + 0.85 \times (E_1/E_0)\} - P_0$$

P_2 = Price adjustment amount for insulating oil, payable to Contractor for each shipment.

P_0 = Ex-works price of insulating oil, shipment-wise.

E = Recognized price indices published by IEEMA for Insulating oil.

B. L.T. Transformer

$$P_1 = P_0 \times \{0.15 + a \times (A_1/A_0) + b \times (B_1/B_0) + c \times (C_1/C_0) + d \times (D_1/D_0) + e \times (E_1/E_0) + l \times (L_1/L_0)\} - P_0$$

Where,

P_1 = Price adjustment amount expressed in currency of Bid, for each shipment.

P_0 = Ex-works price of L.T. Transformer, in currency of Bid, shipment wise.

A, B, C, D, E & L = Published recognized price indices for the materials identified as below and Labour respectively.

a, b, c, d, e = Value of corresponding co-efficients for Copper, Electrical lamination Steel, Construction Steel, Insulating Material and Oil respectively. The sum of these coefficients shall be between 0.65 and 0.73.

l = The coefficient of labour, which shall be between 0.12 and 0.20.

Further the coefficient a, b, c, d, e & l should be so selected so that their summation shall be equal to 0.85.

For both A & B above:

1) Subscript '0' refers to indices as on 30 days prior to date of bid opening.

2) Subscript '1' refers to indices as on 60 days prior to date of shipment of Material.

C. Circuit Breaker, Current Transformer, Capacitance Voltage Transformer, Isolator and Surge Arrestor

$$P_1 = P_0 \times \{0.15 + a \times (A_1/A_0) + b \times (B_1/B_0) + c \times (C_1/C_0) + d \times (D_1/D_0) + l \times (L_1/L_0)\} - P_0$$

Where,

P_1 = Price adjustment amount for each shipment.

P_0 = Ex-works price of the respective equipment.

A, B, C, D = Price indices of raw materials used in the equipment as published by IEEMA.

L = Indian field labour index – namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

a, b, c, d = The value of corresponding coefficients of raw materials used and the sum of which should be between 0.55 to 0.65.

l = Co-efficient for labour component.

These coefficients are estimated percentage of major raw material/labour component involved in the Ex-works price of equipment such that their summation shall be equal to 0.85.

D. PVC/XLPE Insulated Power and Control Cables

$$P_1 = P_0 \times \{0.85 + 0.15 \times (A_1/A_0)\} - P_0 + (M_1 - M_0)$$

Where,

P_1 = Price adjustment amount per Km. of cable.

P_0 = Ex-works price per Km. of cable.

A = Price index for PVC/XLPE as published by IEEMA.

$M_1 - M_0$ = Change in metal component of the ex-works price of particular type & size of cable.

Where,

M = Weight in MT of metal per Km. of Cable x Price index of metal per MT as published by IEEMA.

The Bidder has to specify in his Bid metal component per Km. for each type and size of cable.

E. Sub Station Structures (including Bolts & Nuts)**For Lattice & Pipe Structures (including washers, foundation bolts and Bolts & Nuts).**

$$P_1 = P_0 \times \{0.15 + 0.58 \times (A_1/A_0) + 0.16 (B_1/B_0) + 0.11 (L_1/L_0)\} - P_0$$

Where,

P_1 = Price adjustment amount shipment-wise.

P_0 = Ex-works price of Lattice & Pipe Type Structure including washers, foundation bolts, bolts & nuts.

A = JPC Market Price (Retail) for average Price of Steel Angles of size 50 x 50 x 6 mm of all cities in Rs./MT as published by Joint Plant Committee(JPC).

B = Price indices of electrolytic zinc as published by IEEMA.

L = Indian field labour index – namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

- 2.2 i) Subscript '0' refers to indices as on thirty (30) days prior to date of opening of Bids, for materials & labour.
- ii) Subscript '1' refers to indices and exchange rate as applicable on:
- Sixty (60) days prior to the date of shipment for Labour.
 - At the expiry of two third (2/3) period from the date of base index to the date of shipment for materials in case of CB, CT, CVT, ISO and SA.
 - Sixty (60) days prior to the date of shipment for materials in case of Power & Control Cables and Sub-station structure.

- 2.3 The total adjustment for CB, CT, CVT, SA, ISO, PVC/XLPE insulated Power & Control Cables and Sub-Station Structures (including bolts & nuts) shall be subject to a ceiling of $\pm 20\%$ individually of respective Ex-Works price of CB, CT, CVT, SA, ISO, PVC/XLPE insulated Power & Control Cables and Sub-Station Structures (including bolts & nuts).

However, the total price adjustment for L.T. Transformer, Power Transformer and Insulating Oil for Power Transformer for each shipment shall not be subject to any ceiling whatsoever.

3. Ex-works Price Component for Transmission Line Portion

The formulae for calculating the price adjustment to be applied to the Ex-works price component of the equipment/material will be as follows:

A. Fabricated Tower Parts (including Bolts & Nuts)

$$EC_1 = EC_0 [0.15 + a \times (A_1/A_0) + b \times B_1/B_0 + l \times (L_1/L_0)] - EC_0$$

Where, EC_1 is the price adjustment amount payable on ex-works prices of fabricated tower parts (including Bolts & Nuts), shipment-wise.

EC_0 = Ex-works price component of fabricated tower parts (including ex-works price of Bolts & Nuts) shipment-wise.

A = Price of Steel Blooms of size 150 mm x 150 mm, as published by IEEMA.

B = Price for Electrolytic High Grade Zinc, as published by IEEMA.

L = Indian field labour index – namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

a = Co-efficient of Steel Blooms, Value of which shall be between 0.51 & 0.57.

b = Co-efficient of Zinc, Value of which shall be between 0.08 & 0.10

l = Co-efficient of labour, Value of which shall be between 0.20 & 0.24.

and the sum of a, b & l shall be 0.85.

B. Line Materials

B.1 Hardware Fittings

$$EC_{HW1} = EC_{HW} [0.20 + a \times (A_1/A_0) + b \times (B_1/B_0) + c \times (C_1/C_0) + l \times (L_1/L_0)] - EC_{HW}$$

EC_{HW1} = Price adjustment amount payable on Ex-works price of Hardware Fittings, shipment-wise.

EC_{HW} = Ex-works price for Hardware fittings, shipment-wise.

A = Price indices for EC Grade Aluminium Ingots, as published by IEEMA.

B = Price indices for Electrolytic High Grade Zinc, as published by IEEMA.

C = Wholesale Price Index Number for `Ferrous Metals'(Group Item) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

L = Indian field labour index – namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

a = Co-efficient of EC Grade Aluminum Ingots, Value of which shall be between 0.35 & 0.45.

b = Co-efficient of Electrolytic High Grade Zinc, Value of which shall be between 0.04 & 0.06.

c = Co-efficient of Ferrous Metal, Value of which shall be between 0.18 & 0.22.

l = Co-efficient of labour, Value of which shall be between 0.13 & 0.17.

and the sum of a, b, c & l shall be 0.80.

B.2 Conductor Accessories:

(i) Mid Span Compression Joint for Conductor, Repair Sleeve for conductor

$$EC_1 = EC_0 [0.20 + a \times (A_1/A_0) + l \times (L_1/L_0)] - EC_0$$

Where,

a = Co-efficient of EC Grade Aluminum Ingots, Value of which shall be between 0.63 & 0.67.

l = Co-efficient of labour, Value of which shall be between 0.13 & 0.17.

and the sum of a & l shall be 0.80.

(ii) Vibration Damper for Conductor

$$EC_1 = EC_0 [0.20 + b \times (B_1/B_0) + c \times (C_1/C_0) + l \times (L_1/L_0)] - EC_0$$

Where,

b = Co-efficient of Electrolytic High Grade Zinc, Value of which shall be between 0.06 & 0.08.

c = Co-efficient of Ferrous Metal, Value of which shall be between 0.55 & 0.61.

l = Co-efficient of labour, Value of which shall be between 0.13 & 0.17.

and the sum of b, c & l shall be 0.80.

In the above formulae,

EC_1 = Price adjustment amount of respective items, shipment-wise.

EC_0 = Ex-works price for Conductor & Earthwire Accessories, shipment-wise.

A = Price indices for EC Grade Aluminium Ingots, as published by IEEMA.

B = Price indices for Electrolytic High Grade Zinc, as published by IEEMA.

C = Wholesale Price Index Number for `Ferrous Metals'(Group Item) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

L = Indian field labour index - namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

C. Composite Long Rod Insulators shall be on FIRM price basis.

D. Flexible Copper Bond shall be on Firm price basis.

3.1 i) Subscript '0' refers to indices for material & labour as on thirty (30) days & three (3) months prior to date of opening of Bids respectively.

ii) Subscript '1' refers to indices for material & labour as on 60 (sixty) days & four months prior to the date of shipment respectively.

3.2 The total adjustment for Hardware Fittings & Conductor Accessories shall be subject to a ceiling of $\pm 20\%$ individually of respective Ex-Works price of Hardware Fittings & Conductor Accessories.

However, the total price adjustment of fabricated tower parts (including Bolts & Nuts) shall not be subject to any ceiling whatsoever.

4. Insulator (Disc insulators/ Porcelain Long Rod Insulators)

4.1 The formulae for calculating the price adjustment to be applied to the Ex-works price component of Insulator will be as follows:

$$P_1 = P_0 \times \{0.15 + 0.05 \times (A_1/A_0) + 0.53 \times (B_1/B_0) + 0.27 \times (L_1/L_0)\} - P_0$$

Where,

P_1 = Price adjustment amount, shipment-wise (if it works out negative, that would mean the amount to be recovered by the Purchaser from the Supplier).

P_0 = Ex-works price of Insulator.

A, B & L are the indices for materials and labour as below:

A = Price Index of High Grade Zinc Ingots, as published by IEEMA /Nationally recognized published index acceptable to the Purchaser.

B = Wholesale Price Index Number for `Fuel & Power'(Group Item) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

L = Indian field labour index – namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

4.1.1 i) Subscript '0' refers to indices as on thirty (30) days prior to date of opening of Bids, for materials & labour.

ii) Subscript '1' refers to indices as applicable on:

a) Sixty (60) days prior to the date of shipment for Labour.

b) Sixty (60) days prior to the date of shipment for materials.

4.1.2 The total adjustment for Insulator shall be subject to a ceiling of twenty percent ($\pm 20\%$).

5.0 Conductor:

The formulae for calculating the price adjustment to be applied to the Ex-works price component of Conductor will be as follows:

$$P_1 = P_0 \times \{0.15 + a \times (A_1/A_0) + b \times (B_1/B_0) + c \times (C_1/C_0) + l \times (L_1/L_0)\} - P_0$$

Where,

P_1 = Price adjustment amount, shipment-wise (if it works out negative, that would mean the amount to be recovered by the Purchaser from the Supplier).

P_0 = Ex-works price of Conductor.

A, B & L are the indices for materials and labour as below:

A = Price Index of EC Grade Aluminium Ingots, as published by CACMAI/Nationally recognized published index acceptable to the Employer.

B = Price Index of High Carbon Steel, as published by CACMAI/Nationally recognized published index acceptable to the Employer.

C = Price Index of High Grade Electrolytic Zinc, as published by CACMAI/Nationally recognized published index acceptable to the Employer.

L = Indian field labour index – namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

a = Co-efficient for EC Grade Aluminium Ingots, which shall be 0.65.

b* = Co-efficient for High Carbon Steel, which shall be 0.13.

c* = Co-efficient for High Grade Electrolytic Zinc, which shall be 0.02.

l = Co-efficient for labour component, which shall be 0.05.

(*) For bidders who intend to quote their prices based on High Tensile Galvanised Steel wire, the coefficient for the same (i.e. coefficient 'b' for High Tensile Galvanised Steel wire) shall be 0.15 and coefficient 'c' shall not be applicable.

- 5.1 i) Subscript '0' refers to indices as on thirty (30) days prior to date of opening of Bids, for materials & labour.
- ii) Subscript '1' refers to indices as applicable on:
- a) Sixty (60) days prior to the date of shipment for Labour.
- b) Sixty (60) days prior to the date of shipment for materials.

5.2 The total adjustment for Conductor shall not be subject to any ceiling whatsoever.

6.0 Installation (including Civil Works) Price Component

The formula for calculation of the monthly price adjustments for Installation [including civil works but excluding survey, soil investigation and aviation signal for river crossing towers (if any)] price component shall be as under:

A. Installation price component [including civil works but excluding 'supply & placement of reinforcement steel', 'concreting', survey, soil investigation and aviation signal for river crossing towers (if any)]

$$ER_1 = ER_0 [0.20 + a \times (A_1/A_0) + l \times (L_1/L_0)] - ER_0$$

Where,

ER_1 = Price adjustment amount payable on Installation price component (excluding supply & placement of steel and concreting) for each billing.

ER_0 = Value of erection work done (excluding supply & placement of steel and concreting) in billing period as established by Contract.

A = Wholesale Price Index Number for 'High Speed Diesel'(Individual Commodity) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

L = Indian field labour index – namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

Where,

a = Co-efficient of 'High Speed Diesel Oil', Value of which shall be between 0.20 & 0.24.

l = Co-efficient of labour, Value of which shall be between 0.56 & 0.60.

and the sum of a & l shall be 0.80.

B. Supply and Placement of Reinforcement Steel

$$ER_1 = ER_0 [0.20 + a \times (A_1/A_0) + l \times (L_1/L_0) + b \times (B_1/B_0)] - ER_0$$

Where,

ER_1 = Price adjustment amount payable on price components of Supply and Placement of Steel.

ER_0 = Value of supply & placement of steel in billing period as established by Contract.

A = Wholesale Price Index Number for 'High Speed Diesel'(Individual Commodity) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

B = Wholesale Price Index Number for 'Ferrous Metals'(Group Item) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

L = Indian field labour index - namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

Where,

a = Co-efficient of 'High Speed Diesel Oil', Value of which shall be between 0.09 & 0.11.

b = Co-efficient of 'Ferrous Metal', Value of which shall be between 0.63 & 0.67.

l = Co-efficient of labour, Value of which shall be between 0.04 & 0.06.

and the sum of a, b & l shall be 0.80.

C. **Concreting**

$$ER_1 = ER_0 [0.20 + a \times (A_1/A_0) + l \times (L_1/L_0) + b \times (B_1/B_0) + c \times (C_1/C_0)] - ER_0$$

Where,

ER_1 = Price adjustment amount payable on price components of concreting.

ER_0 = Value of concreting in billing period as established by Contract.

A = Wholesale Price Index Number for 'High Speed Diesel'(Individual Commodity) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

L = Indian field labour index - namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

- B = Wholesale Price Index Number for `Cement & Lime'(Group Item) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindustry.nic.in).
- C = Wholesale Price Index Number for `Structural Clay Products'(Group Item) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

Where,

- a = Co-efficient of 'High Speed Diesel Oil', Value of which shall be between 0.18 & 0.22.
- b = Co-efficient of 'Cement & Lime', Value of which shall be between 0.25 & 0.35.
- c = Co-efficient of 'Structural Clay products', Value of which shall be between 0.18 & 0.22.
- l = Co-efficient of labour, Value of which shall be between 0.09 & 0.11.

and the sum of a, b, c & l shall be 0.80.

- 6.1 i) Subscript 'o' will correspond to thirty (30) days prior to date of opening of Bids.
- ii) Subscript '1' will correspond to the month of billing.
- 6.2 The total price adjustment amount for Installation (including civil works) price component shall not be subject to any ceiling whatsoever.
- 7.0 The bidder shall indicate in his bid the actual values of the coefficients a, b, c, d etc. to be adopted, keeping in view the range/total values given in para 2, 3, 4 & 5 above.
- 8.0 The Bidders are required to estimate and indicate the values of different coefficients for each of the items in the price variation formulae within the specified range such that their summation is as specified in the Bidding Documents. Where no value or '-' or 'shall be furnished later' is specified against the coefficient, the same will be deemed to be zero and the fixed component would be suitably adjusted. If the values of all coefficients in price variation formulae indicated by the Bidder are within the specified range but their sum exceeds the summation specified in the Bidding Documents, the values of the coefficients shall be pro-rata adjusted such that the summation remains as per the provisions of the Bidding Documents. If the values of all coefficients indicated by the Bidder are within the specified range but their summation is less than the value specified in the Bidding Documents, the values of the coefficients as indicated by the Bidder shall be considered as such and the fixed component in the price variation formulae would be suitably adjusted. Further, if any of values of the coefficients indicated by the Bidder is out of the range specified in the Bidding Documents, the lower of the values, as indicated by the Bidder vis-à-vis lower value of the range for that coefficient specified in the Bidding Documents, shall be considered and the fixed component would be suitably adjusted.

9.0 The above price adjustment provision shall be invoked by either party subject to the following further conditions:

- a) For the purpose of Price Adjustment on ex-works price components of the equipment, the date of shipment for Goods shall mean scheduled date of shipment or actual date of shipment, whichever is earlier. Scheduled date of shipment will be ex-works date of dispatch, governed by the accepted PERT Network/Bar Chart. Similarly, for the purpose of Price Adjustment on Installation price component, the Billing period shall mean the billing period as per Contract time schedule i.e., the agreed Bar Chart or actual period, whichever is earlier. The Billing period for various Installation activities will be as per agreed Installation Bar Chart indicating monthly schedule of Installation activities for completion of works. However, when the Employer's specific approval for advancement of shipment/installation activities has been obtained in such case the said advanced date shall be treated as the schedule date of shipment/installation activities for the purpose of working out the price adjustment payable.

No price increase shall be allowed beyond the original delivery/ Installation dates unless specifically stated in the Time Extension Letter, if any, issued by the Employer. The Employer will, however, be entitled to any decrease in the Contract Price which may be caused due to lower price adjustment amount in case of delivery of Goods/ Installation beyond the original delivery/Installation dates. Therefore, in case of delivery of Goods/Installation beyond the original delivery/ Installation dates, the liability of the Employer shall be limited to the lower of the price adjustment amount which may work out either on schedule date or actual date of dispatch of Goods/ Installation.

- b) In case IEEMA does not publish any of the price indices, as mentioned above, the Bidder shall indicate any nationally recognised published index for respective items and the source of the same shall be furnished in the Bid.
- c) In case of non-publication of applicable indices on a particular date, which happens to be the applicable date for Price Adjustment purposes, the published indices prevailing immediately prior to the particular date shall be applicable.
- d) If the Price Adjustment amount works out to be positive, the same is payable to the Contractor by the Employer and if it works out to be negative, the same is to be recovered by the Employer from the Contractor.
- e) The Contractor shall promptly submit price adjustment invoices for the supplies made/work done, positively within three (3) months from the date of shipment/work done, whether it is positive or negative.

General guidelines for filling up the Attachments

Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15

Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I

- 1** Fill up only green shaded cells in the relevent attachments.
- 2** Attachments 3(QR), 4, 4(A), 5, 5(A) 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 & 19 and Bid Form for 1st Envelope are included here.
- 3** Attachment 1 Bid Security : To be submitted as per proforma provided in the Bidding Document.
- 4** Attachment 2 Power of Attorney : No specific format is provided by RECTPCL. Bidder may use their own format.
- 5** Attachment 8 Manufacturer's Authorisation Form : To be furnished as per proforma provided in the bidding document, on the letter head of the each Manufactures proposed to supply main items. This attachment is not included here.
- 6** Attachment 14 Integrity Pact : To be submitted as per ITB Clause No. 9.3(n) and as per remarks in the Attach 14-IP.
- 7** Attachment 18 Safety Pact : To be submitted as per ITB Clause No. 9.3(r).

Click for Detailed General Instructions

[Click to skip Instructions & Proceed](#)

REC Transmission Projects Company Limited
(A wholly owned subsidiary of REC, a 'Navratna CPSE'
Under the Ministry of Power, Govt of India)
ECE House, 3rd Floor, Annexe - II,
28 A, K G MARG, NEW DELHI - 110 001
Website: www.rectpcl.in

Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15

Tender Pakage No. RECTPCL/PIA/JKPTCL/SS & LILO-1

Enter following details of the bidder

Specify type of Bidder [Select from drop down menu]	Sole Bidder
	1
Name of the Sole Bidder	
Address of the Sole Bidder	

Name of other Partner - 2
Address of other Partner-2

Printed Name	
Designation	
Date :	
Place :	



Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-1		Attachment-3(JV) SS & LILO-1
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15		
(Joint Venture Agreement and Power of Attorney for Joint Venture*)		
Bidder's Name and Address (Sole Bidder) :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpl.in
Name :		
Address :		



Dear Sir,

The Joint Venture Agreement (as per the proforma attached at no. 15 in Section-IX, Sample Forms and Procedures, Conditions of Contract, Vol-I of the Bidding Documents) and Power of Attorney for Joint Venture (as per the proforma attached at no. 14 in Section-IX, Sample Forms and Procedures, Conditions of Contract, Vol-I of the Bidding Documents) are enclosed herewith.

Date : _____ **Printed Name :** _____
Place : _____ **Designation :** _____

Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Scheme-15

(Qualifying Requirement Data)

Bidder's Name and Address (Sole Bidder) :		To:
Name :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpl.in
Address :		
Dear Sir,		
For our Qualifying Requirements Data, please refer Schedule-QR of this VOLUME		
Date :	Printed Name :	
Place :	Designation :	



Click here for next attachment

Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-1		Attachment-4 SS & LILO-1
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Scheme-15		
(Form of Certificate of Origin and Eligibility)		
Bidder's Name and Address (Sole Bidder) :		To:
Name :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpl.in
Address :		
Dear Sir,		
We hereby certify that equipment and materials to be supplied are produced in [Name of Countries], eligible source country.		We
hereby certify that our company is incorporated and registered in [Name of Countries], eligible source country.		
Date :		Printed Name :
Place :		Designation :



Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-1		Attachment-4(B) SS & LILO-1
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Scheme-15		
(List of Special Maintenance Tools & Tackles)		
Bidder's Name and Address (Sole Bidder) :		To:
Name :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpcl.in
Address :		
Dear Sir,		
We are furnishing below the list of special maintenance tools & tackles for various equipment under the subject package. The prices for these tools & tackles which are to be taken back after the completion of the work by us are not included in our lumpsum bid price. We further confirm that the list of special maintenance tools & tackles includes all the items specifically identified in your bidding documents as brought out below:		
(a)		
(b)		
(c)		
(d)		
(e)		
(f)		
Date :	Printed Name :	
Place :	Designation :	



Click here for next attachment

Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-1		Attachment-5 SS & LILO-1		
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15				
(Sub-contracted Items)				
Bidder's Name and Address (Sole Bidder) :		To:		
Name :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II,		
Address :				
Dear Sir,				
1. We hereby furnish the details of the items/ sub-assemblies (supply items), we propose to buy for the purpose of furnishing and installation of the subject Package :				
Sl. No.	Item Description	Quantity proposed to be bought/sub-	Details of the proposed sub-	
1			Name	Address
2				
3				
4				
5				
2. We hereby declare that we would not subcontract the erection portion of the contract without prior approval of the Employer.				
Sl. No.	Item Description	Quantity proposed to be bought/sub- contracted	Details / write-up to engage the Locals sub-contractor/sub-vendor	
1				
2				
3				
4				
5				
For additional write-up details, extra sheet may be added in the bid				
Date :		Printed Name :		
Place :		Designation :		



Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I		ATTACHMENT-5A
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Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15



(Items, Components, Raw Material, Services proposed to be sourced from Micro and Small Enterprises)

Bidder's Name and Address (Sole Bidder) :			To: REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpcl.in
Name :			
Address :			

Dear Sir,

1. We hereby furnish the details of the items, components, raw material, services which we propose to buy/avail from Micro and Small Enterprises (MSEs) for the purpose of completion of works under the subject package :

Sl. No.	Item Description	Quantity proposed to be sub-contracted	Name of Micro and Small Enterprises (MSEs)	
			Name & Address	Category (Micro or Small)
1				
2				
3				
4				
5				

2. 2. The above is a list of items we propose to procure from MSEs. However, based on the situations during the execution of the contract, the above list may undergo changes. We hereby confirm that the details regarding actual procurement from MSEs carried out by us, as per the format provided at Section IX, Forms and Procedures, Volume-I of bidding documents, shall be submitted along with the bills for payment against supplies made/works done during execution of contract.

Date :		Printed Name :	
Place :		Designation :	

Tender Pakage No. RECTPCL/PIA/JKPTCL/SS & LILO-I	Attachment-6 SS & LILO-01
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Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15

(Alternative, Deviations and Exceptions to the Provisions)

Bidder's Name and Address (Sole Bidder) :		To:
Name :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II,
Address :		
Dear Sir,		

The bidder shall itemize any deviation from the Specifications included in his bid. Each item shall be listed (separate sheets may be used and enclosed with this Attachment) with the following information:

Sl. No.	Reference clause in the Specifications	Deviation	Cost of withdrawal of the deviation

The above deviations and variations are exhaustive. We confirm that we shall withdraw the deviations proposed by us at the cost of withdrawal indicated in this attachment, failing which our bid may be rejected and Bid Security forfeited.

Except for the above deviations and variations, the entire work shall be performed as per your specifications and documents. Further, we agree that any deviations, conditionality or reservation introduced in this Attachment-6 and/or in the Bid form, Price schedules & Technical Data Sheets and covering letter, or in any other part of the bid will be reviewed to conduct a determination of the substantial responsiveness of the bid.

Date :		Printed Name :	
Place :		Designation :	



Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-1		Attachment-7 SS & LILO-01
<p align="center">Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15</p>		
(Details of Alternative Bid)		
Bidder's Name and Address (Sole Bidder) :		To:
Name :	REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India)	
Address :	ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpcl.in	
No Alternative Bid is allowed		
Date :	Printed Name :	
Place :	Designation :	



Click here for
next
attachment

Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I		Attachment-9	
<p align="center">Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15</p>			
(Work Completion Schedule)			
Bidder's Name and Address (Sole Bidder) :		To:	
Name :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpcl.in	
Address :			
Dear Sir,			
We hereby declare that the following Work Completion Schedule shall be followed by us in furnishing and installation of the subject Package i.e., Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15			
Sl. No.	Description of Work	Period in months from the effective date of contract	
1	Detailed Engineering and drawing submission		
	a) commencement		
	b) completion		
2	Procurement of equipment/ components &		
	a) commencement		
	b) completion		
3	Type Tests		
	a) commencement		
	b) completion		
4	Manufacturing		
	a) commencement		
	b) completion		
5	Shipments & Delivery		
	a) commencement		
	b) completion		
6	Establishment of site office		
7	Installation at Site		
	a) commencement		
	b) completion		
8	Testing & Pre-commissioning		
	a) commencement		
	b) completion		
9	Trial Operation		
	a) commencement		
	b) completion		
Date :		Printed Name :	
Place :		Designation :	
Note :	Bidders to enclose a detailed network covering all the activities to be undertaken for completion of the project indicating key dates for various milestones for each phase constituent-wise.		

Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LLO of 220kV Kishenpur-Barn S/C line or Udampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15			
(Guarantee Declaration)			Click here for next attachment
Bidder's Name and Address (Sole Bidder) :			
Name :			To, REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpl.in
Address :			
Dear Sir, We conform that the equipments offered shall have minimum (or a maximum, as the case may be) performance specified in Technical Specification. We further guarantee the performance/efficiency of the equipments in response to the Technical Specifications.			
Equipment	Guaranteed losses at rated output (KW) per Unit (applicable for each item/unit of the facilities)		
	Copper loss at 75 degree C at rated current	Iron loss at rated voltage and frequency	Cooler loss (Power consumptions by all fan and pumps, except standby one) at rated voltage & frequency
50 MVA, (220/ $\sqrt{3}$)/ (33/ $\sqrt{3}$) kV 3-Phase Transformer			

Applicable in case of 50 MVA, 220/33kV, 3-phase Power Transformers

We note that in the above guaranteed losses are not meeting the criteria specified in the technical Specifications i.e "Copper loss (Load Loss)> iron Loss (No Load Loss)> Cooler loss(Auxiliary Loss)", our bid will be considered non-responsive in line with ITB Clause 24.1 (b).

Date:
Place:

Printed Name:
Designation:

Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-1		Attachment-11 SS & LILO-01	
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15			
Bidder's Name and Address (Sole Bidder) :		To:	
Name :	REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II,		
Address :			
Dear Sir,			
Information Regarding Ex-employee of RECTPCL			
(NOT APPLICABLE FOR THIS TENDER)			
We declare that we are aware of and have gone through the "Code of Business Conduct and Ethics for Senior Management Personnel"1 and "Code of Business Conduct and Ethics for Board Members"1 of RECTPCL (hereinafter referred to as the "Code of Conduct"). We further understand that as per the "Code of Conduct", Senior Management Personnel including Board Members, who have retired/resigned from RECTPCL, shall not accept any appointment or post, as detailed in the referred "Code of Conduct", within 1 year from the date of cessation of service/directorship unless approved by the Competent Authority. Accordingly, We hereby furnish the details of ex-employees of RECTPCL who had retired/ resigned at the level of General Manager and above from RECTPCL and subsequently have been employed by us:			
Sl. No.	Name of the person with designation in RECTPCL	Date of Retirement/ resignation from RECTPCL	Date of joining and designation in our organisation
1			
2			
3			
4			



Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I			Attachment-12 SS & LILO-01	
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15				
(Price Adjustment Data)				
Bidder's Name and Address (Sole Bidder) :			To:REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpcl.in	
Name :				
Address :				
Dear Sir,				
We hereby furnish the relevant details pertaining to the price adjustment provisions for equipment as specified in your specifications and documents for the Tender Package "Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15"				
Sl. No.	Name of Materials	Value of co- efficient	Name of the published index	Value of index
1	2	3	4	5
<i>In accordance with Clause-2 Appendix-2 Price Adjustment, Section-IX, Sample Forms and Procedures (Forms), Voli.-I</i>				
SUBSTATION PORTION				
Sl. No.	Name of Materials/Labour	Value of co- efficient	Name of the published index	Value of index as 30 days prior to date set for
1	2		4	5
A) For Equipment Price Component:				
I.	Circuit Breaker			
a)	Raw Material			
i)	a=		IEEMA	
ii)	b=		IEEMA	
iii)	c=		IEEMA	
iv)	d=		IEEMA	
b)	Labour I=		Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
The sum of the value of coefficients for raw materials: a+b+c+d=0.55 to 0.65 and sum of all the coefficients including labour shall be a+b+c+d+l=0.85.				
II	Current Transformer			
a)	Raw Material			
i)	a=		IEEMA	
ii)	b=		IEEMA	
iii)	c=		IEEMA	
iv)	d=		IEEMA	
b)	Labour I=		Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
The sum of the value of coefficients for raw materials: a+b+c+d=0.55 to 0.65 and sum of all the coefficients including labour shall be a+b+c+d+l=0.85.				
III	Capacitive VoltageTransformer			
a)	Raw Material			
i)	a=		IEEMA	
ii)	b=		IEEMA	
iii)	c=		IEEMA	



Sl. No.	Name of Materials	Value of co- efficient	Name of the published index	Value of index
iv)	d=		IEEMA	
b)	Labour I=		Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
The sum of the value of coefficients for raw materials: a+b+c+d=0.55 to 0.65 and sum of all the coefficients including labour shall be a+b+c+d+l=0.85.				
IV	Isolators			
a)	Raw Material			
i)	a=		IEEMA	
ii)	b=		IEEMA	
iii)	c=		IEEMA	
iv)	d=		IEEMA	
b)	Labour I=		Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
The sum of the value of coefficients for raw materials: a+b+c+d=0.55 to 0.65 and sum of all the coefficients including labour shall be a+b+c+d+l=0.85.				
V	Surge Arrester			
a)	Raw Material			
i)	a=		IEEMA	
ii)	b=		IEEMA	
iii)	c=		IEEMA	
iv)	d=		IEEMA	
b)	Labour I=		Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
The sum of the value of coefficients for raw materials: a+b+c+d=0.55 to 0.65 and sum of all the coefficients including labour shall be a+b+c+d+l=0.85.				
VI	PVC/XLPE Insulated Power and Control Cable			
a)	a=PVC Compound	0.15		
b)	Published Price of Metal		IEEMA	
	i) Aluminium per MT		IEEMA	
	ii) Copper per MT		IEEMA	
c)	Weight in MT of Metal per kM(Size wise)			
	i)			
	ii)			
	iii)			
	iv)			
	v)			
VII	Substation Structures			
i)	Lattice Steel Structures & Pipe Structures (including bolts & nuts, washers & foundation bolts)			
a)	Raw Materials			
i)	a=Structural steel	0.58	JPC Market Price (Retail) for average Price of Steel Angles of size 50 x 50 x 6 mm of all cities in Rs./MT as published by Joint Plant Committee(JPC).	
ii)	b=Electrolytic Zinc	0.16	IEEMA	
b)	Labour	0.11	Indian Labour Bureau, Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	

Sl. No.	Name of Materials	Value of co- efficient	Name of the published index	Value of index
B (I) For Ex-works Price Component of Power Transformer/ Reactor without Insulating oil:				
a)	Raw Material			
i)	Copper a=		Price of Copper wire bars, in Rupees per MT, as published by IEEMA.	
ii)	Electrical Lamination Steel b=		Price of CRGO Electrical Steel Sheets: C&F Price converted into Indian Rupees per MT for Transformer of rating above 10MVA or voltage above 33kV, as published by IEEMA.	
iii)	Construction Steel c=		Wholesale Price Index Number for 'Ferrous Metals' (Group Item) (monthly) (Base: 2004-05=100) as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindustry.nic.in).	
iv)	Insulating Material d=		Price of Insulating Materials , as published by IEEMA.	
b)	Labour l=		Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
The sum of the value of coefficients for raw materials: a+b+c+d=0.65 to 0.73 and value of coefficient for labour shall be between 0.12 and 0.20, so that sum of all the coefficients including labour shall be a+b+c+d+l=0.85				
B (II) For Ex-works Price Component of Insulating oil for Power Transformer/ Reactor:				
a)	Insulating Oil e=	0.85	Transformer Oil base stock (TOBS): C&F price of Group- II 70 grade oil converted into Indian Rupees, as published by IEEMA.	
C). For Ex-works Price Component of L. T. Transformer:				
a)	Raw Material			
i)	Copper a=		Price of Copper wire bars, in Rupees per MT, as published by IEEMA.	
ii)	Electrical Lamination Steel b=		Price of CRGO Electrical Steel Sheets: C&F Price converted into Indian Rupees per MT for Transformer of rating up to 10MVA and voltage up to 33kV, as published by IEEMA	

Sl. No.	Name of Materials	Value of co-efficient	Name of the published index	Value of index
iii)	Construction Steel c=		Wholesale Price Index Number for 'Ferrous Metals' (Group Item) (monthly) (Base: 2004-05=100) as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindustry.nic.in).	
iv)	Insulating Material d=		Price of Insulating Materials, as published by IEEMA.	
v)	Insulating Oil e=		Transformer Oil Base Stock (TOBS): (TB), as published by IEEMA	
b)	Labour l=		Indian Labour Bureau, Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
The sum of the value of coefficients for raw materials: a+b+c+d+e =0.65 to 0.73 and value of coefficient for labour shall be between 0.12 and 0.20, so that sum of all the coefficients including labour shall be a+b+c+d+e+l=0.85				
TRANSMISSION LINE PORTION				
A TOWER				
For Fabricated Tower Parts (including bolts & nuts)				
a	Steel Blooms, co-efficient a =		IEEMA	
b.	Electrolytic High Grade Zinc, co-efficient b =		IEEMA	
c.	Labour, Co-efficient l=		Indian Labour Bureau, Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
Coefficient 'a' shall be between 0.51 to 0.57 and coefficient 'b' shall be between 0.08 to 0.10 and coefficient 'l' shall be between 0.20 to 0.24 and sum of Coefficients 'a', 'b' and 'l' shall be 0.85				
B. LINE MATERIALS				
1.A Conductor				
1	EC grade aluminium ingots, co-eifciant a =	0.65	CACMAI	
2	Choose the OPTION from drop down menu ^	OPTION-A		
	High Carbon Steel Rods , co efficient b =	0.13		
	High Grade Electrolytic Zinc , co-efficient c =	0.02		
3	Labour, Co-efficient l=		Indian Labour Bureau, Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
<p>Note: * Indicate the publisher of the index</p> <p>** Indicate the date of indices for which the values are being furnished</p> <p>^ For bidders who wish to quote their prices based on High Tensile Galvanised Steel wire, the coefficient for the same (i.e. coefficient "b" for High Tensile Galavnised Steel Wire shall be 0.15 and coefficient "c" shall not be applicable.</p>				
2	Hardware Fittings			

Sl. No.	Name of Materials	Value of co- efficient	Name of the published index	Value of index
i)	Raw Material			
A	EC Grade Aluminium		IEEMA	
B	Electrolytic High Grade Zinc, coefficient b =		IEEMA	
C	Ferrous Metals coefficient c=		Wholesale Price Index Number for 'Ferrous Metals' (Group Item) (monthly) (Base: 2004-05=100) as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindustry.nic.in)	
ii)	Labour, coefficient l =		Indian Labour Bureau, Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
Coefficient 'a' shall be between 0.35 to 0.45 and coefficient 'b' shall be between 0.04 to 0.06 and coefficient 'c' shall be between 0.18 to 0.22 and coefficient 'l' shall be between 0.13 to 0.17 and sum of Coefficients 'a', 'b', 'c' and 'l' shall be 0.80				
3	Conductor Accessories			
3(a)	Mid Span Compression Joint for Conductor			
i)	Raw Material			
A	EC Grade Aluminium Ingots, coefficient a =		IEEMA	
ii)	Labour, coefficient l =		Indian Labour Bureau, Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
Coefficient 'a' shall be between 0.63 to 0.67 and coefficient 'l' shall be between 0.13 to 0.17 and sum of Coefficients 'a' and 'l' shall be 0.80				
3(b)	Repair Sleeve for Conductor			
i)	Raw Material			
A	EC Grade Aluminium Ingots, coefficient a =		IEEMA	
ii)	Labour, coefficient l =		Indian Labour Bureau, Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
Coefficient 'a' shall be between 0.63 to 0.67 and coefficient 'l' shall be between 0.13 to 0.17 and sum of Coefficients 'a' and 'l' shall be 0.80				
3(c)	Vibration Damper for Conductor			
i)	Raw Material			
A	Electrolytic High Grade Zinc, coefficient b =		IEEMA	
	Ferrous Material c =		Wholesale Price Index Number for 'Ferrous Metals' (Group Item) (monthly) (Base: 2004-05=100) as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindustry.nic.in).	

Sl. No.	Name of Materials	Value of co- efficient	Name of the published index	Value of index
ii)	Labour, coefficient l =		Indian Labour Bureau, Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
Coefficient 'a' shall be between 0.63 to 0.67 and coefficient 'l' shall be between 0.13 to 0.17 and sum of Coefficients 'a' and 'l' shall be 0.80				
3 (d)	Insulator (Disc/Porcelain Long Rod)			
(a)	Raw Material			
i)	Electrolytic High Grade Zinc, coefficient a =	0.05		
ii)	Fuel, Power, Light and Lubricant, coefficient b=	0.53		
(b)	Labour, coefficient l =	0.27		
3 (f)	Flexible Copper Bond	Firm		
3 (g)	Composite Long Rod Insulator	Firm		
C.	For Installation Price Component			
I	Installation price component (including Civil works but excluding 'supply & placement of reinforcement steel' and 'concreting')			
i)	Labour l=	0.80	Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
II	Supply & Placement of Reinforcement Steel			
i)	High Speed Diesel	0.1	Wholesale Price Index Number for 'High Speed Diesel' (Individual commodity) (monthly) (Base: 2004-05=100) as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindstry.nic.in).	
ii)	Labour l=	0.05	Indian Labour Bureau, Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
iii)	Ferrous Metal	0.65	Number for 'Ferrous Metals' (Group Item) (monthly) (Base: 2004-05=100) as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindstry.nic.in).	
iii)	For Concreting			

Sl. No.	Name of Materials	Value of co- efficient	Name of the published index	Value of index
i)	High Speed Diesel	0.20	Wholesale Price Index Number for 'High Speed Diesel' (Individual commodity) (monthly) (Base: 2004-05=100) as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindustry.nic.in).	
ii)	Labour I=	0.10	Indian Labour Bureau, Shimla, Govt. of India (monthly) (Base: 2001 = 100) (www.labourbureau.nic.in)	
iii)	Cement & Lime	0.30	Wholesale Price Index Number for 'Cement & Lime' (Group Item) (monthly) (Base: 2004-05=100) as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindustry.nic.in).	
iii)	Structural Clay Products	0.20	Wholesale Price Index Number for 'Structural Clay Products' (Group Item) (monthly) (Base: 2004-05=100) as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindustry.nic.in).	
Date :		Printed Name :		
Place :		Designation :		

Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I		Attachment-13 SS & LILO- 01	
<p align="center">Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15</p>			
[Declaration regarding Social Accountability]			
Bidder's Name and Address (Sole Bidder) :		To:	
Name :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II,	
Address :			
Dear Sir,			
We conform that we stand committed to comply to all requirements of Social Accountability Standards i.e., SA8000 (latest Standard available at www.sa-intl.org) and maintain the necessary records.			
Date :		Printed Name :	
Place :		Designation :	



Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I		Attachment-14 SS & LILO- 01	
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15			
Integrity Pact			
Bidder's Name and Address (Sole Bidder) :		To:	
Name :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpl.in1	
Address :			
Dear Sir,			
Bidders are requested to refer Section-IX of VOL-I for the format of INTEGRITY PACT			
Date :		Printed Name :	
Place :		Designation :	



Click here for next attachment

Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I		Attachment-15 SS & LILO-01
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15		
Option for Initial Advance (either Interest Bearing Initial Advance or No Initial Advance) and Information for E-payment, PF details and declaration regarding Micro/Small & Medium Enterprises		
Bidder's Name and Address (Sole Bidder) :		To.
Name :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II,
Address :		
Dear Sir,		
I	We have read the provisions in the Bidding Documents regarding furnishing the option for advance payment. Accordingly, as per the provisions of the Bidding Documents, we hereby confirm to opt the following:	
	Interest Bearing Initial Advance	
	Supply Portion:	
	Services Portion:	
II	We are furnishing the following details of Statutory Registration Numbers and details of Bank for electronic payment.	
1.	Name of the Supplier/ Contractor in whose favour payment is to be made	
2.	Address with PIN Code and State	
	Registered Office:	
	Branch Office:	
	Correspondence Address:	
3.	Status - Company/others [Declaration of Micro/ Small/ Medium Enterprise under Micro/ Small & Medium Enterprises Development Act 2006, if applicable]	
4.	Permanent Account (PAN) No.	
5.	GSTIN Numbers	
I.	GSTIN in the States/UT from where the supply of goods take place	
	Name of the States/UT	GSTIN number
	(i)	
	(ii)	
	(iii)	
II.	GSTIN in the States/UT where the supply for services take place (states where sites under the subject package is situated)	
	Name of the States/UT	GSTIN number
6.	PF Registration No. of the Company	
7.	PF Regional Office covered (with Address)	
8.	Name of Contact Person Designation	
9.	Contact Details Landline(s): Mobile(s): Email ID :	
10.	Bank Details for Electronic Payment Name of the Bank: Address of Branch: Account No.: Type of Account: <small>Type of Account: Saving Account Current Account</small>	Current Account
11.	9 digit MICR code printed at bottom in middle, next to cheque no.	
12.	IFSC (for RTGS)/NEFT Code (to be obtained from the Bank) Sample Cancelled Cheque to be enclosed	
We hereby declare that the above information are true and correct and we agree that the payment on account of this Contract, in the event of award, be made in the above account maintained in the above mentioned Bank.		
Date :	Printed Name :	



Place :	Designation :	
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Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I		Attachment-16 SS & LILO-01	
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15			
(Additional Information)			
Bidder's Name and Address (Sole Bidder) :		To:REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpcl.in	
Name			
Address			
Dear Sir,			
In support of the additional information required as per ITB Sub-Clause 9.3 (p) of the Bidding Documents, we furnish herewith our data/details/documents etc., alongwith other information, as follows (the stipulations have been reproduced in italics for ready reference):			
1.0	The Bidder shall furnish		
	A certificate from their Banker(s) (as per prescribed formats in Form 16, Section-IX: Sample Forms and Procedures) indicating various fund based/non fund based limits sanctioned to the Bidder and the extent of utilization as on date. Such certificate should have been issued not earlier than three months prior to the date of bid opening. Wherever necessary the Employer may make queries with the Bidders' Bankers. [Reference ITB clause 9.3(p)(i)]		
1.1	<i>In accordance with 1.0, certificate(s) from banker as per requisite format, indicating various fund based/non fund based limits sanctioned to the bidder or each member of the joint venture and the extent of utilization as on date is/are enclosed, as per the following details:</i>		
	Name of the Bidder (Sole Bidder)		
	Name of the Banker by whom certificate issued		
	Date of certificate (should not be earlier than 3 months prior to date of bid opening)		
	Whether fund based/non fund based limits are indicated in the certificate		
	Whether extent of utilization is indicated in the certificate		
1.2	<i>The Bidder should accordingly also provide the following information/documents</i>		
	(i) Details of Banker:		
	Name of Banker		
	Address of Banker		
	Telephone No.		
	Contact Name and		
	Fax No.		
	E-mail ID		
	(ii) As per para 1.0, Authorization Letter(s) from the bidder (in case of JV bidder, from all the partners)		
	Sl. No.	Letter Ref.	Date
			Addressed to (name of the Bank)
	(iii) As per para ITB clause 9.3 q, Bidder shall furnish the details of their Provident Fund Code Number		
	Sl. No.	Name of Bidders/JV Partners	Provident Fund Code
			Details



2.0	Litigation											
<p>The bidder should provide detailed information on any litigation or arbitration arising out of contracts completed or under execution by it over the last five years. A consistent history of awards involving litigation against the Bidder or any partner of JV may result in rejection of Bid. [Reference ITR clause 9.2(a)(ii)]</p>												
2.1	<p>Details of litigation history resulting from Contracts completed or under execution by the bidder over the last five years</p>											
	Year	Name of client, cause of litigation/arbitration and matter in dispute			Details of Contract and date		Award for or against the bidder		Disputed amount			
	1											
	2											
	3											
	4											
	5											
3.0	OTHER INFORMATION											
3.1	Current Contract Commitments of											
<p>Bidders (individual firms or each partners of JV) should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.</p>												
	Details of Contract			Value of outstanding work (Rs.)			Estimated completion date					
3.2	Financial Data:											
											Figures Rs in	
	Details	Actual (Previous five years)					Projection for next five years					
		2016 - 2017	2015 - 2016	2014 - 2015	2013 - 2014	2012 - 2013	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	
	Total Assets											
	Current Assets											
	Total Liability											
	Current Liability											
	Profit before taxes											
	Profit after taxes											
Date :					Printed Name							
Place :					Designation :							

Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I		Attachment-17 SS & LILO-01		
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15				
(Declaration for tax exemptions, reductions, allowances or benefits)				
Bidder's Name and Address (Sole Bidder) :			To:	
Name :			REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II,	
Address :				
Dear Sir,				
1	We confirm that we are solely responsible for obtaining following tax exemptions, reductions, allowances or benefits in respect of supplies under the subject package, in case of award. We further confirm that we have considered the same in our bid thereby passing on the benefit to RECTPCL while quoting our prices. In case of our failure to receive such benefits, partly or fully, for any reason whatsoever, the Employer will not compensate us.			
2	We are furnishing the following information required by the Employer for issue of requisite certificate if and as permitted in terms of the applicable Govt. of India policies/procedures (in case of award):			
Applicable Act, Notification No. and Clause Ref. No.	Sl. No.	Description of item on which applicable	Country of origin	Remarks, if any
<i>(The requirements listed above are as per current Notification of Govt. of India indicated above. These may be modified, if necessary, in terms of the Notifications.)</i>				
Date :		Printed Name :		
Place :		Designation :		



Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I		Attachment-18 SS & LILO-01	
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15			
(Safety Pact)			
Bidder's Name and Address (Sole Bidder) :		To:	
Name :		REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpcl.in	
Address :			
Dear Sir,			
Bidders are requested to refer Section-IX of VOL-I for the format of SAFETY PACT			
Date :		Printed Name :	
Place :		Designation :	



Click here for next attachment

Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I	Attachment-19 SS & LILO-01
<p align="center">Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15</p>	
(Declaration)	
Bidder's Name and Address (Sole Bidder) :	To:
Name :	REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpcl.in
Address :	
Dear Sir,	
We confirm that Bid Form and Price Schedules in the Second Envelope have been filled up by us as per the provisions of the Instruction to Bidders. Further, we have noted that the same shall be evaluated as per the provisions of the Bidding Documents.	
Further, we hereby confirm that except as mentioned in the Attachment - 6 (Alternative, Deviations and Exceptions to the Provisions) hereof forming part of our First Envelope :	
(i) there are no discrepancies/inconsistencies and deviations/omissions/ reservations to the Bidding Documents, in the Second Envelope bid; (ii) the description of items and the unit thereof in the price schedules in the Second Envelope bid are in conformity with those indicated in the price schedule of the Bidding Documents without any deviation to the specified scope of work. We also confirm that in case any discrepancies/ inconsistencies and deviations/ omissions/ reservations, as referred to in para (i) and (ii) above, is observed in the Second Envelope, the same shall be deemed as withdrawn/rectified without any financial implication, whatsoever to RECTPCL. However, in case of any arithmetical errors, the same shall be governed as per the provision of ITB Sub-Clause 27.2	
Date :	Printed Name :
Place :	Designation :



Click here for next attachment

Tender Pakage No. RECTPCL/PIA/JKPTCL/SS & LILO-I		Attachment-20 SS & LILO-01
Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15		
(Declaration of Key Managerial Person and Power of Attorney holder)		
Bidder's Name and Address (Sole Bidder) :		To:REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe – II, 28 A, K G MARG, NEW DELHI – 110 001 Website: www.rectpcl.in
Name :		
Address :		
Dear Sir,		
<p>1. We confirm that the declarations made in our bid, particularly Attachment-3 (QR) regarding eligibility/qualification data and documents submitted in our bid in support of the declarations, are true and correct to the best of our knowledge.</p> <p>2. We further confirm that we have filled up Attachment-3(QR). We also confirm that in support of meeting the Technical experience requirement as per Qualification Requirement (Section-III, Vol-I), we have enclosed self-certified copy of Contract/ Award Letter and certificate from the utility for which the contract has been executed.</p> <p>3. We shall furnish clarification to bid, if any sought by Employer pursuant to ITB clause 21.1. We understand that if we fail to rectify/furnish the requested documents if any, within 7 working days' notice, our bid is liable to be rejected.</p> <p>4. We understand that any false declaration and/or misrepresentation of facts and/or furnishing of false/forged documents /information may lead to our debarment from participation in Employer tenders and that our Bid Security/ Contract Performance Guarantee may be forfeited besides other actions as deemed to be appropriate as per the provisions of the Bidding Document/Integrity Pact/Employer's policy.</p>		
5*. Our Balance Bid Capacity net of works under execution, calculated (i.e. 3T-B), as on 1st date** of the Quarter in which First Envelope Bids are to be opened i.e. 01st		
		(MM/YYYY) in equivalent Indian Rupees is
Crore. The details of value used for working out the Balance Bid Capacity as above, are as follows:		
A. Maximum value of similar works (e.g. value related to EHV Transmission Lines /Substations of 110 kV and above in case of Tower/ Substation Packages respectively) executed during the last 5 financial years taking into account the completed as well as the works in progress(T)		
S N	FY	Value of Total Sales (including Taxes and Duties)(T)

B. Value of existing commitments and ongoing similar works yet to be completed as on the 1st date of quarter of the financial year in which the bids are opened(B) as on 1st date of the Quarter in which First Envelope Bids are to be opened

S N	Value of Balance Works (B1) against the Contracts awarded by Employer	Value of Balance Works (B2) against the Contracts awarded by Utilities other than Employer	Total value of Balance Works (B){B=B1+B2}

[**1st day of the quarter in which the first envelope bids are opened for e.g. If the actual date of opening of first envelope bids is 15th June 2016, the Balance bid capacity as on 01st April 2016 is to be declared]]
 *(Applicable only in case of package for which the stipulated Qualification Requirements in respect of Technical experience pertains primarily to erection, testing and commissioning/civil works viz. transmission Line tower packages/Substation package/civil works package etc.)

6***. Our/Our proposed manufacturer’s annual manufacturing capacity as certified by a Chartered Engineer or similar Professional/ Professional body/Govt Agencies is:..... MT/annum (for tower/tower parts)

 [Certificate from Chartered Engineer or similar Professional/ Professional body/Govt Agencies in the country of the bidder/proposed manufacturer is to be enclosed along with this Attachment.
 Annual manufacturing capacity of all the manufacturers to be furnished separately]
 ***(Applicable only in case of Tower packages with scope for tower supply)

7. Notwithstanding above, we also understand that the Bid Capacity/Manufacturing Capacity as declared hereinabove, shall be subject to assessment, if any, by the Employer, which shall be final and binding. We also confirm that the Employer may verify the supporting documents/ details in connection with above declarations. We further understand that in case of any unethical practices inter-alia including any misrepresentation of facts, submission of false and/or forged details/ documents/ declaration by us, we may be debarred from the participation in Employer’s tenders in future as considered appropriate by Employer and our Bid Security/ Contract Performance Guarantee shall be forfeited besides taking other actions as deemed appropriate.

Date :		Printed Name :	
Place :		Designation :	

Note: signed and stamped with company seal by a full time Director/ CEO/ Chairman-cum-Managing Director and attested/ notarized by a Magistrate/ Notary for correctness of all the information/details/data/documentary evidences etc. as submitted by the bidder are correct

Tender Package No. RECTPCL/PIA/JKPTCL/SS & LILO-I		Bid Form 1st Envelope
BID FORM (First Envelope)		
Bid Proposal Ref. No.		
Date :		
To, Additional Chief Executive Officer, REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001		
Name of Contract :	Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15	
Dear Ladies and/or Gentlemen,		
1.0	Having examined the Bidding Documents, including Amendment Nos. ...[Enter the Amendment]... dated ...[Enter the Date in dd-mm-yyyy]... the receipt of which is hereby acknowledged, we the undersigned, offer to design, manufacture, test, deliver, install and commission (including carrying out Trial operation, Performance & Guarantee Test as per the provision of Technical Specification) the Facilities under the above-named package in full conformity with the said Bidding Documents. In accordance with ITB Clause 9.1 of the Bidding Documents, as per which the bid shall be submitted by the bidder under "Single Stage - Two Envelope" procedure of bidding. Accordingly, we hereby submit our Bid, in two envelopes i.e. First Envelope - Techno - Commercial Part & Second Envelope - Price Part (to be opened subsequently). The above amounts are in accordance with the price schedules attached herewith and are made part of this bid	
2.0	Attachments to the Bid Form (First Envelope) in line with the requirement of the Bidding Documents, we enclose herewith the following Attachments:	
(a) Attachment 1	Bid Security, in a separate envelope, in the form of Bank Guarantee for a sum of INR (Rs. Zero Only) initially valid for a period of Zero (0) months from the date set for opening of bids. Or documentary evidence in support of exemption of Bid Security, in separate envelope in accordance with clause 13.1 of ITB, Section-II	
(b) Attachment 2	A power of attorney duly authorized by a Notary Public indicating that the person(s) signing the bid have the authority to sign the bid and thus that the bid is binding upon us during the full period of its validity in accordance with the ITB Clause 14.	
(c) Attachment 3	The documentary evidence that we are eligible to bid in accordance with ITB Clause 2. Further, in terms of ITB Clause 9.3 (c) & (e), the qualification data has been furnished as per your format enclosed with the bidding documents Attachment- 3(QR). Further, the required joint venture Agreement signed by us and our partners has also been furnished as per your format Attachment 3 (JV). Further the required deed of Joint Undertaking signed by us and Tower Manufacturer has also been furnished as per your format.	
(d) Attachment 4	The documentary evidence establishing in accordance with ITB Clause 3, Vol-I of the Bidding Documents that the facilities offered by us are eligible facilities and conform to the Bidding Documents has been furnished as Attachment 4. A list of Special Tools & Tackles to be used by us for erection, testing & Commissioning and to be handed over to Employer, the cost of which is included in our Bid Price, is also enclosed as per your format as Attachment 4A. A list of Special Tools & Tackles to be brought by the contractor for erection, testing & Commissioning and to be taken back after completion of work, whose cost is not included in our bid price, is enclosed as per your format as Attachment 4B.	
(e) Attachment 5	The details of all major items of services or supply which we propose subletting in case of award, giving details of the name and nationality of the proposed subcontractor/sub-vendor for each item.	
(f) Attachment 5A	(Items, Components, Raw Material, Services proposed to be sourced from Micro and Small Enterprises): The details of the items, components, raw material, services which is proposed to be bought/availed from Micro and Small Enterprises for the purpose of completion of works	
(g) Attachment 6	The variation and deviations from the requirements of the Conditions of Contract, Technical Specification and Drawings (excluding critical provisions as mentioned at clause 6.0 below) in your format enclosed with the Bidding Documents, including, inter alia, the cost of withdrawal of the variations and deviations indicated therein.	
(h) Attachment 7	The details of Alternative Bids made by us indicating the complete Technical Specifications and the deviation to contractual and commercial conditions. (Not Applicable)	
(i) Attachment 8	Manufacturer's Authorisation Forms.	
(j) Attachment 9	Work Completion Schedule.	
(k) Attachment 10	Guarantee Declaration.	

(l) Attachment 11	Not Applicable		
(m) Attachment 12	Filled up information regarding Price Adjustment Data as per the format enclosed in the bidding documents.		
(n) Attachment 13	Declaration regarding Social Accountability.		
(o) Attachment 14	Integrity Pact, in a separate envelope, duly signed on each page by the person signing the bid.		
(p) Attachment 15	Option for Initial Advance		
(q) Attachment 16	Additional Information.		
(r) Attachment 17	Declaration for tax exemptions, reductions, allowances or benefits		
(s) Attachment 18	Safety Pact, in a separate envelope, duly signed on each page by the person signing the bid.		
(t) Attachment 19			
(u) Attachment 20	Affidavit Declaration of Key Managerial Person jointly with Power of Attorney holder		
2.2	We are a Micro and Small Enterprise (MSE) registered with a designated Authority of GoI under the Public Procurement Policy for MSEs order 2012. (applicable for MSE only)		
3.0	We are aware that, in line with Clause No. 27.1 (ITB), our Second Envelope (Price Part) is liable to be rejected in case the same contains any deviation/omission from the contractual and commercial conditions and technical Specifications other than those identified in this First Envelope.		
3.1	We are aware that the Price Schedules do not generally give a full description of the Work to be performed under each item and we shall be deemed to have read the Technical Specifications and other sections of the Bidding Documents and Drawings to ascertain the full scope of Work included in each item while filling-in the rates and prices in <u>Second Envelope</u> .		
3.2	We declare that as specified in Clause 11.5, Section -II:ITB, Vol-I of the Bidding Documents, prices quoted by us in the Price Schedules in <u>Second Envelope</u> shall be subject to Price Adjustment during the execution of Contract in accordance with Appendix-2 (Price Adjustment) to the Contract Agreement.		
4.0	We confirm that except as otherwise specifically provided our Bid Prices in Second Envelope include all GST and charges as may be assessed on us, our Sub-Contractor/Sub-Vendor or their employees by all municipal, state or national government authorities in connection with the Facilities, in and outside of India.		
4.1	100% of applicable GST which are payable by the Employer under the Contract, shall be reimbursed by the Employer on production of satisfactory documentary evidence by the Contractor in accordance with the provisions of the Bidding Documents.		
4.2	We further understand that notwithstanding 4.0 above, in case of award on us, you shall also bear and pay/reimburse to us, GST in respect of supplies by us to you, imposed on the Plant & Equipment including Mandatory Spare Parts to be incorporated into the Facilities including Type Test charges for Type test to be conducted specified in Schedule No. 1, Installation Services specified in Schedule No. 3 and Charges for Training to be imparted specified in Schedule No. 4 of the Price Schedule in Second Envelope, by the Indian Laws.		
4.3	We confirm that we have also registered/we shall also get registered in the GST Network with a GSTIN, in all the states where the project is located and the states from which we shall make our supply of goods		
5.0	Construction of the Contract		
5.1	We declare that we have studied Clause ITB 31.4.1 relating to mode of contracting for Domestic Bidders and we are making this proposal with a stipulation that you shall award us two separate Contracts viz 'First Contract' for ex-works supply of all equipment and materials including mandatory spares and 'Second Contract' for providing all the services i.e. inland transportation for delivery at site, insurance, unloading, storage, handling at site, installation, testing and commissioning including Trial operation in respect of all the equipment supplied under the 'First Contract' and other services specified in the Contract Documents. We declare that the award of two contracts, will not, in any way, dilute our responsibility for successful operation of plant/equipment and fulfillment of all obligations as per Bidding Documents and that both the Contracts will have a cross-fall breach clause i.e. a breach in one Contract will automatically be classified as a breach of the other contract which will confer on you the right to terminate the other contract at our risk and cost.		
6.0	We have read the provisions of following clauses and confirm that the specified stipulations of these clauses are acceptable to us:		
(a)	ITB 13	Bid Security	
(b)	GCC 5(i)(b)	Governing Law	
(c)	GCC 7 (i)	Contractor's Responsibility	
(d)	GCC 9.0	Performance Security	
(e)	GCC 27	Liquidity Damage	
(f)	GCC 31(i)(a)	Defect Liability	
(g)	GCC 33	Payment Terms	
(h)	GCC 26	Limitations of Liability	
(i)	GCC 47	Settlement of Disputes	
(j)	GCC 48	Arbitration	
(k)	SCC 14	Taxes & Duties	
(l)	Appendix 2 to Form of Contract Agreement	Price Adjustment	

Bidder's Name and Address (Sole Bidder) :			To:	
Name :			REC Transmission Projects Company Limited (A wholly owned subsidiary of REC, a 'Navratna CPSE' Under the Ministry of Power, Govt of India) ECE House, 3rd Floor, Annexe - II, 28 A, K G MARG, NEW DELHI - 110 001 Website: www.rectpcl.in	
Address :				
Dear Sir,				
We are furnishing below the list of special maintenance tools & tackles for various equipment under the subject package. The prices for these tools & tackles are included in our lumpsum bid price. We further confirm that the list of special maintenance tools & tackles includes all the items specifically identified in your bidding documents as brought out below:				
S.No.	For Equipment	Item Description	Unit	Quantity
1				
2				
3				
4				
5				
Notwithstanding what is stated above, we further confirm that any additional special maintenance tools and tackles, required for the equipment under this package shall be furnished by us at no extra cost to the employer.				
Date :		Printed Name :		
Place :		Designation :		

BILL OF QUANTITY FOR "Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishanpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15

PLANT AND EQUIPMENT (INCLUDING MANDATORY SPARES PARTS) TO BE SUPPLIED:

Sl. No.	Item Description	Unit	Qty.
I 220/33KV NAGROTA SUBSTATION			
A-1 TRANSFORMER			
1.1	50MVA, 220/33KV three phase transformer without transformer oil	No.	2.00
1.2	Insulating oil for 50MVA, 220/33 KV, 3-phase transformer(* 1Lot = Oil for 1 number transformer)	Lot	2.00
1.3	Nitrogen Injection Fire Protection for for 50MVA , 220/33 KV, 3-phase transformer	No.	2.00
1.4	On line Insulating oil drying system	No.	2.00
A-2 LT TRANSFORMER			
1.1	315KVA, 33/0.433KV LT transformer	No.	2.00
A-3 VOLTAGE STABILIZER			
1.1	315KVA, 3 Phase Automatic Voltage Stabilizer	No.	1.00
B-1 220 kV EQUIPMENT			
1.0 Circuit Breakers (3 Ph.)			
i)	2500 A, 40 kA, SF6 Circuit Breakers (3-Phase) with support structure	Nos.	6.00
2.0 Isolators (3 Ph.)			
i)	1600A, 40 kA with One earth Switch (Double break Isolator)	Nos.	5.00
ii)	1600A, 40 kA without earth Switch (Double break Isolator) (Tandem)	Nos.	9.00
iii)	1600A, 40kA with two earth Switch (Double break Isolator)	Nos.	5.00
iv)	2500A, 40kA with two earth Switch (Double break Isolator)	Nos.	2.00
3.0 Current Transformers (1-Ph.)			
i)	800A, 40kA, 5 core CT with 120% extended current rating	Nos.	15.00
ii)	1600A, 40kA, 5 core CT with 150% extended current rating	Nos.	3.00
4.0 245 kV Capacitive Voltage Transformer (1- Phase)			
i)	4400 pF	Nos.	12.00
5.0	216 kV, 10KA Surge Arrester (1-ph) along with surge counter	Nos.	12.00
B-II			
1.1	ERECTION HARDWARE (WITHOUT BPI) Insulator strings & Hardware, Spacers, conductor(s), bus-bar material, cable trays , Bay MB, clamps, connectors including equipment connectors, Junction Box, earthwire, earthing material, risers, auxiliary earthmat (excluding main earthmat), buried cable trenches/ PVC pipes for equipment & lighting, all accessories etc. for the following :		
220kV ' Double Main & Transfer' type			
i)	Line Bay	Set	2.00
ii)	Transformer Bay	Set	2.00
iii)	Bus Coupler Bay	Set	1.00
iv)	Bus transfer Bay	Set	1.00
v)	Bus (For three bays)	Set	2.00
1.2	220 kV Bus Post Insulators for the erection hardware	Nos.	85.00
C-1 33 kV EQUIPMENT			
1.0 Circuit Breakers (3 Ph.)			
i)	36 kV, 1250A, 25 KA,3-Phase CircuitBreaker with support structure	Nos.	7.00
ii)	36 kV, 2500A, 25 kA,3-Phase CircuitBreaker with support structure	Nos.	1.00
2.0 Isolators (3 Ph.)			
i)	36 kV, 1250A, 25 KA, 3-PHASE HDB ISOLATOR WITH ONE E/S	Nos.	7.00
ii)	36 kV, 1250A, 25 KA, 3-PHASE HDB ISOLATOR WITHOUT E/S	Nos.	14.00
iii)	36 kV, 1250A, 25 KA, 3-Phase HDB Isolator with two E/s	Nos.	7.00
iv)	36 kV, 2500A, 25 KA, 3-Phase HDB Isolator with two E/s	Nos.	2.00
2.1	36kV,400A Horn gap fuse (1-Ph.)	Nos.	6.00
3.0 Current Transformers (1 Ph.)			
i)	36kV,1200A,25kA,1-Ph Current Transformer-120% rating	Nos.	21.00
ii)	36 kV, 2000A, 25 KA, 1-PHASE CURRENT TRANSFORMER WITH 150% EXTENDEDRATING	Nos.	3.00
4.0	Potential Transformer (1 Ph.) 33kV/3/110/3/110/3/110/3	Nos.	6.00
5.0	Surge Arrestors 30kV, 1-ph along with surge arrester	Nos.	21.00
C-II			
1.1	ERECTION HARDWARE (WITHOUT BPI) Insulator strings & Hardware, Spacers, conductor(s), bus-bar material, cable trays , Bay MB, clamps, connectors including equipment connectors, Junction Box, earthwire, earthing material, risers, auxiliary earthmat (excluding main earthmat), buried cable trenches/ PVC pipes for equipment & lighting, all accessories etc. for the following :		

Sl. No.	Item Description	Unit	Qty.
	33 kV Double main with Bypass Isolator type		
i)	Line Bay	Set	4.00
ii)	Transformer Bay	Set	2.00
iii)	ISO Bay	Set	1.00
iv)	Auxiliary Transformer Bay	Set	1.00
v)	Bus (For Four bays + Three bays) (2+1)	Set	3.00
v)	33kV Bus Post Insulators for the above	Nos.	30.00
1.2	Conductor, clamps, connectors including equipment connectors, earthing material including risers etc. (excluding main earthmat) required for connection of aux. LT transformer	Set	2.00
D	LT SWITCHGEAR		
1.1	415V Main switchboard	Set	1.00
1.2	415V ACDB	Set	1.00
1.3	415V MLDB	Set	1.00
1.4	415V Emergency LDB	Set	1.00
1.5	220V DCDB	Set	2.00
1.6	48V DCDB	Set	2.00
E1	RELAY PANELS (WITH AUTOMATION)		
1.0	220 kV (Swing Type Front Door Glass Simplex type)		
a	Circuit Breaker Relay Panel		
i)	With Auto Reclose	Set	3.00
ii)	Without Auto Reclose	Set	3.00
b	Line Protection Panel	Set	2.00
d	Transformer Protection Panel (For both HV & MV side)	Set	2.00
e	Bus Bar Protection Panel	Set	1.00
E2	Teleprotection Equipments		
a)	Digital protection coupler including cabling etc.	Set	2.00
b)	Digital protection coupler including cabling etc. for other end	Set	2.00
c)	Shifting and re-erection of existing panel of Barr/Kishenpur or Gladni/Udhampur as per Technical specification	LS	1.00
2.0	33KV Panels(Swing Type Front Door Glass Simplex Panels)		
a	Circuit Breaker Relay Panel With out Auto Reclose	Set	8.00
b	Line Protection Panel	Set	4.00
F	SUBSTATION AUTOMATION SYSTEM (SAS)		
	Complete Substation Automation System (SAS) for 220/33 kV Substation including hardware and software for the substation & remote control stations alongwith associated equipments for the following bays as per TS:-		
a)	220 kV System	Bay	6.00
b)	33 kV System	Bay	7.00
c)	BCU for Controlling and monitoring of Auxiliary System	Set	1.00
G	Tele Communication System		
1.0	SDH EQUIPMENTS(STM-4 MADM upto 5MSP Protected directions)		
(i)	Nagrota		
	Base equipments(Common cards,Cross connect/control cards, power supply cards, power cabling, other hardware and accessories including sub rasks, patch cord, DDF etc fully equipped excluding (i) & (ii) below	Nos.	1.00
	Barr/Gladni		
	Base equipments(Common cards,Cross connect/control cards, power supply cards, power cabling, other hardware and accessories including sub rasks, patch cord, DDF etc fully equipped excluding (ii) & (i) below	Nos.	1.00
(ii)	Optical Interface Cards/SFP#		
	Nagrota		
a	S4.1 SFP	Nos.	-
b	L4.1 SFP	Nos.	4.00
	Barr/Gladni		
a	S4.1 SFP	Nos.	4.00
b	L4.1 SFP	Nos.	2.00
	Kishenpur/Udhampur		
a	S4.1 SFP	Nos.	-
b	L4.1 SFP	Nos.	2.00
(iii)	Tributary cards		
	Nagrota		
a	E1 Interface card(Min. 16 Interfaces per card)	Nos.	2.00
b	Ethernet interface 10/100 Base T with Layer-2 switching (Min 8 Interfaces per card)	Nos.	2.00
	Barr/Gladni		
a	E1 Interface card(Min. 16 Interfaces per card)	Nos.	2.00
b	Ethernet interface 10/100 Base T with Layer-2 switching (Min 8 Interfaces per card)	Nos.	2.00
b	Equipment Cabinet		
2.0	Network Manager System(NMS)		
	Nagrota		
(i)	Craft terminal		
a	Hardware	Set	1.00
b	Software	Set	1.00
	Barr/Gladni		
(i)	Craft terminal		
a	Hardware	Set	-
b	Software	Set	-
3.0	VOIP telephone instrument with one common switch(min. 8 port)		
	Nagrota	No.s	2.00
	Barr/Gladni	No.s	-
4.0	Approach Cable (24 fibres)		
	Nagrota		
a	24 Fibre(DW SM)	Kms	1.00
b	Installation hardware set for above 24 Fibre, Fibre Optic Approach Cable	Set	1.00
	Barr/Gladni		
a	24 Fibre(DW SM)	kms	1.00
b	Installation hardware set for above 24 Fibre, Fibre Optic Approach Cable	Set	1.00
	Kishenpur/Udhampur		
a	24 Fibre(DW SM)	kms	1.00
b	Installation hardware set for above 24 Fibre, Fibre Optic Approach Cable	Set	1.00
5.0	FODP		
	Nagrota		
a	48 Fibre Indoor Type,Rack Mounted with FCPC Coupling & Pigtails(5mtrs)	No.s	1.00
	Barr/Gladni		
a	48 Fibre Indoor Type,Rack Mounted with FCPC Coupling & Pigtails(5mtrs)	No.s	1.00
	Kishenpur/Udhampur		
a	48 Fibre Indoor Type,Rack Mounted with FCPC Coupling & Pigtails(5mtrs)	No.s	1.00
H-(i)	BATTERIES (VRLA type)		
1.1	220 V		
a)	500 AH	Set	2.00
1.2	48V		
a)	300 AH	Set	2.00

Sl. No.	Item Description	Unit	Qty.
H-(ii)	BATTERY CHARGER System		
1.1	220V, 80A/50 A Float Cum Boost	Nos.	2.00
1.2	48V, 50A/30 A Float Cum Boost	Nos.	2.00
I	Diesel Generator Set along with control panel (100 kVA)	Set	1.00
J	High wall type Split Air Conditioner Units of 2 TR capacity	Nos.	21.00
K	Fire Protection System		
1.1	Wheel/trolley mounted fire extinguishers :		
a	22.5 Kg DCP type	Nos.	4.00
b	22.5 Kg CO ₂ type	Nos.	4.00
1.2	Portable fire extinguishers:		
a	4.5 Kg DCP type	Nos.	6.00
b	4.5 Kg CO ₂ type	Nos.	10.00
1.3	Complete Pumping arrangement for Hydrant complete with all piping and valves, fitting etc. inside pump house	LS	1.00
1.4	Hydrant system with complete O/G and U/G piping and accessories etc. (all items) outside the pump house. Hydrant system shall cover the switchyard area, Transformers, Control Room, Stores etc. as per tender specification.	LS	1.00
1.5	Smoke detection and Alarm system with all accessories and fittings for CRB & FFPH	Set	1.00
L	ILLUMINATION SYSTEM		
L.1	Control Room Building (including indoor Lighting panel , Fixtures, Coduits, wire, indoor receptacles, Fans etc.)	LS	1.00
L.2	Fire Fighting Pump House Building (including Fixtures, Conduits, wire, indoor receptacles, Fans etc.)	LS	1.00
L.3	Security Room (including, Fixtures, Coduits, wire, indoor receptacles, Fans etc.)	LS	1.00
L.4	Storage room	LS	1.00
L.5	Outdoor Lighting (Switchyard and street lighting)		
1	Lighting Panel		
a)	Lighting Panel (Outdoor) Type ACP-2	Nos.	4.00
b)	Lighting Panel (Outdoor) Type ACP-3	Nos.	2.00
c)	Sub Lighting Panel (Outdoor) - SLP	Nos.	4.00
2	Lighting fixtures and Receptacles including junction box, lighting wires & flexible conduit (if required) from junction box to lighting fixture, mounting arrangement and other accessories/materials etc. as required for complete installation and commissioning of lighting fixture.		
a)	Lighting Fixture Type-SF1	Nos.	15.00
b)	Lighting Fixture Type-SF2	Nos.	20.00
c)	Lighting Fixture Type-SF3	Nos.	2.00
d)	Lighting Fixture Type-SF4	Nos.	2.00
e)	Lighting Fixture Type-SF5	Nos.	4.00
f)	Lighting Fixture Type-SC	Nos.	10.00
g)	Lighting Fixture Type-S-LED	Nos.	16.00
h)	15A, 240V, Outdoor Receptacle 2 pole, 3-pin type (Type RO)	Nos.	5.00
i)	125A, 415V, Interlocked switch socket outdoor Receptacle (Type RP)	Nos.	2.00
3	Lighting Poles Type A1	Nos.	10.00
4	Lighting Poles Type E1	Nos.	16.00
5	Cartwheel mounted aluminium ladder as per technical specification	No.	1.00
M	1.1kV grade cable along with associated accessories like clamps, glands, lugs and straight joints etc.		
1.1	Power Cables(XLPE) (1.1 kV) Aluminium Conductor armoured	LS	1.00
1.2	Power Cables(PVC) (1.1 kV) Aluminium Conductor armoured	LS	1.00
1.3	Control Cables(PVC) (1.1 kV) Copper Conductor armoured	LS	1.00
N	40 mm MS rod for Main Earthing	km	6.00
O	Lattice Structure		
i)	Non-standard gantry structures including all Bolts & Nuts (Towers, Beam)	MT	170.00
ii)	Non-standard Lightning Mast structures including all Bolts & Nuts	MT	42.00
iii)	Non-standard equipment support structures including all Bolts & Nuts	MT	58.00
P	Visual Monitoring System	LS	1.00
Q	Training of employers personal as per clause 10 of section project	LS	1.00
R	MANDATORY SPARES *(Break-up of Lumpsum quantity shall be as per Annexure-1 of Sec-Project of Technical specifications		
1	220/33kV, 50MVA, 3Phase Transformer	LS	1.00
2.0	245 kV CIRCUIT BREAKER	LS	1.00
3.0	245kV ISOLATORS	LS	1.00
4.0	245kV CURRENT TRANSFORMER(1-Phase)	LS	1.00
5.0	245kV Capacitive Voltage Transformer	LS	1.00
6.0	218kV SURGE ARRESTOR	LS	1.00
7.0	36kV CIRCUIT BREAKER	LS	1.00
8.0	36kV ISOLATOR	LS	1.00
9.0	36kV CURRENT TRANSFORMER	LS	1.00
10.0	Potential Transformer (1 Ph.) 33kV/√3/110/√3/110/√3/110/√3	No.	1.00
11.0	30kV SURGE ARRESTOR	LS	1.00
12.0	RELAY PROTECTION PANEL	LS	1.00
13.0	SUBSTATION AUTOMATION SYSTEM	LS	1.00
14.0	BATTERY CHARGER (220V and 48V)	LS	1.00
15.0	DG Set	LS	1.00
16.0	LT Transformer (315kVA)	LS	1.00
17.0	LT Transformer (160kVA)	LS	1.00
18.0	DG Set	LS	1.00
19.0	Illumination system	LS	1.00
20.0	Erection Hardware Items	LS	1.00
21.0	Tele Communication	LS	1.00
22.0	LT Switchgear	LS	1.00
R	Maintenance & Testing equipments :		
1	SDV Test Kit	No.	1.00
2	Meggar 5 KV	No.	1.00
3	Digital multimeter	No.	1.00
4	Portable SF6 gas refilling device	No.	1.00
5	SF6 Gas leak detector	No.	1.00
6	SF6 Dew Point Meter	No.	1.00
7	Circuit Breaker Analyzer with DCRM including transducer	No.	1.00
8	Digital Micro Ohm meter for contact resistance measurement	No.	1.00
9	Primary Current Injection Kit	No.	1.00
10	Secondary relay injection Kit - Relay Test Kit	No.	1.00
11	Earth resistance Tester	No.	1.00
12	3-ph Variac 440-480 Volts	No.	1.00
13	3-Phase Sequence meter	No.	1.00
14	Portable Dissolved Gas analysis (DGA) kit for Transformer Oil	No.	1.00
15	Oil Filtration Plant (Capacity - 6000 LPH)	No.	1.00
16	Oil Storage Tank - 10kL	No.	1.00
17	Transformer Turn Ratio Meter	No.	1.00
18	Capacitance & Ten Delta Measurement Kit	No.	1.00

Sl. No.	Item Description	Unit	Qty.
19	Winding Resistance Measurement Instrument	No.	1.00
20	Oil Sampling Bottle	Nos.	3.00
21.0	SF6 GAS FILTERING, EVACUATING AND DRYING PLANT	No	1.00
II			
LILO of 220KV Kishenpur-Barn/Gladni-Udhampur			
1.0	TOWERS		
1.1	Fabrication, galvanizing & supply of various type of tower & Gantry Structure, tower parts, tower extensions (complete) excluding bolts & nuts, step bolts and stubs but including hangers, D-Shackles, pack washers etc.		
	Normal Towers		
	i) Mild Steel	MT	100.00
	ii) HT Steel	MT	60.00
1.2	Fabrication, galvanizing & supply of stubs & cleats of various type of towers, tower extensions (complete) excluding bolts & nuts		
	i) Mild Steel	MT	2.00
	ii) HT Steel	MT	6.00
1.3	Supply of bolts and nuts including step bolts and spring washers		
	spring washers		
	i) For Towers & tower extrns.		
	(a) Hexagonal Bolts & Nuts including Step Bolts	MT	8.00
	ii) For stubs	MT	0.20
2.0	Supply of earthing of towers		
	a) Pipe type earthing	Nos.	20.00
	b) Counterpoise type (120 m length)	Nos.	2.00
	c) River crossing locations	Kgs.	
3.0	Supply of following tower accessories		
	a) Danger plate	Nos.	22.00
	b) Number plate	Nos.	22.00
	c) Phase Plate (Set of three)	Sets.	44.00
	d) Circuit Plate (Set of two)	Sets.	22.00
	e) Anticlimbing device	Nos.	22.00
	f) Bird Guards (Set of three)	Sets.	2.00
4.0	Design, manufacture and supply of the following line materials		
4.1	ACSR 'ZEBRA' Conductor	Kms.	38.00
4.2	Optical Fiber Ground Wire (24 fibre DWSM)	Kms.	4.00
4.3	Optical Fiber Ground Wire (48 fibre DWSM)	Kms.	4.00
4.4	COMPOSITE LONG ROD INSULATORS		
	70KN	Nos.	31.00
	120KN	Nos.	270.00
4.5	Hardware fittings		
	a) Single T Suspension insulator string for ACSR 'ZEBRA'	Sets	7.00
	b) Single suspension string (Pilot) for ACSR 'ZEBRA'	Sets	25.00
	c) Single tension string for ACSR 'ZEBRA'	Sets	243.00
	d) Double Tension String for ACSR 'ZEBRA'	Sets	13.00
4.6	Accessories for Conductor & OPGW		
	i) Midspan Compression Joint for ACSR 'ZEBRA' Conductor	Nos.	25.00
	ii) Repair Sleeves for ACSR 'ZEBRA' Conductor	Nos.	6.00
	iii) Flexible Copper bonds	Nos.	45.00
	iv) Vibration Damper for ACSR 'ZEBRA' Conductor	Nos.	509.00
	v) Vibration Damper for OPGW	Nos.	93.00
	vi) Tension assembly set for OPGW	Nos.	44.00
	a) Dead end Assembly	Set	3.00
	b) Double Tension Assembly at Joint Location	Set	2.00
	c) Double Tension Pass Through Assembly	Set	20.00
	vi) Suspension assembly for OPGW	Set	2.00
	viii) Downlead Clamps for OPGW	Nos.	9.00
	ix) Terminal Box for OPGW	Nos.	2.00
	x) Joint Box for OPGW	Nos.	3.00
5	River Crossing Towers		
5.1	Fabrication, galvanising and supply of special river crossing tower parts including stub/base plate, anchor bolt, platforms, ladders, hangers, D-shackles, gusset plates, pack plates & pack washers excluding bolts & nuts		
	a) Mild Steel Sections	MT	-
	b) High Tensile Steel sections	MT	-
5.2	Supply of bolts & nuts and step bolts including spring washers	MT	-
5.3	Supply of following items for aviation requirements		
	i) Span markers	Nos.	-
	ii) Obstruction lights (to be provided as per IS 5613)	Nos.	-
	a) 1 Medium + 2low intensity	Sets.	-
	b) 1 Medium + 4low intensity	Sets.	-
5.4	Test Equipment		
	a) Optical time Domain Reflectometer for 1310/1550nm with laser source (Equivalent to Anritsu MW 9076B1 or better	No.	1.00
	b) Optical Attenuators (Variable 1310/1550nm) Equivalent to JDSU OLA55 or better	No.	1.00
	c) Optical Power meter (1310/1550nm) Equivalent to JDSU OLP55 or better	No.	1.00
	d) Laser Light Source (Equivalent to EXFO FLS300-23BL or better	No.	1.00
	e) Optical Talk Set - Equivalent to JDSU OTS55 or better	No.	1.00
	f) Optical Fiber Fusion Splicer incl. Fibre cleaver (Equivalent to SumitomoT-39-SE or better	No.	1.00
	g) Calibrated Fibre	No.	1.00
	h) Connectorization kit (FIS - FI - 0053- FC - INST or equivalent)	No.	1.00
	i) Splice Kit (FIS - FI - 0053 -FF or equivalent)	No.	1.00
	j) Optical test accessory kit including all necessary connectors, adaptors, cables, terminations and other items required for testing	No.	1.00

BILL OF QUANTITY FOR "Construction of 2X50 MVA, 220/33 kV Nagrota (New) substation including LILO of 220kV Kishenpur-Barn S/C line or Udhampur-Gladni S/C line on D/C Tower at Nagrota Substation including Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at proposed Nagrota Substation under PMDP Sceme-15

INSTALLATION CHARGES

Sl. No.	(SAC) Service Accounting Code	Rate of GST Applicable (%)	Description	Unit	Quantity
220/33KV NAGROTA SUBSTATION					
A-1			TRANSFORMER		
1.1	998736		50MVA, 220/33KV three phase transformer without transformer oil	No.	2.00
1.2	998736		Insulating oil for 50MVA , 220/33 KV, 3-phase transformer(* 1Lot = Oil for 1 number transformer)	Lot	2.00
1.3	998736		Nitrogen Injection Fire Protection for for 50MVA , 220/33 KV, 3-phase transformer	No.	2.00
1.4	998736		On line Insulating oil drying system	No.	2.00
A-2			LT TRANSFORMER		
1.1	998736		315KVA, 33/0.433KV LT transformer	No.	2.00
A-3			VOTAGE STABLIZER		
1.1			315KVA, 3 Phase, Automatic Voltage Stablizer	No.	1.00
B-1			220 kV EQUIPMENT		
1.0			Circuit Breakers (3 Ph.)		
i)	998736		2500 A, 40 kA, SF6 Circuit Breakers (3-Phase) with support structure	Nos.	6.00
2.0			Isolators (3 Ph.)		
i)	998736		1600A, 40 kA with One earth Switch (Double break Isolator)	Nos.	5.00
ii)	998736		1600A, 40 kA without earth Switch (Double break Isolator) (Tandem)	Nos.	9.00
iii)	998736		1600A, 40kA with two earth Switch (Double break Isolator)	Nos.	5.00
iv)	998736		2500A, 40kA with two earth Switch (Double break Isolator)	Nos.	2.00
3.0			Current Transformers (1-Ph.)		
i)	998736		800A, 40kA, 5 core CT with 120% extended current rating	Nos.	15.00
ii)	998736		1600A, 40kA, 5 core CT with 150% extended current rating	Nos.	3.00
4.0			245 kV Capacitive Voltage Transformer (1- Phase)		
i)	998736		4400 pF	Nos.	12.00
5.0	998736		216 kV, 10KA Surge Arrester (1-ph) along with surge counter	Nos.	12.00
B-II					
1.1			ERECTION HARDWARE (WITHOUT BPI)		
			Insulator strings & Hardware, Spacers, conductor(s), bus-bar material, cable trays , Bay MB, clamps, connectors including equipment connectors, Junction Box, earthwire, earthing material, risers, auxiliary earthmat (excluding main earthmat), buried cable trenches/ PVC pipes for equipment & lighting, all accessories etc. for the following :		
			220kV ' Double Main & Transfer' type		
i)	998731		Line Bay	Set	2.00
ii)	998731		Transformer Bay	Set	2.00
iii)	998731		Bus Coupler Bay	Set	1.00
iv)	998731		Bus transfer Bay	Set	1.00
iv)	998731		Bus (For three bays)	Set	2.00
1.2	998736		220 kV Bus Post Insulators for the erection hardware	Nos.	85.00
C-I			33 kV EQUIPMENT		
1.0			Circuit Breakers (3 Ph.)		
i)	998736		36 kV, 1250A, 25 kA,3-Phase CircuitBreaker with support structure	Nos.	7.00
i)	998736		36 kV, 2500A, 25 kA,3-Phase CircuitBreaker with support structure	Nos.	1.00
2.0			Isolators (3 Ph.)		
i)	998736		36 KV, 1250A, 25 KA, 3-PHASE HDB ISOLATOR WITH ONE E/S	Nos.	7.00
ii)	998736		36 KV, 1250A, 25 KA, 3-PHASE HDB ISOLATOR WITHOUT E/S	Nos.	14.00
iii)	998736		36 KV, 1250A, 25 KA, 3-Phase HDB Isolator with two E/s	Nos.	7.00
iv)	998736		36 kV, 2500A, 25 KA, 3-Phase HDB Isolator with two E/s	Nos.	2.00
2.1	998736		36kV,400A Horn gap fuse (1-Ph.)	Nos.	6.00
3.0			Current Transformers (1 Ph.)		
i)	998736		36kV,1200A,25kA,1-Ph Current Transformer-120% rating	Nos.	21.00

Sl. No.	(SAC) Service Accounting Code	Rate of GST Applicable (%)	Description	Unit	Quantity
ii)	998736		36 KV, 2000A, 25 KA, 1-PHASE CURRENT TRANSFORMER WITH 150% EXTENDED RATING	Nos.	3.00
4.0			Potential Transformer (1 Ph.) 33kV/3/110/3/110/3/110/3	Nos.	6.00
5.0	998736		Surge Arrestors 30kV, 1-ph along with surge arrestor	Nos.	21.00
C-II					
1.1			ERECTION HARDWARE (WITHOUT BPI)		
			Insulator strings & Hardware, Spacers, conductor(s), bus-bar material, cable trays, Bay MB, clamps, connectors including equipment connectors, Junction Box, earthwire, earthing material, risers, auxiliary earthmat (excluding main earthmat), buried cable trenches/ PVC pipes for equipment & lighting, all accessories etc. for the following :		
			33 kV Double main with Bypass Isolator type		
i)	998731		Line Bay	Set	4.00
ii)	998731		Transformer Bay	Set	2.00
iii)	998731		BC Bay	Set	1.00
iv)	998731		Auxiliary Transformer Bay	Set	1.00
v)	998731		Bus (For Four Bays+ Three Bays) (2+1)	Set	3.00
1.2	998736		33kV Bus Post Insulators for the above	Nos.	30.00
2.0			Conductor, clamps, connectors including equipment connectors, earthing material including risers etc. (excluding main earthmat) required for connection of aux. LT transformer	Set	2.00
D			LT SWITCHGEAR		
1.1	998736		415V Main switchboard	Set	1.00
1.2	998736		415V ACDB	Set	1.00
1.3	998731		415V MLDB	Set	1.00
1.4	998736		415V Emergency LDB	Set	1.00
1.5	998736		220V DCDB	Set	2.00
1.6	998736		48V DCDB	Set	2.00
E1			RELAY PANELS (WITH AUTOMATION)		
1.0			220 kV (Swing Type Front Door Glass Simplex type)		
a			Circuit Breaker Relay Panel		
i	998736		With Auto Reclose	Set	3.00
ii	998736		With out Auto Reclose	Set	3.00
b	998736		Line Protection Panel	Set	2.00
d	998736		Transformer Protection Panel (For both HV & MV side)	Set	2.00
e	998736		Bus Bar Protection Panel	Set	1.00
E2			Teleprotection Equipments		
a)	998734		Digital protection coupler including cabling etc.	Set	2.00
b)	998734		Digital protection coupler including cabling etc. for other end	Set	2.00
c)			Shifting and re-erection of existing panel of Barn/Kishenpur or Gladni/Udhampur as per Technical specification	LS	1.00
2.0			33KV Panels (Swing Type Front Door Glass Simplex type)		
a	998736		Circuit Breaker Relay Panel With out Auto Reclose	Set	8.00
b	998736		Line Protection Panel	Set	4.00
F			SUBSTATION AUTOMATION SYSTEM (SAS)		
			Complete Substation Automation System (SAS) for 220/33 kV Substation including hardware and software for the substation & remote control stations alongwith associated equipments for the following bays as per TS:-		
a)	998736		220 kV System	Bay	6.00
b)	998736		33 kV System	Bay	7.00
c)	998736		BCU for Controlling and monitoring of Auxiliary System	Set	1.00
G			Tele Communication System		
A-1			SDH EQUIPMENTS(STM-4 MADM upto 5MSP Protected directions)		
(l)			Nagrota		
	998336		Base equipments(Common cards,Cross connect/control cards, power supply cards, power cabling, other hardware and accessories including sub rascks, patch cord, DDF etc fully equipped excluding (ii) & (iii) below	Nos.	1.00
			Barn/Gladni		
	998336		Base equipments(Common cards,Cross connect/control cards, power supply cards, power cabling, other hardware and accessories including sub rascks, patch cord, DDF etc fully equipped excluding (ii) & (iii) below	Nos.	1.00
(ii)			Optical Interface Cards/SFP		
			Nagrota		
a	998734		S4.1 SFP	Nos.	-
b	998734		L4.1 SFP	Nos.	4.00
			Barn/Gladni		
a	998734		S4.1 SFP	Nos.	4.00

Sl. No.	(SAC) Service Accounting Code	Rate of GST Applicable (%)	Description	Unit	Quantity
b	998734		L4.1 SFP	Nos.	2.00
			Kishenpur/Udhampur		
a	998734		S4.1 SFP	Nos.	-
b	998734		L4.1 SFP	Nos.	2.00
(iii)			Tributary cards		
			Nagrota		
a	998734		E1 Interface card(Min. 16 Interfaces per card)	Nos.	2.00
b	998336		Ethernet interface 10/100 Base T with Layer-2 switching (Min 8 Interfaces per card)	Nos.	2.00
			Barn/Gladni		
a	998734		E1 Interface card(Min. 16 Interfaces per card)	Nos.	2.00
b	998336		Ethernet interface 10/100 Base T with Layer-2 switching (Min 8 Interfaces per card)	Nos.	2.00
b			Equipment Cabinet		
2.0			Network Manager System(NMS)		
			Nagrota		
(l)			Craft terminal		
a	998734		Hardware	Set	1.00
b	998734		Software	Set	1.00
			Barn/Gladni		
(l)			Craft terminal		
a	998734		Hardware	Set	-
b	998734		Software	Set	-
3.0			VOIP telephone instrument with one common switch(min. 8 port)		
	998336		Nagrota	No.s	2.00
	998336		Barn/Gladni	No.s	-
4.0			Approach Cable (24 fibres)		
			Nagrota		
a	998336		24 Fibre(DWDM)	Kms	1.00
a	998336		Installation hardware set for above 24 Fibre, Fibre Optic Approach Cable	Set	1.00
			Barn/Gladni		
a	998336		24 Fibre(DWDM)	kms	1.00
a	998336		Installation hardware set for above 24 Fibre, Fibre Optic Approach Cable	Set	1.00
			Kishenpur/Udhampur		
a	998336		24 Fibre(DWDM)	kms	1.00
a	998336		Installation hardware set for above 24 Fibre, Fibre Optic Approach Cable	Set	1.00
5.0			FODP		
			Nagrota		
a	998716		48 Fibre:Indoor Type,Rack Mounted with FCPC Coupling & Pigtails(5mtrs)	No.s	1.00
			Barn/Gladni		
a	998716		48 Fibre:Indoor Type,Rack Mounted with FCPC Coupling & Pigtails(5mtrs)	No.s	1.00
			Kishenpur/Udhampur		
a	998716		48 Fibre:Indoor Type,Rack Mounted with FCPC Coupling & Pigtails(5mtrs)	No.s	1.00
H-(i)			BATTERIES (VRLA type)		
1.1			220 V		
a)	998736		500 AH	Set	2.00
1.2			48V		
a)	998736		300 AH	Set	2.00
H-(ii)			BATTERY CHARGER System		
1.1	998736		220V, 80 A/50 A Float Cum Boost	Nos.	2.00
1.2	998736		48V, 50A/30 A Float Cum Boost	Nos.	2.00
I	998731		Diesel Generator Set along with control panel (100 kVA)	Set	1.00
J	995463		High wall type Split Air Conditioner Units of 2 TR capacity	Nos.	21.00
K			Fire Protection System		
1.1			Wheel/trolley mounted fire extinguishers :		
a	998736		22.5 Kg DCP type	Nos.	4.00
b	998736		22.5 Kg CO ₂ type	Nos.	4.00
1.2			Portable fire extinguishers:		
a	995461		4.5 Kg DCP type	Nos.	6.00
b	995461		4.5 Kg CO ₂ type	Nos.	10.00
1.3			Complete Pumping arrangement for Hydrant complete with all piping and valves, fitting etc. inside pump house	LS	1.00

Sl. No.	(SAC) Service Accounting Code	Rate of GST Applicable (%)	Description	Unit	Quantity
1.4			Hydrant system with complete O/G and U/G piping and accessories etc.(all items) outside the pump house. Hydrant system shall cover the swtchyard area, Transformers,Control Room, Stores etc. as per tender specification.	LS	1.00
1.5	995461		Smoke detection and Alarm system with all accessories and fittings for CRB & FFPH	Set	1.00
L			ILLUMINATION SYSTEM		
L.1	998739		Control Room Building (including indoor Lighting panel , Fixtures, Coduits, wire, indoor receptacles, Fans etc.)	LS	1.00
L.2	998739		Fire Fighting Pump House Building (including Fixtures, Coduits, wire, indoor receptacles, Fans etc.)	LS	1.00
L.3	998739		Security Room (including, Fixtures, Coduits, wire, indoor receptacles, Fans etc.)	LS	1.00
L.4	998739		Storage room	LS	1.00
L.5			Outdoor Lighting (Switchyard and street lighting)		
1			Lighting Panel		
a)	995461		Lighting Panel (Outdoor) Type ACP-2	Nos.	4.00
b)	998731		Lighting Panel (Outdoor) Type ACP-3	Nos.	2.00
c)	998731		Sub Lighting Panel (Outdoor) - SLP	Nos.	4.00
2			Lighting fixtures and Receptacles including junction box, lighting wires& flexible conduit (if required) from junction box to lighting fixture, mounting arrangement and other accessories/materials etc. as required for complete installation and commisssioning of lighting fixture.		
a)			Lingting Fixture Type-SF1	Nos.	15.00
b)			Lingting Fixture Type-SF2	Nos.	20.00
c)			Lingting Fixture Type-SF3	Nos.	2.00
d)			Lingting Fixture Type-SF4	Nos.	2.00
e)			Lingting Fixture Type-SF5	Nos.	4.00
f)			Lighting Fixture Type-SC	Nos.	10.00
g)			Lighting Fixture Type-S-LED	Nos.	16.00
h)			15A, 240V: Outdoor Receptacle 2 pole, 3-pin type (Type RO)	Nos.	5.00
i)			125A, 415V : Interlocked switch socket outdoor Receptacle (Type RP)	Nos.	2.00
3			Lighting Poles Type A1	Nos.	10.00
4			Lighting Poles Type E1	Nos.	16.00
5			Cartwheel mounted aluminium ladder as per technical specification	No.	1.00
M			1.1kV grade cable along with associated accessories like clamps,glands, lugs and straight joints etc.		
1.1	998736		Power Cables(XLPE) (1.1 kV) Aluminium Conductor armoured	LS	1.00
1.2	998736		Power Cables(PVC) (1.1 kV) Aluminium Conductor armoured	LS	1.00
1.3	998736		Control Cables(PVC) (1.1 kV) Copper Conductor armoured	LS	1.00
N	998731		40 mm MS rod for Main Earthmat	kM	6.00
O			Lattice Structure		
			i) Non-standard gantry structures including all Bolts & Nuts (Towers, Beam)	MT	170.00
			ii) Non-standard Lighting Mast structures including all Bolts & Nuts	MT	42.00
			ii) Non-standard equipment support structures including all Bolts & Nuts	MT	58.00
P			Visual Monitoring System	LS	1.00
Q			Training of employers personal as per clause 10 of section project	LS	1.00
R			CIVIL WORKS		
1.0	995432		Soil Investigation and Contour Survey as per TS	LS	1.00
2.0	995432		Earth work filling with borrowed earth with all leads and lifts including etc (borrowed area to be decided by contractor)	Cu. M	5,000.00
3.0			Levelling of Area (Cutting & Filling of Soil & Backfilling with same excavated soil)		
3.1			Soft Rock	Cu. M	20,000.00
3.2			Normal Soil	Cu. M	40,000.00
4.0			Design, Engineering and Construction of foundation for following equipments/Structures. All civil works including earthwork excavation for all type of soils , concreting, reinforcement steel,Steel grating for Transformer oil pits, Rail tracks, other miscellaneous steel, backfill and disposable of excess earth, all complete as per TS and approved drawing.		
4.1	998736		50MVA, Power Transformer	Nos.	2.00
4.2	998736		315 KVA L.T. Transformer	Nos.	2.00
4.3	998736		220kV Tower Structure	Nos.	27.00

Sl. No.	(SAC) Service Accounting Code	Rate of GST Applicable (%)	Description	Unit	Quantity
4.4	998736		Lightning Mast Structure	Nos.	4.00
4.5			33kV Tower Structure	Nos.	35.00
4.6			220kV & 33kV Equipment Structure	Nos.	279.00
4.7	998731		100 KVA D.G. Set	Nos.	1.00
5.0			Design, Engineering & Construction of Cable Trench of various sizes and crossings as per drg. given in specs including all civil works, earthwork excavation for all type of soils , concreting, reinforcement steel,backfill and disposable of excess earth, all complete as per TS and approved drawing.		
5.1	995462		Section 1-1	R. Mt	120.00
5.2	995462		Section 2-2	R. Mt	180.00
5.3	995462		Section 3-3	R. Mt	160.00
5.4	995462		Section 4-4	R. Mt	240.00
6			Design, Engineering and Construction of following buildings inclusive of Excavation in all kind of soils, PCC, RCC, reinforcement, internal cable trench (if required) internal and external finish, internal water supply, internal and external sanitation, septic tank and soak pit etc. complete in all respects		
6.1	995414		Control Room Building (Double Storey)	Sq. Mt	520.00
6.2	995414		Fire Fighting Pump House	Sq. Mt	50.00
6.3	995414		Security Room	Sq. Mt	10.00
6.4			Store Room (16 Mtr. X 8 Mtr. X 5 Mtr. (Clear height))	Sq. Mt	128.00
6.5	995414		Parking shed RCC for 5 Nos. Vehicle	LS	1.00
7			Design, Engineering and Construction of Fire Fighting Tank including excavation of all kinds of soil, PCC, RCC, Reinforcement, Roof, Pipe Fittings and fixtures, internal and external finishes etc complete in all respects	LS	1.00
8	995421		Construction of Concrete (RCC) road. All civil works for roads including earthwork excavation, grading, backfill, disposable of excess earth, concreting, reinforcement steel, RCC hume pipe crossings (NP3 Pipe) etc. all complete as per TS and approved drawings.		
8.1			Road 3.75m wide	R. Mtrs	1,500.00
8.2			Road 5.5m wide	R. Mtrs	500.00
9.0	995454		Design, Engineering & Construction of Boundary wall including excavation, concrete, reinforcement steel ,structural steel, plaster, painting, barbed wire and concertina coil etc all complete as per technical specification (2.5 m high R.C.C frame wall as per Drawing and 0.5 m high angle support on top).	R. Mtrs	900.00
10.0	995454		Main boundary wall Gate (Steel) including all works complete as per technical specification	No.	1.00
11.0	995477		Fencing including Fencing Gate	R.Mts	550.00
12.0	995462		Design and construction of Drainage system including culverts	LS	1.00
13.0	995424		Antiweed treatment	Sq.mt	10,000.00
14.0	995454		75mm thick P.C.C (1:5:10) in Switchyard area	Sq.mt	10,000.00
15.0	995433		Gravel Filling (100 mm Thick)	Sq. mt	10,000.00
16.0			Supplying & laying RCC hume pipe of grade (NP-3) for culverts and cable trench crossings of following dia.		
	995421		a) 200mm	R.Mts	10.00
	995421		b) 300mm	R.Mts	10.00
	995421		c) 450mm	R.Mts	10.00
17.0			Supplying and erecting dewatering pumps		
			a) 5 HP	No.	2.00
			b) 1.0 HP	No.	2.00
18.0			Water Supply		
			Providing and Laying G.I.Pipe (Medium Duty) for water supply to Control Room, Security Room and Fire fighting Tank		
18.1	995462		200mm Dia	Mts.	50.00
18.2	995462		50mm Dia	Mts.	25.00
18.3	995462		40mm Dia	Mts.	40.00
18.4	995462		25mm Dia	Mts.	50.00
19.0			Random rubble Masonary Retaining Wall:		

Sl. No.	(SAC) Service Accounting Code	Rate of GST Applicable (%)	Description	Unit	Quantity
			Design, Engineering & Construction of Random rubble Masonary Retaining Wall with hard stone in foundation and plinth including Excavation for foundatuion for all type of soils, PCC, Scaffolding, backfill and dispose of excess earth and coping coarse levelling up with cement concrete 1:6:12(1 cement: 6 coarse sand and 12 graded stone aggregate 20mm nominal size) upto plinth level with cement mortar 1:6 (1 cement : 6 coarse sand) as per approved drawing and CPWD Specifications.	CuM	5,000.00
20.0			RCC Retaining Wall		
			Design, Engineering & Construction of RCC Retaining Wall including Excavation for foundatuion for all type of soils, PCC, laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks,the cost of cantering, shuttering and finishing etc., up to floor five level: 1:1½:3 (1 cement : 1½ coarse sand (zone-III) : 3 graded stone aggregate 20 mm as per approved drawing	CuM	1,000.00
21.0	995454		Rain Water Harvesting	LS	1.00
22.0	995454		Miscellaneous Steel	MT	20.00
TOTAL (I)					
II					
LILo of 220kV Kishenpur-Barn/Udhampur-Gladni					
1.0			Survey		
	998344		a)Detailed survey including profiling, tower spotting	Kms.	6.00
	998344		b) Check Survey	Kms.	6.00
2.0			Soil Investigation		
2.1			Detailed Soil Investigation		
	998342		i)All kinds of soil except fissured rock & hard rock	Loc.	4.00
	998342		ii)Fissured Rock	Loc.	3.00
	998342		iii) Hard Rock	Loc.	
	998342		iv)River Crossing Location	Loc.	
3.0			Transportation and Erection of various type of towers,tower & Gantry Structure, parts and tower extension (complete) with bolts and nuts, including tack welding and supply and application of zinc rich primer and two coats of enamel paint		
	998342		a) Normal Tower	MT	176.20
	998342		b) River Crossing Tower	MT	
4.0			Benching		
	995432		i)All kinds of soil except fissured rock & hard rock	CUM	500.00
	995432		ii)Fissured Rock	CUM	200.00
	995432		iii) Hard Rock	CUM	
5.0			Work associated with tower foundations (excluding river crossing foundations)		
5.1			Excavation in various type of Soils		
	995433		i) Dry Soil	CUM	1,128.00
	995433		ii)Wet Soil	CUM	2,041.00
	995433		iii)Dry fissured Rock	CUM	600.00
5.2			Concreting (including all associated works related to foundation not covered in 5.1 & 5.3)		
	995454		i) Nominal Concrete mix 1:1.5:3	CUM	382.00
	995454		ii) Nominal Concrete mix 1:3:6	CUM	46.00
5.3	995454		Supply and placement of reinforcement steel	MT	26.00
5.4	995455		Installation of stub including bolts & nuts	MT	8.20
6.0	995456		Protection of tower Footings (supply and installation)		
	995456		a) Random rubble stone masonry including excavation (1:5 cement mortar), PCC 1:2:4 at top of RR walls and foundations, backfilling and gap levelling complete as per approved drawing.	CUM	500.00
	995456		b) Revetment of pack 6" & above stone/boulders in heavily coated GI 4mm dia performed wire mesh size 100 mmx100mm as per approved drawing	CUM	500.00
7.0			Installation of Earthing for towers		
	995468		a) Pipe type earthing	Nos	20.00
	995468		b) Counterpoise type earthing	Nos	2.00
			c) River crossing tower	Kgs.	
8.0			Installation of tower accessories		
	995444		a) Danger plate	Nos.	22.00
	995444		b) Number plate	Nos.	22.00
	995444		c) Phase Plate (Set of three)	Sets.	44.00
	995444		d) Circuit Plate (Set of two)	Sets	22.00
	995444		e) Anticlimbing device	Nos.	22.00
	995444		f) Bird Guards (Set of three)	Sets.	2.00
9.0			Installation of the following Line materials		
9.1			ACSR "Zebra" Conductor	Kms.	38.00

Sl. No.	(SAC) Service Accounting Code	Rate of GST Applicable (%)	Description	Unit	Quantity
9.2			Optical Fiber Ground Wire (24 fibre DWSM)	Kms.	4.00
9.3			Optical Fiber Ground Wire (48 fibre DWSM)	Kms.	4.00
9.4			COMPOSITE LONG ROD INSULATORS		
			70KN	Nos.	31.00
			120KN	Nos.	270.00
9.5			Hardware Fittings		
			a) Single 'I' Suspension Insulator string for ACSR "Zebra"	Sets	7.00
			b) Single suspension string (Pilot) for ACSR "Zebra"	Sets	25.00
			c) Single tension string for ACSR "Zebra"	Sets	243.00
			d) Double Tension String		13.00
9.6			Accessories for Conductor and OPGW		
i)			Midspan Compression Joint for ACSR 'ZEBRA' Conductor	Nos.	25.00
ii)			Repair Sleeves for ACSR ZEBRA Conductor	Nos.	6.00
iii)			Flexible Copper bonds	Nos.	45.00
iv)			Vibration Damper for ACSR 'ZEBRA' Conductor	Nos.	509.00
v)			Vibration Damper for OPGW	Nos.	93.00
vi)			Tension assembly set for OPGW	Nos.	44.00
a			Dead end Assembly	Set	3.00
b			Double Tension Assembly at Joint Location	Set	2.00
c			Double Tension Pass Through Assembly	Set	20.00
vii)			Suspension assembly for OPGW	Set	2.00
viii)			Downlead Clamps for OPGW	Nos.	9.00
ix)			Terminal Box for OPGW	Nos.	2.00
10.0			Installation of insulator strings complete with arcing horns and necessary hardware, installing and stringing of conductor including fixing of conductor accessories, installing and stringing of earthwire/OPGW including fixing of earthwire/OPGW accessories for the line.		
a)			Normal Stretch		
			i) Single circuit	Kms.	
			ii) Double circuit	Kms.	6.00
b)			River Crossing stretch(Double Circuit)	Kms	
11.0			Aviation requirements		
11.1			Painting of towers		
a)			Normal tower	MT	
b)			River Crossing Tower	MT	
11.2			installation of following		
i)			Span Marker	Sets.	
ii)			Obstruction lights (to be provided as per IS5613)		
			a) 1 Medium + 2 low intensity		
			b) 1 Medium + 4 low intensity		
12	995455		River Crossing Foundation(Open cast including Raised Chimney)	Locns.	
III)	Design, Engineering, Supply & Construction of Residential Staff Quarters & associated facilities at 220/33 kV Substation Nagrota (Jammu)				
1			Civil Works- Architecture,Design, Engineering, including procurement and subcontracting (if any), delivery, construction, Contouring and site leveling (if required), installation and completion of the facilities including for following residential staff quarters.		
1.1			JEs Quarter -4 nos. (1 Unit of 2 GF+2FF with common stairs)	Sq. Ft.	2,500.00
1.2			SBA's Quarter - 8 Nos. (2 Units of 2 GF + 2 FF each with Common Stairs)	Sq. Ft.	2,400.00
1.3			AE/AEE Quarter (1 Nos. Single Storey)	Sq. Ft.	1,300.00
1.4			Santry/Security Post	Sq. Ft.	100.00
2			Septic tank and soakpit for township	LS	1.00
3			Providing & Laying of SW pipes for external sewerage system as per technical specification & approved design all sizes 100 mm, 200 mm, 300 mm including construction of inspection chambers as per approved design.	LS	1.00
4			External water supply arrangement as per approved design for colony & other buildings etc	LS	1.00
5			Underground water storage tank of approved size & capacity for colony & other buildings	LS	1.00
6			Ornamental Works such as development of lawns and landscaping	LS	1.00
7			Electrical Works- Design, Engineering, procurement, delivery, erection, testing and commissioning of the facilities for following job works:-		

Sl. No.	(SAC) Service Accounting Code	Rate of GST Applicable (%)	Description	Unit	Quantity
7.1			Construction of 1 x 160 KVA, 11/0.433 kV Distribution transformer along with 11kV isolator, horn gap fuse, Bus Post Insulator and Surge arrestors for LT Station along with 415 V, 400A Township DB etc in complete as required.	LS	1.00
7.2			Electrical Panel/Sub- Panel as per the works requirement in complete.	LS	1.00
7.3			Internal & External Wiring for Power & light points including DB, switchboard etc in complete with proper earthing as per works requirement.	LS	1.00
7.4			Ceiling Fan, 1400 mm sweep in complete.	LS	1.00
7.5			Lighting Fixture LED Luminaires type as per illumination level required for the indoor building lightening etc in complete.	LS	1.00
7.6			LED Street Light Luminaire as per illumination level required for the street in complete as required.	LS	1.00
8			Power & Control wiring including earthing, DB, timer etc for street light as required in complete.		
8.1			Street Lighting Pole of 6 meter of approved make as required in complete.	LS	1.00
8.2			1.1kV grade 3.5Cx240 sqmm (PVC) Power Cable as required in complete.	LS	1.00
8.3			1.1kV grade 3.5Cx70 sqmm (PVC) Power Cable as required in complete.	LS	1.00
8.4			1.1kV grade 3.5Cx35 sqmm (PVC) Power Cable as required in complete.	LS	1.00
8.5			1.1kV grade 2Cx16 sqmm (PVC) Power Cable as required in complete.	LS	1.00
8.6			Any other item required for completion of scope of works	LS	1.00
9			Design Engineering & Construction of Boundary Wall for Township: 1.5 Mtr. Height with RCC column & 230 thk. Brickwork, including excavation, RCC, Reinforcement Steel, plaster, painting complete including one MS Steel gate of Mtr.	RM	200.00