

CHHATTISGARH STATE POWER TRANSMISSION COMPANY LIMITED

छत्तीसगढ़ स्टेट पावर ट्रांसमिशन कंपनी लिमिटेड

(C.G. Govt. Undertaking) ¼छत्तीसगढ़ शासन का एक उपक्रम½

STATE LOAD DESPATCH CENTRE: RAIPUR

छत्तीसगढ़ राज्य भार प्रेषण केंद्र, रायपुर

PHONE (दूरभाष): - 0771-2574172

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TR - 107

TENDER SPECIFICATION

FOR

SURVEY, SUPPLY, INSTALLATION (LIVE LINE), TESTING

&

COMMISIONING

OF

12 FIBRE ADSS OPTICAL FIBRE CABLE

BETWEEN

RAWANBHATA 132 KV S/s & SLDC, DANGANIA

LAST DATE & TIME OF SUBMISSION OF TENDER: -

29/05/2017(TIME 15:00 HRS.)

DUE DATE OF OPENING OF TENDER: -

29/05/2017(TIME 15:30 HRS.)

Price: Rs.1000/-

INDEX

| Sl. No. | Particulars | Page No. |
|---------|---|-------------|
| 1 | NIT | 3 |
| 2 | Tender Form | 4 |
| 3 | Section - I – Special Instruction to Bidder General Instruction to Bidder | 5-7 8-28 |
| 4 | Section – II Technical Specification | 29-45 |
| 5 | Schedule to be furnished with Techno-commercial bid | |
| 5.1 | SCHEDULE - I – Price Bid | 46-47 |
| 5.2 | SCHEDULE- II– Technical Deviations | 48 |
| 5.3 | SCHEDULE - III – Commercial Deviations | 49 |
| 5.4 | SCHEDULE- IV – Bidder’s Past Experience | 50 |
| 5.5 | SCHEDULE -V-A – Commercial Information | 51-52 |
| 5.6 | SCHEDULE- V-B – Technical Information | 53 |
| 5.7 | SCHEDULE- V-C – Commercial Questionnaire | 54-55 |
| 5.8 | SCHEDULE- VI – Pre contract Integrity Pact | 56-61 |
| 5.9 | SCHEDULE- VII – Proforma of Bank Guarantee | 62 |
| 5.10 | SCHEDULE- VIII – Proforma of Agreement | 63-64 |
| 6 | ANNEXURE I - Guaranteed Technical Particulars | 65 |
| 7 | ANNEXURE-II - Technical Particular to be filled by Bidder | 66-68 |
| 8 | ANNEXURE-III - Un-Priced Bill of Material | 69 |
| 9 | ANNEXURE – IV – “A” & “B” - ADSS Cable Route | 70-71 |

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|  <p>CSPTCL छत्तीसगढ़ स्टेट पावर ट्रांसमिशन कंपनी लिमिटेड CIN - U40108CT2003SGC015820</p> | <p>CHHATTISGARH STATE POWER TRANSMISSION COMPANY LIMITED छत्तीसगढ़ स्टेट पावर ट्रांसमिशन कंपनी लिमिटेड (C.G. Govt. Undertaking) ¼छत्तीसगढ़ शासन का एक उपक्रम½ CHHATTISGARH STATE LOAD DESPATCH CENTRE: RAIPUR छत्तीसगढ़ राज्य भार प्रेषण केंद्र, रायपुर</p> | |
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NO. 03-02/E&M/TR-107/ADSS Cable/264

Raipur, Dated 08/05/2017

NOTICE INVITING TENDER

Sealed tenders are invited from Experienced Firm for Survey, Supply, Installation (Live Line), Testing and Commissioning of 12 / 24 fibre ADSS Optical Fibre Cable along with suitable hardware accessories on 33 KV CSPDCL poles from 132/33 KV S/s Rawanbhata to SLDC Raipur as per the details given below: -

| Sl.No. | Tender No. | Particulars | Qty. | Cost of Tender Doc. | EMD | Due Date & Time |
|--------|---------------|---|------------------|---------------------|------------|-------------------------|
| 1. | TR-107 | Survey , Supply, Installation (Live Line), Testing and Commissioning of 12 / 24 fibre ADSS Optical Fibre Cable along with suitable hardware accessories on 33 KV CSPDCL poles from 132/33 KV S/s Rawanbhata to SLDC Raipur. | 7 Km. (1 Job) | Rs. 1000 | Rs. 39,000 | 29/05/2017 15:00 hrs |

NOTE:-
i) In case any of the above dates is declared as holiday then the particular date will automatically get shifted to next working day.
ii) The quantities mentioned above are tentative & may vary according to final requirement.
iii) Any notice for extension of due date of tender opening shall not be published in newspapers. It will be displayed only on official website of the SLDC (www.sldccg.com) & power companies (www.cspc.co.in).

// TERMS AND CONDITIONS //

- (i) The tender documents can be obtained from the office of the CE (LD) in person on payment of cost of tender documents in the form of DD only made out in the name of **Manager (RAO: HQ), CSPTCL, Raipur** accompanied with firm's application on its letter head. If tender document is required by post, Rs. 100/- is to be paid by DD additionally along with the cost of documents. If more than one tender document is required, separate DDs should be furnished for each tender. CSPTCL shall not be responsible for any postal delay in receipt/ non-receipt of tender documents. No receipt of tender shall be issued in any case.
- (ii) The tender document can also be downloaded from official website of the SLDC (www.sldccg.com) & power companies (www.cspc.co.in) (go through Chhattisgarh State Power Transmission Co. Ltd.- Tender Notice) and required tender fee in form of DD in favour of **Manager (RAO:HQ), CSPTCL, Raipur** payable at Raipur should be submitted along with EMD in envelope containing DD of EMD. The envelope containing DDs of cost of tender document and EMD should be suitably super scribed "**DDs containing cost of tender document and EMD**". The details of DDs be mentioned on the outer side of the envelope also. Please note carefully in absence of aforesaid requisite tender fee, further bids shall not be considered for opening.
- (iii) Tender document and the details specification can be obtained on any working day one day prior to the due date. The tenders duly filled in shall be dropped/ get dropped in the specified tender box up to 15.00 Hrs on the due date. Any other means of delivery shall not be accepted. No receipt of tender shall be issued in any case. The tender box shall be locked/ sealed at 15.00 Hrs on the due date and shall be opened at 15.30 Hrs on the same date.
- (iv) After publication of NIT & before the date of opening of TC bid, corrigendum / other information (if any) shall be displayed on our official web-site only. The bidders are requested to remain in contact with this office or visit our web-site for any development / clarification / amendment issued subsequently.
- (v) CSPTCL reserves the right to accept or reject any or all the offers, in part or full without assigning any reason whatsoever.

**Chief Engineer (LD),
SLDC, CSPTCL, Raipur**

TENDER FORM

CHHATTISGARHSTATEPOWER TRANSMISSION CO. LTD.,RAIPUR(C.G.)

Tender for Survey, Supply, Installation (Live Line), Testing And Commissioning Of 12 Fibre ADSS Optical Fibre Cable along with suitable hardware accessories on 33 KV CSPDCL poles from 132/33 KV S/s Rawanbhata to SLDC Raipur

Tender document Sl.No.....

ISSUED to M/s-----

Cost of Tender documents **Rs .1000/- (Rs. One Thousand only) {Nonrefundable}**

Received vide D.D. No.....dtd.....

Name of Bank-----

**Signature & Seal of Issuing Authority
SLDC, CSPTCL, Raipur**

The undersigned hereby tender and offer (subject to CSPTCLs conditions of tendering), Chhattisgarh State Power Transmission Co. Ltd. for Survey, Supply, Installation (live line) and Commissioning of 12 / 24 fibre ADSS Optical Fibre Cable along with suitable hardware accessories on 33 KV CSPDCL poles from 132/33 KV S/s Rawanbhata to SLDC Raipur and things which are described or referred to in the enclosures & annexure to the specification **TR-107** copies of which are annexed here to and which under the terms thereof are to be supplied, executed and done by the contractor in a thoroughly good and workman like manner and to perform and observe the provisions and agreements or the part of the contract contained in or reasonably to be inferred from the said tender documents for the sum and at the rates set out in schedules annexed hereto.

It is confirmed that:

- (i) Questionnaire for Commercial terms and conditions.
- (ii) Questionnaire for Technical specifications of the Equipments, and
- (iii) All other conditions wherever described in the tender documents have been replied in full giving clear details. It has been noted that in case any reply is not given or any reply is incomplete / ambiguous the CSPTCL will have right to take the same to be advantageous for the CSPTCL. CSPTCL's decision in this regard will be final. The bidder will have no right to furnish any technical or commercial clarification after opening of the bid which may in any way alter the offered prices.

Dated, this dayof

Bidder's Signature

Bidder's Address

Note: - This form duly signed & stamped should be enclosed with Commercial bid invariably in original i.e. in sheet bearing CSPTCL's officer's sign.

SECTION – I

SPECIAL INSTRUCTIONS TO BIDDERS

1. The due date of submission of tender is 29/05/2017 till 3.00 p.m. and opening of tender is on same day at 3.30 pm in the O/o CE (LD), SLDC, Raipur.
2. The tender should be dropped in the tender box placed in the O/o CE (LD), SLDC, Raipur for this particular tender No. **TR-107**. In case, the tender is sent through post / courier, it will be responsibility of the bidder to drop/ get dropped the bid in the tender box. Receipt of tenders shall not be given in any case. The tender should be dropped before or up to 3.00 pm on due date of submission. Tender box shall be sealed at 03.00 pm and in no case tenders shall be allowed to be dropped after 03.00 pm.
3. **Earnest Money:** -The Earnest Money in the instant tender is **Rs. 39,000/- (Rs. Thirty Nine Thousand only)** payable in the form of demand draft in favour of Manager (RAO: HQ), CSPTCL, Raipur.
4. The bidding is open to Contractor / Firm who can provide satisfactory evidence to substantiate this as per clause 5 given below.
5. **Pre-Bid Qualifying Requirements:-**
 - (i) The bidder should have installation(live line), testing and commissioning experience (along-with supply) of ADSS or OPGW on EHT / HT lines (commutatively 10 KMs in one or more orders) in Indian (Central/ State) Govt. / Semi Govt. / Corporate Power Utilities such as PGCIL, NTPC, Electricity Boards, State Power Companies and any Indian Power utility.

The above work of installation(live line), testing and commissioning (along-with supply) should have been successfully completed at least **ONE YEAR** before the date of NIT.

The bidder shall be required to furnish satisfactory work completion certificate issued by competent authority along-with the detailed order/s copy in support of experience.

The bidder / firm participating in tender should be Indian.
 - (ii) The bidder should have Minimum Average Annual Turn Over (MAAT) of **Rs. 60.00 Lacs** in consecutive last three financial years (i.e. 2013-14, 2014-15 & 2015-16). The Annual Profit & Loss Statement and turnover of last **3** years duly certified by CA should be submitted in support of MAAT.
6. Rates for supply & services (installation, testing & commissioning) shall be quoted separately. No price variation shall be admissible. PRICE BID has to be submitted in prescribed format only as per **Schedule-I** & as mentioned below: -
 - (i) **Supply:** - Ex-works price for supply portion including packing and forwarding charges should be quoted. Excise Duty, Sales Tax (against "C" form) / VAT, freight & any other charges should be quoted separately. **The total F.O.R. destination price should be quoted in the relevant column.**Entry tax shall be paid by CSPTCL.
 - (ii) **Service (Installation, Testing & Commissioning):** - Rate for Installation, Testing & Commissioning portion shall be quoted separately. Service tax & any other taxes / duties on the same should be quoted separately.
7. The prices will be evaluated on the basis of total price, i.e. rates quoted for supply of materials and rates for installation, testing & commissioning including taxes, duties & any other charges. The total price shall be taken as final for computing the competitive rates and for all purpose.
8. The offers of those Bidders, who do not agree to CSPTCL's terms & conditions detailed in this document shall be liable for rejection.

9. The tender document shall be available for sale in the Office of CE (LD) on payment of the cost of tender document through demand draft / cash payment on all working days up to one day prior to the due date of opening. The tender document shall also be displayed in website of the SLDC (www.sldccg.com) & power companies (www.cspc.co.in) under tenders section and bidders may download the tenders from the website directly. In such case, the payment of cost of tender document shall be made through demand draft along with the bid. The details are given in clause No. 5 of Section-I (General Instruction to bidders).
10. The Company reserves the right to reject any or all tenders or accept any tender in full or part, considered advantageous to the C.S. Power Transmission Co. Ltd., whether, it is lowest or not without assigning any reason whatsoever.
11. Bidders are advised to keep in mind the conditions stated in para 4.2 & 5 of 'General instructions to bidders' at the time of filling up of tender and comply accordingly to avoid risk of rejection of tender in case of not properly complied.
12. **The bidder should ensure compliance of following points in order to avoid rejection of tender:-**
- (i) Demand Draft towards EMD **OR** proof of exemption valid as on due date of opening duly notarized by a public notary is to be submitted in **Envelope -I**.
- Please note that in case of exemption claimed from EMD by the SSI units registered under NSIC/ DIC, the copy of valid certificate issued by concerned authority along with enclosure should also be furnished. The name of material mentioned in the tender should appear in this list. Further, the copy of certificate (each page) should bear original signature & seal of the Notary.
- (ii) Demand Draft toward tender document cost, in case tender has been downloaded from our website, shall be placed inside **Envelope-I**.
- In case of non-compliance of above instructions tender shall be liable for rejection.
- (iii) Techno-Commercial Bid along with Integrity Pact is to be placed inside **Envelope-II**.
- (iv) Price bid in Duplicate, complete in all respect as per the price schedule of the tender is to be placed inside **Envelope-III**. Any discount offered should be inside price bid **Envelope-III** only. **No discount offer shall be considered which is pasted or stapled / enclosed outside the price bid envelope for the purpose of evaluation and comparative statement.**
- (v) Further, each of the envelope (envelope-I, II & III) shall be superscribed with the name of work, tender specification number, due date of opening, name and address of bidder and shall be addressed to **"THE Chief Engineer (LD), SLDC, CSPTCL, RAIPUR"**.
- (vi) All above three envelopes shall be kept in a big size **Envelope-IV** and it should be addressed to **"Chief Engineer (LD), SLDC, CSPTCL, SLDC Building, Dangania, Raipur"**. This envelope should be sealed and superscribed properly, stating that it contains tender in three separate parts, along with tender specification number, due date of opening, details of EMD, name and complete address of the bidder with phone & mobile numbers for contact.
13. **INTEGRITY PACT:** - The bidder shall have to submit pre-contract integrity pact in the format enclosed as Schedule-VIII on non-judicial stamp paper worth Rs.250/- duly signed by the bidder along with the Techno-Commercial bid. The validity of this integrity pact shall be from the date of its signing and extended up to 2 years or the complete execution of the contract to the satisfaction of both the Buyer and the Bidder/Seller, whichever is later. The Integrity Pact of unsuccessful bidder shall expire after six months from the date of the signing of the contract.

* * * *

GENERAL INSTRUCTIONS TO BIDDERS

1. **SCOPE:**

The subject tender specification covers survey, supply, loading, unloading, transportation of ADSS cable & associated hardware accessories etc. & installation works as stated below: -

- (i) Supply of 12/24 fibre ADSS optical fibre cable along with following associated hardware accessories as per the technical specification mentioned: -
 - a) ADSS Cable Suspension Assembly complete in all respect including Earthing Clamps, Formed Wire Dead-End, Suspensions Unit, Formed Wire Suspensions etc.
 - b) Tension Assembly suitable for ADSS Cable including Mini Bracket, Mini Formed Wire Tangent, Trunnion Assemblies, Down lead Clamp etc.
 - c) ADSS Cable Spiral Vibration Damper
 - d) 12 / 24 Fibre Inline Splice Enclosure
- (ii) Survey, loading, unloading, transportation, Installation (Live Line), Testing & Commissioning of ADSS cable & associated hardware accessories on 33 KV CSPDCL poles from Rawanbhata 132 KV S/s to SLDC, Dangania, Raipur as per the scope of work.
- (iii) **Laying / Installation work of ADSS cable shall be carried out on 33KV Live Line from 132KV S/S Rawanbhata to SLDC Dangania Raipur.**

2. While the bidder may make all out efforts to offer for the complete scope of tender, they may please note the following: -

2.1 **ACCEPTANCE OF OFFER:**

The CSPTCL reserves the right to split the tender into different lots towards supply. Bidders are advised to go through the contents of specific requirement for standard conditions very carefully and in absence of non-compliance / lapse, responsibility for the same will rest on bidder.

2.2 **CRITERIA FOR PLACEMENT OF ORDER:**

The CSPTCL will award the contract to the successful bidder whose bid has been determined to be technically and commercially acceptable and has been determined as the lowest evaluated technically and commercially bid as per the evaluation process decided by the CSPTCL, provided further that the bidder is determined to be qualified to perform the contract satisfactorily. The CSPTCL shall be the sole judge in this regard. Post bid price revision in any form whatsoever, will not be permitted after the price bids are opened.

3. Bidders are requested to go through our technical requirement carefully and it may be noted that furnishing of all information as required in various schedules enclosed is a must. In case any of the schedule, duly filled

in, is not found furnished as required in the Schedules /Annexure the tender will be treated as incomplete, and will be liable for rejection without any correspondence by the CSPTCL.

3.1 EXTENSION ORDER:

CSPTCL reserves the right to place extension order for Supply, Installation, Testing & Commissioning of 50% additional quantity of material / equipments / works with associated accessories within six months from date of order and accordingly offered prices should be taken into account for these requirements.

3.2 PRICE REDUCTION CLAUSE:

In case a fresh tender is issued for the same item before completion of supply against extension order and lower rates are received in the fresh tender, the lower rates received in the fresh tender shall be applicable to the quantity of extension order balance to be supplied also.

4. OFFERS:

The offers should be valid for 120 days from the date of opening of commercial /technical bid.

The offer is required to be submitted in **DUPLICATE** in separate sealed envelopes for which following details may be noted: -

4.1 PART-I (Earnest Money Deposit):

Please note that techno-commercial bid of tender will not be opened if earnest money is not deposited in form of demand draft for the value mentioned in tender clause No. 3 of **"SPECIAL INSTRUCTIONS TO BIDDERS"** in the tender, unless exempted by the CSPTCL.

The following are exempted from payment of EMD:-

- (i) SSI units of Chhattisgarh state permanently registered with DIC. The registration should be permanent & should be specifically for the items quoted in the tender & valid on the date of opening of tender. Copy of certificate duly notarised should be submitted.
- (ii) **Small scale units registered with NSIC:** - In case of small scale units registered with NSIC, their registration certificates should be valid for the item under tender on due date of opening of Techno-commercial bid. In case the certificate is not valid on due date of opening the tender shall be liable for rejection. Incomplete certificate should not be submitted. The list of items for which certificate is valid should also be furnished and name of item mentioned in tender should appear in this list failing which tender shall be liable for rejection.
- (iii) Fully owned State Govt. /Central Govt. units, for which documentary evidence duly notarised must be furnished with offer.
- (iv) The photocopy of the NSIC/ SSI registration certificate for the tendered item duly notarised by a notary should be furnished with the offer. In case of un-notarised copy, the original certificate should be produced at the time of opening for verification failing which their offer will be liable for rejection.

It has been noticed that some bidders submit photocopy of a notarised certificate. This is not acceptable. The photocopy of valid NSIC certificate should bear original signature & stamp of Notary failing which tender shall be liable for rejection.

- (v) The Bidders who come under any of above category must produce documentary evidence failing which offer shall be rejected.

In case the bidder withdraws his offer during the validity period or after placement of order, the Earnest Money shall be forfeited. EMD of unsuccessful bidders shall be returned after tender is decided and order is placed. EMD of the successful bidder shall be returned after submission of SD and its acceptance. No interest shall be paid on the EMD amount.

4.2 **PART -II (A) (Technical bid):**

- 4.2.1 In this part of bid, Bidder will have to furnish confirmation in regard to all our Technical requirements. The bid should clearly describe various technical particulars, as per details given in this specification. Also along with above information all details required in various schedules should be furnished so that the purchaser may be able to examine whether the offer submitted is technically acceptable or not. All relevant technical schedules viz. Guaranteed Technical Particulars, technical deviation etc. shall be submitted with the bid.

4.2.2 **BOUGHT OUT ITEMS:**

The Bidders must furnish the following information along with technical bid: -

- (i) The responsibility for obtaining timely supplies of bought out items will solely rest on the Bidder.
 - (ii) It may be noted in the case of damages / shortages due to improper packing or any other negligence; replacement shall be arranged by the firm immediately. In any case the completion period of project shall not be affected for the want of change of defective / rejected supplies
 - (iii) For bought out items, responsibility for guarantee and obtaining immediate replacement (in case any defects are noticed and reported) will rest on the Bidder.
 - (iv) If needed, services of OEM for bought out items, shall be arranged by the Bidder.
- 4.2.3 It would be obligatory on the part of Bidder to enclose a schedule of Technical deviation in **Schedule-II** in case there are any deviations from our technical requirement. Even if no deviations are involved, a separate schedule of deviation for technical particulars should be enclosed wherein a certificate may be recorded that there are no deviations from all our technical requirements. In the event of non-compliance of this instruction, it may be noted that the CSPTCL reserves the right to reject all such offers without assigning any reason or without making any correspondence for obtaining any clarification.

4.3 **PART -II (B) (Commercial bid):**

This bid should clearly spell confirmation in regard to various commercial terms and conditions for Supply of 12/24 fibre ADSS optical fibre cable along with associated hardware accessories and survey, loading, unloading, transportation, Installation, Testing & Commissioning of ADSS cable & associated hardware accessories on 33 KV CSPDCL poles from Rawanbhata 132 KV S/s to SLDC, Dangania, Raipur. Basis of price, acceptance of various important terms and conditions for supply and questionnaire for commercial terms and conditions for supply duly filled in, will form part of commercial bid. All commercial schedules viz.

commercial terms & conditions, commercial deviations, bidder's experience, details plan of supply, installation, commissioning & testing shall be furnished with this bid.

It may please be noted that it is obligatory on the part of Bidder to comply with all our commercial terms and conditions. In particular, **specific confirmation towards acceptance of following commercial terms and conditions should be furnished in the tender.**

The bidder shall have to submit pre-contract integrity pact in the format enclosed as **Schedule-VI** on non-judicial stamp paper worth Rs. 250/- duly signed by the bidder along with the Techno-Commercial bid.

The bidder should give specific confirmation towards acceptance of following commercial terms and conditions should be furnished in the tender.

4.3.1 **PRICES,TAXES & DUTIES: -**

4.3.1.1 **PRICES: -**

- (i) The prices should be quoted separately for each identifiable/detachable unit, module etc. so that the cost of spares can be arrived. 10 % spares of each type of identifiable/ detachable unit, module etc. may be procured by CSPTCL at its own discretion.
- (ii) The quoted price should be kept valid for 120 days from the due date of tender in Indian Rupees only. Bidders are requested to quote price only in prescribed format in **Schedule-I**. In case of any extension of due date, the validity of offer shall be counted from the extended due date on which Techno-Commercial bid has been opened.
- (iii) All the equipments and accessories required for completion of project have been included in the price schedules. However, if in the opinion of bidder some of the items essential for completion of project have been left in the price schedule but are required to be offered, the same may be offered in schedule for left out items. Please note that the total price offered in this schedule shall be included in the cost of project offered by the bidder for price evaluation purpose and position of bidder shall be arrived at after loading of prices for left out items.
- (iv) The prices should be clearly mentioning Ex-Works Price, Excise Duty, Sales Tax, Composite Tax, any levies or other taxes etc. making total unit price chargeable for the items quoted. **The total F.O.R. destination price should be quoted in the relevant column.** Prices for Installation, Testing & Commissioning portion shall be quoted separately. Service tax and works contract tax whichever is applicable shall be quoted separately.
- (v) The prices of standard and reputed manufacturers (as per Annexure-I) items shall be quoted so that quality assurance and performance of material are guaranteed in future.
- (vi) For the items where the Bill of Quantity has not been specified by CSPTCL if the quantity quoted by the bidder varies at the time of final engineering/ execution, the approval of the same has to be taken from CSPTCL keeping in view that the total price of the schedule will remain un-altered.

The prices will be evaluated on the basis of total price, i.e. price quoted for supply of materials and price for installation, testing & commissioning including taxes, duties & any other charges. The total price shall be taken as final for computing the competitive rates and for all purpose.

4.3.1.2 **TAXES & DUTIES: -**

The prices for supply, installation, testing & commissioning should be quoted as per the break up mentioned here under:-

i. SUPPLY:

The break-up of ex-works price, excise duty, CESS, sales tax, freight and any other taxes except entry tax should be given in the price bid. For all such items for which break up of taxes has been given in the price bid, taxes at the rates prevailing at the time of supply during the contractual completion period shall be applicable.

Claims for higher rate of Excise Duty due to change in turn over will not be accepted. In case of reduction of taxes as per Govt. regulations, the reduced rate of taxes during contractual completion period shall be payable. In case supplies against the contract are affected late i.e. beyond contractual completion period and the rate of Excise Duty/ Sales Tax undergoes upward revision, the payment will continue to be made only on the basis of rates prevailing during contractual delivery period.

In case the rate of statutory levies undergoes down ward revision then the delayed supplies beyond contractual period will attract reduced rate of levies. However, in case of bought out items (the items which are procured by the bidder from their vendors) if the ex-works rates are quoted inclusive of excise duty & sales tax, no additional claim towards any taxes or variations thereof shall be entertained. In case of reduction in excise duty or sales tax during the contractual completion / extended period, the benefit acquired due to reduction should be passed on the CSPTCL.

The entry tax on the supply items shall be borne by CSPTCL. Therefore, the rates should be invariably quoted exclusive of entry tax. "C" form will be issued by CSPTCL for rebate of taxes.

- (i) All customs duties, excise duties, sales tax and other levies payable by the Bidders in respect of the transaction between the bidders and their vendors/sub-suppliers while procuring any components, sub-assemblies, raw materials and equipment shall be included in basic unit rates and no claim on this behalf will be entertained by the owner.
- (ii) For all imported (off-shore) material the Ex-Works Price shall be CIF Price i.e. landed Cost including Freight, Packaging & Forwarding and Insurance at any port in India. The CIF shall be on FIRM basis & in Indian Rupees. Any variation in international duties, currency rate etc. shall be on bidders account.
- (iii) However, octroi / entry tax as applicable for destination site/state on all items of supply including bought out finished items (as identified in the Contract), which shall be dispatched directly from the sub-vendors' works to CSPTCL's site (sale-in-transit) shall not be included in the bid price. The applicable octroi / entry tax in respect of the said items of supply will be paid by the CSPTCL directly.
- (iv) Sales Tax, excise duties, local taxes and other levies in respect of the transactions between the CSPTCL and the Contractor under the Contract, if any, should be indicated separately wherever applicable in respective columns in the Price Bid Proposal Sheets.
- (v) Wherever ex-works price / basic unit rate is quoted exclusive of Excise duty applicable on the transaction between the CSPTCL and the Contractor, then the due credit under the MODVAT (Modified Value Added Tax), scheme as per the relevant Government policies wherever applicable, shall be taken into account by the Bidder while quoting price.

- (vi) In respect of transactions solely between the CSPTCL and the Contractor (for despatches made from the Contractor's works under the Supply Contract), Sales Tax, Excise Duties, local taxes and other levies shall be paid/reimbursed by the CSPTCL at the applicable rate at the time of dispatch, scheduled or actual, whichever is lower.
- (vii) Concessional Sales Tax declaration forms, as admissible, would be issued to the Contractor, on request for all items (as identified in the price schedule of the bid) to be supplied directly by the Contractor as well as for the items to be supplied by the sub-suppliers as sale in transit.
- (viii) **Any other Taxes:** Duties if any applicable extra on finished material shall be specifically brought out in the offer. It will be presumed that while quoting the F.O.R. Destination prices, the bidder has taken into consideration all the taxes pertaining to the Central, State and local bodies. Implication of VAT in the State of Chhattisgarh should be considered. Any variation in statutory taxes within stipulated completion period shall be in the account of CSPTCL.

ii. **INSTALLATION , TESTING & COMMISSIONING:**

The rates for installation, testing & commissioning works should clearly indicate the unit price, service tax and any other applicable tax.

SERVICETAX - Service tax will be paid / reimbursed as per prevailing service tax rules on submission of documentary evidence of payment.

It has been noted in past that many bidders mentioned "Nil" against the service tax or any other taxes. No such ambiguous terminology should be used in the price bid. The break-up of taxes should be clearly mentioned. In case of any such ambiguous statement, it will be presumed that rates are inclusive of taxes and no claim for such taxes shall be entertained.

INCOME TAX: - INCOME TAX at source as per Govt. rule will be deducted from the gross amount of each bill for which TDS may be issued once in a financial year from accounts department on request as per rule.

ANY OTHERTAX: - If any other taxes or duties except service tax become payable, the same shall be quoted separately.

APPLICABLE TAX AT THE TIME OF TC BID OPENING - The bidder should be aware of the various taxes, duties, levies imposed by the Central Govt., State Govt. / local bodies applicable in present contract as on the date of TC bid opening. Further, in the price bid, it should be specifically stated regarding each tax / duty whether it is inclusive or exclusive. However, if there is no specific mention of any duties / levies as exclusive in the price bid, it will be presumed to be inclusive if it is applicable as on the date of TC bid opening and will not be paid extra.

But, if any new tax / duty / levy is imposed either by Central Govt. or by State Govt. / local authorities after the date of opening of T.C. bid, the same shall be payable by CSPTCL extra on production of documentary evidence. However tax due to increase of turnover or withdrawal of tax exemption earlier available to the vendor etc. will not be reimbursed.

4.3.2 **TERMS OF PAYMENT:**

(i) **PAYMENT FOR SUPPLY OF MATERIALS:**

70% payment of the materials along with all taxes and duties shall be made on production of necessary documents along with material receipt certificate (MRC) from our consignee normally within 30 days time. Balance 30% of the materials payment shall be paid after successful completion of complete work and after issue of the work completion certificate by the Engineer-in-Charge.

The supplier should submit original Material Receipt Certificate issued by the Area Stores along with copies of bill and other necessary documents to Dy. GM (Bills), O/o GM (Fin.), CSPTCL, Raipur for arranging 70% payment of the materials against MRC. The balance 30% payment of materials shall be released only after issue of work completion certificate by the Engineer-in-Charge against commissioning of complete work including termination of ADSS cable at both FODP end and Link Testing (end to end).

(ii) **PAYMENT FOR INSTALLATION, TESTING & COMMISSIONING:**

The payment for Installation, Testing & Commissioning will be made normally within 30 days time after successful completion of work and issue of the work completion certificate by the Engineer-in-Charge.

The contractor / firm shall submit four copies of the invoices & bills along with the description of the activities of Installation, Testing & Commissioning of ADSS cable duly certified by the Engineer-in-Charge of the CSPTCL in the O/o C.E. (LD), SLDC, CSPTCL, Raipur for processing of bills.

4.3.3 **DELIVERY PERIOD:**

The delivery period of the complete project of Survey, Supply, Installation (Live Line), Testing & Commissioning of 12/24 fibre ADSS optical fibre cable along with associated hardware accessories shall be 4 months from the date of order.

4.3.3.1 **SUPPLY:**

The supply should be completed within 21 days from the date of issue of dispatch instructions.

4.3.3.2 **INSTALLATION, TESTING & COMMISSIONING:**

The installation and commissioning of the supplied equipments has to be completed within 30 days from the date of handing over of site. The letter of handing over of each site shall be issued separately by CSPTCL.

The time for and date of completion of work stipulated in the order shall be deemed to be the essence of the contract. In case of delay in execution of the order, the CSPTCL shall either:-

- (i) Recover from the supplier as agreed Penalty/liquidated damages at the rate mentioned in "Penalty" clause.
- (ii) Purchase elsewhere on account and at the risk of the supplier, the stores not delivered or other of similar description or;
- (iii) Cancel the contract.

4.3.4 **DISPATCH INSTRUCTION:**

After inspection, the equipment / material shall be dispatched to the Area Store of CSPTCL only on issue of Dispatch Instruction from O/o C.E. (LD). The dispatch instruction shall be given on the basis of readiness at site.

4.3.5 **TAKING OVER (OPERATIONAL ACCEPTANCE):**

Upon receipt of intimation about completion of installation, testing & commissioning of ADSS cable at site, Engineer- in-charge shall issue a taking over certificate in which he shall certify the date on which the system has been so taken over. This certificate shall be issued within 30 days of the intimation from the contractor.

4.3.6 **NODAL OFFICER / ENGINEER-IN-CHARGE:**

The Superintending Engineer (SO), SLDC, Raipur will be the nodal officer for overall co-ordination of the work.

The Executive Engineer (E&M: LD), SLDC, CSPTCL, Raipur will be Engineer-in-Charge for Live Line Installation, Testing & Commissioning of ADSS cable & associated hardware accessories on 33 KV CSPDCL poles from Rawanbhata 132 KV S/s to SLDC, Dangania, Raipur and issue of final taking over certificate after receipt of work completion report of the site.

4.3.7 **CONSIGNEE:**

The consignee of material shall be Executive Engineer (Area Stores), CSPTCL, Bhilai-3, Dist.-Durg. The details of dispatch particulars must be sent to the consignee immediately after dispatch under intimation to this office

4.3.8 **PENALTY:**

- (i) **PENALTY FOR DELAY IN SUPPLY MATERIAL:** The time for and the date of delivery of the material stipulated in the order shall be deemed to be the essence of the contract. In case of delay in execution or non-execution of the order, the CSPTCL at its option shall recover from the supplier/contractor as agreed towards liquidated damages a sum of ½ % of the total price of any materials not delivered per week or part thereof up to a maximum of 10% of the contract price for supply.
- (ii) **PENALTY FOR DELAY IN COMPLETION OF CONTRACT:** If the contractor fails to perform the work within the specified period given in the order or extension granted thereof, with respect of successful completion of installation, testing and commissioning of equipments, the contractor shall pay to CSPTCL as liquidated damages a sum of ½ % of the contract price of the uncompleted portion for each calendar week or part thereof delay. For this purpose the date of taking over shall be reckoned as the date of completion. The total penalty shall not exceed 10% of the contract price of the completed and uncompleted portion of the work. The payment or deduction of such damages shall not relieve the contractor from obligations to complete the works, or from any of other obligations and liability under the contract.

4.3.9 **GUARANTEE PERIOD:**

The material offered and associated accessories covered under the tender shall be guaranteed for performance for a period of 18 months from the date of supply in Store or 12 months from date of commissioning whichever is earlier.

In case any defect in the material is found within guarantee period, the same will be replaced / repaired by you on free of cost basis. The replacement / repairing will have to be organized by you expeditiously and in any case within one month's time.

If for the purpose of replacement / repairs, the material is required to be dispatched to your works, all charges towards transportation / insurance / packing / forwarding will have to be paid by you for to and fro dispatches. In this connection, please note that the following additional conditions will also be applicable in case any damages / defects are noticed in the equipments or its accessories supplied by you.

- (i) If the material develops defect within guarantee period after installation at site, for the purpose of replacement / repairs & if the same is dismantled and taken out by us. In such cases actual cost of dismantling and replacement of the equipment/material will also be recoverable from you.
- (ii) In case it is observed that replacement / repairs of equipments or its accessories is not being provided to us within one month time from date of report of defect to you and proper response is not received from you, then apart from operating clause of penalty (which provides for imposition of penalty / liquidated damages, risk purchase at your cost and cancellation of contract) the CSPTCL may also take suitable penal action against you which may include debarring you from all future business with the CSPTCL for a period which will be at the discretion of the CSPTCL.
- (iii) In case of replacement of material due to failure within guarantee period, the guarantee shall automatically get extended. In such case, the material shall be guaranteed as per the terms of guarantee with the commencement date of guarantee from the date on which replaced material has been received.

4.3.10 **SECURITY DEPOSITE:**

On acceptance of offer, the successful Bidder will have to deposit as security an amount of @ 10% of the total value of order (if order value exceeds Rs. 30,000/-) in any of the following form for satisfactory execution of the order, and to cover the guarantee period: -

- a) Demand Draft In favor of The Manager (RAO: HQ), CSPTCL, Raipur drawn on any Nationalized / Scheduled Bank payable at Raipur.
- b) Bank Guarantee in lieu of cash deposit on any Nationalized / Schedule Bank strictly as per CSPTCL Performa (to be supplied along with the order) valid sufficiently to cover the guarantee period and grace period of six months.

The Security deposit as worked out will have to be deposited within 30 days of receipt of individual work order. The security deposit shall be retained till faithful performance of the terms and conditions of the order and settlements of liabilities, if any. The S.D. will be released after expiry of contractual guarantee period & successful completion of the order without liability. The liability if arises will be deducted from the S.D.

No interest on the security deposit amount shall be given by the CSPTCL.

FORFEITURE OF SECURITY DEPOSIT:- In the event of contractors committing a breach on any of the terms & conditions laid down in the contract at any time for enforcement in their duties, CSPTCL may forfeit security deposit and cancel the order by giving notice in writing in this behalf . Any dispute arising out of this contract is to be referred to the CSPTCL whose decision in the matter shall be final and binding on contractor.

4.3.11 PERFORMANCE SECURITY:

Before issue of final taking over certificate by the Engineer in-charge of CSPTCL, contractor shall provide CSPTCL a performance bank guarantee from a nationalized / scheduled bank for an amount of 5% (FIVE PERCENT) of the contract price in the approved proforma of the CSPTCL. This bank guarantee shall be executed in a stamp paper worth Rs.250/- or any other amount as per the CG state stamp duty act and shall be kept valid till 90 days after completion of the guarantee period mentioned in the Guarantee Period Clause.

No interest shall be paid by CSPTCL for the aforesaid Bank Guarantee. In case of non-performance of the system as per the contract specification, the performance Bank Guarantee shall be forfeited.

4.3.12 AGREEMENT:

EXECUTION OF AGREEMENT: The contractor will execute an agreement on non-judicial stamp paper worth Rs. 300/- with a revenue stamp of Rs. 1/- affixed on it, as per the proforma enclosed with this tender document. The cost of stamp paper etc. shall be borne by the contractor. The agreement is to be executed within 15 days from the date of order for execution of contract.

4.3.13 TRANSIT INSURANCE & RISK:

- a) Responsibility regarding covering of risk, during transit of material shall entirely be on the supplier. The CSPTCL, shall in any case, not bear the transit risk/ transit insurance charges.
- b) While the necessary assistance shall be rendered by the consignee in lodging and processing the claims with carriers and the supplier's insurance underwriters, the responsibility shall rest with the supplier to immediately make good the shortages/ losses/ damages, without extra cost and without waiting for the settlement of the claim.

4.3.14 DEVIATIONS:

It would be obligatory on the part of the Bidder to enclose a separate schedule of deviation, if there are any deviations from our commercial terms/conditions. Even if no deviations are involved, a separate schedule of deviation for commercial conditions should be enclosed wherein a certificate may be recorded that there are no deviations from all our commercial conditions. All tenders, wherein these conditions are not complied with, may run the risk of rejection without any correspondence from our side.

4.4 PART - III-PRICE BID:

Price bid shall include submission of details of prices as per **Schedule-I**. However, the delivery schedule offered by you should be indicated in Part-II "Commercial Bid". No other information should be furnished in the price bid since the same will be opened at a later date. It may be mentioned that no any condition should be recorded in the price bid which may not be in conformity with details furnished in commercial or technical bids, in case of any discrepancy is found suitable loading on prices will be considered for which responsibility will rest on the Bidder. It may please be noted that prices should be offered strictly as per format indicated in

Schedule-I. No addition / alteration in the format of **Schedule-I** should be done. In case any discount is offered in the quoted prices, the discount letter should also be furnished within the main price bid envelope only. Any discount letter/ envelope outside the main price bid envelope shall not be considered for evaluation of prices in any case.

5. SUBMISSION OF OFFERS:

The Bidders should submit their bids in four envelopes as under:-

- (i) **ENVELOPE-I :-** (To contain Part-I of the tender document) This envelope should contain a covering letter with earnest money or earnest money exemption certificate as detailed in clause (4.1). The cover of the envelope should be suitably super scribed with the details of earnest money and tender number. The envelope should be sealed properly.

In case the tender document is downloaded from CSPTCL's / SLDCCG Website the required cost of tender document in the form of MICR DD drawn in favour of Manager (RAO-HQ), CSPTCL, Raipur should also be kept inside this Envelope.

Please note that the tender shall be liable for rejection if

- (a) EMD as per tender specification / proof in support of exemption of EMD as per clause 4.1 of part -I is not found inside the envelope

And / Or

- (b) In case DD towards tender cost is not found inside this envelope in case tender document is downloaded from website.

- (ii) **ENVELOPE-II:** This envelope should contain the Technical Bid and commercial bid complete in all respects, in duplicate and Integrity Pact as per proforma provided in the **Schedule-VI**.
- (iii) **ENVELOPE-III:** This envelope should contain the Price Bid in duplicate in format of schedule-III complete in all respects. Original & duplicate price bids should be kept inside one envelope only. In case of difference in original and duplicate bid, the contents of original bid will be taken into account. Any discount offered should also be kept inside this envelope only. Any discount offered outside the envelope III shall not be acceptable.
- (iv) **ENVELOPE -IV:**This large envelope should contain all the above three envelopes. The following details should be recorded on main envelope.

TENDER SPECIFICATION No. TR-107 DUE FOR OPENING ON _____ SUPPLY, SURVEY, LOADING, UNLOADING, TRANSPORTATION, INSTALLATION (LIVE LINE), TESTING & COMMISSIONING OF ADSS CABLE & ASSOCIATED HARDWARE ACCESSORIES ON 33 KV CSPDCL POLES FROM RAWANBHATA 132 KV S/S TO SLDC, DANGANIA, RAIPUR AS PER THE SCOPE OF WORK.

In case tender document is downloaded from website the envelope should also be superscribed "DOWNLOADED FROM WEBSITE- TENDER COST FURNISHED"

THIS ENVELOPE CONTAINS THREE ENVELOPES FOR:-

1. Envelope-I- Part – I of tender document i.e. Earnest Money Deposit & cost of tender document, if downloaded.
2. Envelope-II- Part – II (A) i.e. Technical bid & Part – II (B) i.e. Commercial Bid along with integrity pact

3. Envelope-III- Part – III -Price Bid

The details mentioned above shall also be mentioned on the main envelope and shall be addressed: -

To,

*The Chief Engineer (LD),
SLDC, CSPTCL,Dangania,
RAIPUR (C.G.) 492 013*

Tenders being submitted must be signed by a person holding a power of attorney authorizing him to do so. The notarized copy of power of attorney should be furnished. Tenders submitted on behalf of company registered under Indian Companies Act shall be signed by persons duly authorized to submit the tender on behalf of the company and shall be accompanied by notarized copy of resolution / abstract of Article of Association/ special or general power of attorney.

6. Even after certification on the body of main envelope, if any ambiguity is found on opening of the main envelope or after opening of the Price Bids, the offer shall be rejected. In case, the above instructions are not followed properly and any of the envelopes is not available for inspection and opening, no representation at the time of tender opening will be accepted and such offers will not be considered.

7. **OPENING OF TENDERS:**

Part - I i.e. Earnest Money shall be first opened on the due date & time. Part-II i.e. “Technical & Commercial Bid” will be opened thereafter on the same day in respect of the bidders whose EMD are found to be as per tender specification. These bids will be scrutinized and then we will take decision regarding opening of Part-III price bid in respect of successful Bidders. For the purpose of opening of price bid, a notice of not less than seven days shall be given to the Bidders so that they may depute their representative for attending price bid opening. It may be mentioned that period of seven days will be counted from the date of issue of fax intimation by us. Such intimation shall be given within a reasonable period from the date of opening of commercial and technical bids, and after its scrutiny. Only authorized representatives possessing necessary authority letter from the bidder shall be allowed to participate in the tender.

8. **PRICE BID EVALUATION:**

Bidders must quote their prices in accordance to the specification and conditions. Any deviation from the above shall be considered as an alternate bid. The bids will be evaluated based on the main offer only.

After opening of **Envelope-II**, it shall be scrutinised and clarification shall be sought on techno-commercial matter, if required.

In case, clarification is not submitted by the bidder within the specified time, the CSPTCL, reserves the right not to open the price bid of such bidder, Further, in case, it is found that in spite of clarifications on techno-commercial matters, the offer does not come to a desired level, the CSPTCL, at its discretion may not open the price bid. Bidder shall therefore, have to ensure that their tender / bid is in conformity with the CSPTCL's tender specifications.

The date of opening of **Envelope-III** (Price Bid) shall be notified to the bidders **whose bids are found to commercially & technically acceptable**. CSPTCL's decision shall be final & binding on the bidder.

- 8.1 Over writing shall be avoided.
- 8.2 Overwriting, erasures and other changes shall bear the dated initial of the person signing the tender.
- 8.3 In the event of discrepancy or arithmetical error in the schedule of price, the unit price shall prevail and the total price shall be accordingly corrected by the CSPTCL. The above arithmetical correction shall be accepted and the decision of the CSPTCL shall be final and binding on the bidder.
- 8.4 For evaluation, the price mentioned in words shall be taken if there is any difference in figures and words in the price bid.
- 8.5 The quoted price should be kept valid for the contractual period.
- 8.6 All columns shall be completely filled up properly and neatly.
- 8.7 No conditional price should be quoted.
- 8.8 Rebate / discount if any, may be offered with price bid. Conditional discount / rebate, if any offered by the bidder shall not be taken into consideration for evaluation.
- 8.9 In case the bidder makes contradictory statement in the Technical & Commercial Bid, CSPTCL will have full right to interpret / take that statement into consideration which will be in the interest of CSPTCL.
- 8.10 The CSPTCL's decision in such case shall be final and binding on the bidders.
- 8.11 **Award of Contract:** The contract will be awarded to the lowest bidder, if such bidder comes out to L-1 on the basis of above evaluation. However, CSPTCL reserves its right to accept or reject any or all the offers, in part or full, without assigning any reason whatsoever.

9. **SUPERVISION OF COMMISSIONING OF ADSS CABLE:**

The bidder should provide services of commissioning engineer for supervision of commissioning of ADSS Cable. The commissioning engineer should be deputed immediately after the clearance of site is given by CSPTCL.

10. **COMPLIANCE WITH OTHER CONDITIONS:**

Although all other conditions have clearly been spelt out in the tender document, it is once again brought to the notice of Bidder that they should go through our tender document carefully and comply all other conditions also, like furnishing of type test report, furnishing of list of past supplies, performance certificate, profit and loss account & balance sheet for last 3 years along with furnishing of drawing and write up for the manufacturing process. In the nut shell, the offer at the time of submission of Technical and Commercial bid itself should be complete in all respects. It should not be expected that in case of lack of any information, the CSPTCL will make any correspondence with the Bidder. The documents and details as called for in the tender must be submitted without making any reference to submission of such certificate against past order, tender or past experience of supplies with the CSPTCL etc. All tenders wherein these conditions are not complied with may run the risk of rejection without correspondence from our side.

11. **CHANGE OF QUANTITY:**

The purchaser reserves the right to vary the quantities of any or all the items as specified in the technical specifications/schedules as may be necessary based on requirement. No correspondence shall be entered into regarding quantity variation

12. **INSPECTION:**

The readiness of material should be intimated to O/o the CE (LD), CSPTCL at least 15 days in advance so that if inspection of any or part or whole of the ordered quantity seems to be necessary, CSPTCL can depute its engineer for the inspection of the same on scheduled date. In case material is not found ready on the intimated date of readiness, the CSPTCL reserves the right to recover from the supplier the charges.

13. **FALSE INSPECTION CALL:**

In case, the material is not offered for inspection on the date of inspection offered by the firm, due to any reason the firm shall be required to remit a sum of Rs. 5,000/- or actual expenditure incurred in the visit of the inspector whichever is more.

14. **CANCELLATION OF ORDER:**

14.1 The CSPTCL may upon written notice of default, terminate contract in the circumstances detailed hereunder:-

- (a) If in the opinion of the CSPTCL, the supplier fails to deliver the material within the time specified or during the period for which extension has been granted by the CSPTCL.
- (b) If in the opinion of the CSPTCL, the supplier fails to comply with any of the other provisions of this contract or material is found not in accordance with prescribed specifications and or the approved samples.

14.2 In the event of such termination, the CSPTCL shall exercise its discretionary power as:-

- a) To recover from the supplier the agreed liquidated damages as approved in the clause No. 4.3.4 above.

OR

- b) To purchase from elsewhere after giving due notice to the supplier on account and at the risk of the supplier such stores / materials not so delivered or otherwise of similar description of material in respect of consignment not yet delivered.

OR

- c) To cancel the contract reserving CSPTCL's right to recover damages.

14.3 Notwithstanding that the power under clause (14.2 a, b & c)) referred to above, are in addition to the rights and remedy available to the CSPTCL under the general law of India relating to Contract.

14.4 In the event of risk purchase of stores of similar description, the opinion of the CSPTCL shall be final. In the event of action taken under clause 14.2 (a or b) above, the supplier shall be liable to pay for any loss, which the CSPTCL may sustain on that account but the supplier shall not be entitled to any saving on such purchases made against the default.

14.5 The decision of the CSPTCL shall be final regarding the acceptability of the stores supplied by the supplier and the CSPTCL shall not be required to give any reason in writing or otherwise at any time for the rejection of the stores/ material.

14.6 In the event, CSPTCL does not terminate the order as provided in clause 14.2 & 14.3 above, the supplier shall continue execution of this order, in which case he shall be liable to the CSPTCL for liquidated damages for the delay as per clause 4.3.4 until supplies are accepted

15. **COMPLIANCE OF REGULATIONS:**

The supplier shall warranty that all Goods covered under procurement shall have been produced, sold, dispatched, delivered, tested, in strict compliance with all applicable rules, regulations including Industries (Development and Regulations) Act 1951 and any amendment there under, labour agreements, working conditions and technical codes and requirements as applicable from time to time.

16. **SETTLEMENT OF DISPUTES:**

- (i) Except as otherwise specifically provided in the contract, all disputes concerning question of fact arising under the contract shall be decided by CSPTCL provided a written appeal by the contractor is made to CSPTCL. The decision of CSPTCL shall be final to the parties hereto.
- (ii) Any disputes or difference including those considered as such by only one of the parties arising out of or in connection with this contract shall be to the extent possible be settled amicably between parties. If amicable settlement cannot be reached then all disputes issues shall be settled by Arbitration as provided in this contract.

17. **ARBITRATION:**

- (i) No dispute or difference arising between the contractor and the Owner under or relating to or in connection with the Contract shall be referred to Arbitration unless an attempt has first been made to settle the same amicably.
- (ii) Where any dispute is not resolved amicably then such dispute shall be referred to & settled by Arbitration under and in accordance with the provisions of Arbitration and Conciliation Act 1996 and any statutory modification thereof, by three Arbitrators. One to be appointed by each party and the third to be appointed by the two Arbitrators appointed by the parties at the commencement of Arbitration proceedings and failing agreement between them, in accordance with said Act, the third Arbitrator so appointed shall act as the presiding arbitrator. The award shall be final and binding upon the parties. The venue of Arbitration shall be Raipur.
- (iii) The language of the arbitration proceedings and of all documents and communications between the parties shall be English. Arbitration award shall be speaking, final and binding.
- (iv) Notwithstanding anything to the contrary contained herein the work under the Contract shall continue during the pendency of any disputes or differences in Arbitration proceedings and no payment due from the Owner shall be withheld on account of such proceedings except to the extent which may be in dispute and the Owner shall be entitled to make recoveries of amounts, if any, due from the Contactor, as per the provisions of the Contract.

18. **JURISDICTION:**

Any dispute or difference, arising under, out of or about this tender/contract order shall be subject to exclusive jurisdiction of competent court at Raipur / Bilaspur only.

19. **UNSATISFACTORY PERFORMANCE:**

The bidder who has supplied material earlier in CSPTCL and which has been found to be defective / not rendering satisfactory service within guarantee period and has not been replaced in the stipulated period shall not be considered for opening of price bid. (The cases reported as on date of NIT shall be considered).

20. **POOL RATE / CARTEL:**

Formation of bidder's cartel is strictly prohibited. "Cartel" includes an association of sellers, distributors, traders or service providers who by agreement amongst themselves, limit, control or attempt to control the production, distribution, sale or price of or trade in goods or provision of services, Here, "agreement" includes any arrangement or understanding or action, whether or not is formal or in writing.

Quoting same rates i.e. pool rate is not acceptable. In case the same rate is found to be quoted by more than two bidders, offers of all such bidders shall be out rightly rejected. However, if rates of two bidders are found to be same, quantity of orders to be placed on them will be reduced to half of the quantity a bidder is entitled to be allocated by virtue of their common rank. But, in case of multi-item tender, if rates of even two bidders for more than one item are found to be same, it will be considered as deliberate cartel and offers of both the bidders shall be rejected. Accordingly, all the bidders are advised to quote their own individual and most competitive rates.

Rated received in a tender will be minutely scrutinized to find out as to whether some or all bidders have entered in to any such 'agreement'. If CSPTCL is satisfied with the conclusion that some or all the bidders have formed a cartel, offers of all such bidders shall be rejected.

21. **AMENDMENT IN SPECIFICATIONS:**

CSPTCL may revise or amend the specification and drawing, prior to the date notified for opening of tender. Such revision / amendment, if any, will be communicated to all the bidders as amendment / addendum to the invitation of tender and the same will be displayed in SLDC CG & CSPTCL's website also.

22. **TELEX / TELEGRAPHIC / FAX BIDS:**

Telex / telegraphic / fax offers will not be considered under any circumstances.

23. **MISTAKES IN BIDS:**

Rates should be quoted in both figures and words. For evaluation the price mentioned in words shall be taken if there is any difference in figures and words in the price bid.

24. **LUMP SUM BASED BIDS:**

In case prices for some items or all items are given as lump sum, instead of unit prices as required in the tender specifications, CSPTCL can summarily reject such incomplete tender.

25. **PRINTED TERMS & CONDITIONS IN BIDS:**

Supplier's printed terms and conditions will not be considered as forming part tender under any circumstance whatsoever.

26. **ALTERATIONS / CORRECTION IN BIDS:**

No alterations in the tender document will be permitted.

27. **INCOMPLETE BIDS:**

Tender which is incomplete or obscure is liable for rejection.

28. **AMBIGUITIES IN CONDITIONS OF BIDS:**

In case of ambiguous or self contradictory terms/ conditions mentioned in the bid, interpretations as may be advantageous to the CSPTCL may be taken without any reference to the tender.

29. **DISQUALIFICATION OF BIDS:**

A bid which gets opened before the due date as a result of improper or no indication has been given on the cover to indicate that it is a tender, will be disqualified. Bidders will not be permitted to change the substance of his tender on post interpretation/ improper understanding grounds. This includes post tender price changes/ modifications etc. after opening of price bid. In such events, otherwise, that is, when a bidder does not comply, tender will be rejected.

30. **LANGUAGE OF BIDS:**

All tenders should be made either in English or in Hindi only.

31. **CANVASSING OF BIDS:**

Tenders shall be deemed to be under consideration, after opening of tender/ bid till placement of order. During this period, the bidders or their authorised representatives or other interested parties are advised strongly in their own interest, to refrain from contacting by any means any of the CSPTCL's personnel or representative.

32. **CONTRACTOR'S LIABILITY FOR LOSS, DAMAGE, ACCIDENT ETC:**

The contractor shall indemnify and save the CSPTCL against all actions, suits, claims, demands, cost of expenses arising in connection with injury suffered prior to the date, when work shall have been taken over by person employed by the contractor / his sub contractor on the works whether under the general law or under the Workmen's Compensation Act 1923 or any other statutory provision in law in force, dealing with the question of the liability of the employer and shall take steps to ensure against any claim there under.

On the occurrence of any accident, which may result in death of any such workman (fatal accident), the contractor within 24 hours of happening of such accident, intimate in writing to the Engineer-in-Charge, the facts of such accident. The contractor shall indemnify the CSPTCL against all loss or damage sustained by the CSPTCL resulting in direct penalties / fine / if any, payable by the CSPTCL as consequence of the CSPTCL's failure to give notice under Workmen's Compensation Act or otherwise to confirm the provisions of the Act in regards to such accidents.

In the event of any claim being made or action brought against CSPTCL and arising out of the matter referred to and in respect of which the contractor is liable under this clause, the contractor shall be immediately notified thereof and he shall with the assistance of the CSPTCL (if so required), but at the sole expense of the contractor conduct all negotiations for settlement of the same or / and litigation that may arise therefore. In

such case the CSPTCL shall afford all available assistance for any such purpose, at the expenses of the contractor.

In the event of an accident, in respect of which compensation may become payable under Workmen's Compensation Act 1923, whether by the contractor or by the CSPTCL as principal employer. It shall be lawful for the Engineer-in-Charge to retain amount of money as may in his opinion shall be final in regard of all matters arising under clause.

The amount of all cost, damage or expenses or other sum, which under this or any other contract, due to contractor or if payable by the CSPTCL, may be deducted by the CSPTCL from any money due or becoming due to the contractor or recover the same by ordinary process of law.

33. **SAFETY MEASURES:**

To avoid any undesirable incidence: -

- a) Only trained and experienced person on relevant field / work may be deputed to carry out the work under direct supervision of engineer-in-charge.
- b) Contractor shall be fully responsible for observing the security / safety rules and maintaining the required discipline during the contract period.
- c) As this work is to be carried out in the protected area, it should be ensured that there is no damage to any of the erected equipment / appliances etc.

34. **LAWS AND REGULATIONS:**

The contractor shall be responsible for the compliance of all statutory obligations under the Factory Act, Contract Labour (Regulation & Abolition) Act, Contract Labour (Regulation & Abolition) Rule 1973, Minimum Wages Act, Payment of Wages Act or any other law imposed by the Government. It will be responsibility of the contractor to maintain various registers records required under various Acts and has to produce the same to the Engineer-in-Charge or to the inspection authorities of the Government, on demand at any time.

The labour engaged by the contractor shall be bound by the provisions of the legislation whether Central or State, as in force operative in the State of Chhattisgarh, in case of any default on the part of contractor or his agent of any to the provisions of such laws. If the CSPTCL is required to incur any expenditure, liabilities arising there from; the CSPTCL may deduct and recover the same out of any sum due or becoming due to the contractor in respect of this contract. The decision of the CSPTCL that any sums have become payable hereunder and the amount, which has become payable shall be final and binding on the contractor.

If any penalty is imposed on occupier / factory manager due to non compliance of factory rules and labour laws, the payment of the same shall have to be made by contractor.

As per requirement of contract-Labour (Regulation and abolition) Act 1970 and its modification till date the contractor will have to maintain certain Register and records giving particulars of the contract, Labour employed, the nature of work performed by the contractor, the rates of wages paid to contract Labour etc. In addition to this, a notice containing particulars about the Hours of work, nature of duties etc. will have to display by the contractor in their working area.

The formats of register, records & notices have been prescribed under the rules made under contract Labour (Regulation & Abolition) Act. 1970. Some of the Registers, which are prescribed, are given below and should be maintained by the contractor and on demand the same may be submitted.

| | | | |
|-------|---|---|--------|
| i. | Employment Card Register | – | XIII. |
| ii. | Muster Roll Register | – | XVI. |
| iii. | Register of wages form | – | XVII. |
| iv. | Register of deduction | – | XX |
| v. | Register of O.T. form | – | XXIII. |
| vi. | Register of fine form | – | XXII |
| vii. | Register of Adv. form | – | XII. |
| viii. | Register of safety appliances | | |
| ix. | Register of EPF deduction & deposition. | | |

The contractor shall display the extracts of contract labour (Regulation & Abolition) Act. 1970 in languages spoken by majority of the workers. Submission of return - The contractor shall send half yearly return in the Form XXIV in duplicate to the aforesaid Licensing officer under intimation to the Principal employer. Penal Provision - Violation of the above Rules under the contract labour (Regulation & Abolition) Act 1970 attracts penalties under the Act.

35. **MINIMUM WAGES:**

The contractor shall pay not less than minimum wages to the labours engaged by him on the work. Minimum wages means the wages prescribed by the State or labour department of the district or place in which work is to be done.

The contractor will ensure that labours engaged by his sub-contractors are not paid less than minimum wages.

The Engineer-in-Charge shall have the right to deduct any sum of money due to the contractor for making good the loss suffered by a worker/workers by reason of non-fulfillment of the conditions of the contract for the benefit to the workers, non-payments of wages or deduction from his or their wages, which are not justified by their terms of contract or non-observance of the regulations.

The contractor shall primarily be liable for all payment to be made under and for the observance of the regulation aforesaid without prejudice to his right to claim indemnity from his sub-contractors.

The regulation shall be deemed to be a part of the contract and any breach there of shall be deemed to be the breach of contract. The contractor shall disburse the wages to his workers within the time limit prescribed under the provisions of payment of Wages Act 1936 or any other similar law in force as amended up to date.

36. **IDLE LABOUR:**

No compensation will be paid by the CSPTCL for the idle labour or equipment of the contractor and no claim in this respect will be entertained.

37. **DEATH. BANKRUPTCY, BREACH OF CONTRACT:**

If the contractor dies or become insolvent or is bankrupt or receiving order made against him or compound with or make any proposal for carrying on his business under inspection or for the benefit of his creditors or commit an act insolvency or. bankruptcy or being a corporation pass a resolution or be ordered to wound up or have receiver of its business appointed, or commit a breach of contract, CSPTCL shall be entitled forth with by writing to the contractor or his assigns or legal representative to determine the contract and the CSPTCL may in the event complete the contract in such time and manner and by such persons as the CSPTCL shall think fit at the risk cost and liability of the contractor.

38. **SUBLETING OF CONTRACT:**

The contract as a whole or any part thereof shall not be assigned or sublet, without written permission of the CSPTCL or its authorised nominee. In case, such permission is granted, it shall under no circumstances recognise the sub contractors and responsibility of executing the work according to the specifications shall entirely rest with the principal contractor.

39. **WORKS TO BE OPEN TO INSPECTION:**

All works under or in course of execution or executed in pursuance of the contract, shall be at all time be open for inspection and supervision of the Engineer-in-Charge and his subordinates, and the contractor shall at all times during the usual working hours and all other times at which notice of the intention of the Engineer-in-Charge or his sub-ordinate to visit the works shall have been given to the contractor, either himself be present to receive order and instructions or make responsible agent duly accredited in writing be present for the purpose. Order given to the contractor's agent shall be considered to have the same force as if given to the contractor himself.

40. **COMPENSATION UNDER WORKMEN'S COMPENSATION ACT:**

In every case in which by virtue of the provision of Section 12, sub section (1) of the Workmen's Compensation Act 1923, the CSPTCL is obliged to pay compensation to workmen employed by the contractor in execution of the work, the CSPTCL will recover from the contractor, the amount of the compensation so paid without prejudice to the right of the CSPTCL under section 12 sub section (2) of the said Act. The CSPTCL shall be at liberty to recover such amount or any part hereof by deducting it from the Security Deposit or from any sum due by the CSPTCL to the contractor against it under section 12 subsection (1) of the said Act, except on the written request of the contractor and upon his having given to the CSPTCL full security for all costs for which the CSPTCL might become liable in consequence of contesting such claim.

41. **INSURANCE:**

- a) The contractor shall, at all times during the tenure of this contract at his own expense insure and keep insured in the name of the CSPTCL with any of the Nationalized General Insurance Companies all the work in progress, plants, equipment, stores, instruments, implements, tools and all other materials whatsoever against loss, destruction or damage by fire, flood or any other cause whatsoever and all liabilities under the Workmen's Compensation Act in respect of death or bodily injury payable to any worker and damage to property of the third persons.
- b) During the continuance of this contract, the contractor shall pay all premium and sums of money necessary for keeping this insurance policy on foot and deliver to the CSPTCL the receipt of such payment within seven days after the same shall have become due.

In the event of the contractor refusing or neglecting to effect insurance as aforesaid, it shall be lawful for the CSPTCL, to effect the insurance as aforesaid and pay the premium thereon and deduct the cost of such insurance or the amount of premium so paid from time to time from any sums payable to the contractor under this contract.

- (c) Provided further that if the contractor or the CSPTCL has not affected such insurance, the liability for any such loss occurring due to causes mentioned under (a) above, shall be that of the contractor and it shall be lawful for the CSPTCL to deduct by way of penalty the whole cost, if the insurance including the premium that would have been paid from time to time any sums payable to the contractor under this contract, has such an insurance been effected.

SECTION - II

TECHNICAL SPECIFICATION

FOR

SURVEY, SUPPLY, INSTALLATION (LIVE LINE), TESTING & COMMISSIONING

OF

12 FIBER ALL DIELECTRIC SELF SUPPORTING (ADSS) FIBER OPTIC

CABLE

TECHNICAL SPECIFICATION FOR 12 FIBER ALL DIELECTRIC SELF SUPPORTING ADSS FIBER OPTIC CABLE ALONG WITH ACCESSORIES

1. GENERAL:

1.0 The State Load Despatch Centre is an apex body to ensure integrated operations of power system of the state. The purpose of installation of ADSS fibre optic cable from Rawanbhata 132 KV S/s to SLDC, Dangania, Raipur is to connect the above sub-station and also 220 KV Doma S/s optically (Rawanbhata & Doma S/s are already connected with OPGW Optical Fibre Cable) so that data & speech communication from these stations can be made available.

1.1 **Scope of Work** - The scope of the entire work contract shall be supply of 7 Km. of 12 Fibre ADSS Optic Fibre Cable along with survey, installation(live line), testing & commissioning of the above cable on 33 KV & 11 KV CSPDCL distribution poles as per the enclosed cable route diagram. The firm / contractor shall be responsible for termination of ADSS cable at both end locations i.e. SLDC end & in Rawanbhata sub-station and end-to-end testing of each fibre of ADSS cable.

The ADSS optical cable shall be of non- metallic Aerial type designed for installation on poles of 33 kV HT transmission lines with average **span lengths of 60 to 80 mts between 2 poles**. The Bidder shall offer ADSS containing 12 Nos. of Dual Window Single Mode (DWSM) optical fibers in conformity with ITU-T recommendations **G-652D**. The cable shall be designed to withstand all prevailing environmental conditions including the effects of high electric and magnetic fields produced by the proximity of live power conductors.

1.2 THE ADSS CABLE STRUCTURE SHALL BE BASED ON THE FOLLOWING CHARACTERISTICS:

- a. The ADSS cable shall be designed to withstand the Electromagnetic fields when erected on the high voltage towers. The ADSS cable shall have a very low Electrical Conductivity to avoid currents on the surface of the cable in all situations.
- b. The mechanical structure of the ADSS cable shall be designed to withstand the wind and other environmental conditions in the routes, which have been specified in this document. The location of the fibers inside the structure shall be such that the application of the ADSS cable in the specified routes is possible .The ADSS cable selected shall tolerate the normal installation procedures. The Bidder shall list themechanical parameters of the ADSS cable and describe the cable structure, including how the fibres are located inside. The maximum

permissible tension to which the offered ADSS cable can be subjected shall be indicated in the bid.

- c. The cable structure shall be such that the fibres are protected against water, hydrogen, ultraviolet radiation and other environmental hazards encountered in India.

2. **DESIGN:**

- 2.0 i) The cable shall be constructed from materials which have been technically proven and able to withstand the electrical and environmental conditions.
- ii) A non-magnetic strength member shall be incorporated in the cable and this shall provide sufficient strength to WITHSTAND WIND load without being unduly stiff.
- iii) The cable shall be smooth and of circular cross-section to avoid aerodynamic instability and shall be of minimum diameter to reduce HT pole loadings to a minimum.
- iv) The cable shall be fully filled so as to prevent WATER CONDENSATION and electrical degradation within the sheath. The sheath of the cable shall be stable to withstand solar ultra-violet radiation.
- v) At maximum working tension, the fiber shall not be subjected to a longitudinal strain greater than specified by the manufacturer and longitudinal strain specifications shall conform to IEEE standard P 1222 – 1995 SECTIONS 4.1.1.9 and 5.1.1.9 for ADSS cable and there shall be no detectable increase in fiber attenuation.

2.1 **ELECTRICAL AND MECHANICAL REQUIREMENTS:**

Table provides ADSS Electrical and Mechanical requirements for the minimum performance characteristics.

2.11 **ADSS ELECTRICAL AND MECHANICAL REQUIREMENTS**

| S.NO. | PARAMETERS | UNIT | PARTICULARS / DESCRIPTION |
|-------|--|------|----------------------------------|
| 1 | No. of Fibres DWSM (Dual Window Single Mode) | No. | 12F |
| 2 | Buffer Type | - | Loose Tube |
| 3 | Buffer Material | - | PBT |
| 4 | Buffer Tube Diameter | mm | 2.5mm outer ; Inner 1.8mm |
| 5 | Strength member | - | Central Glass Reinforced plastic |
| 6 | Peripheral strength | - | Aramid yarn |

| | | | |
|----|--------------------------------------|----------|---|
| | member | | |
| 7 | DWSM optical fibres color | - | Blue, orange, green and natural |
| 8 | No. of Fibres per Tube | Nos. | Loose Tube – 3 Nos. 4 Fibres in each tube or equivalent |
| 9 | Tube color | - | Blue tube as marker, orange tube as tracer and remaining tubes of natural colors. |
| 10 | Tube filling Compound | - | Loose tube is filled with thixotropic jelly |
| 11 | Flooding compound | - | Cable core is flooded with water blocking jelly |
| 12 | Single layer polyester tape | - | Wrapped over the cable core |
| 13 | LLDPE inner sheath | mm | Minimum thickness is 1.5 mm black color |
| 14 | Binding yarn tape | - | Longitudinal tape & contra helical binders |
| 15 | HDPE (anti tracking outer jacket UV) | mm | Nominal Thickness 2.00 mm., +0.5 mm., -0.3 mm. |
| 16 | Overall diameter of the cable | mm | 17.0 mm., +/-0.5 mm. |
| 17 | Overall weight of the cable | Kg | 240 +/- 10 kg/km |
| 18 | Minimum bend radius | mm | 285 mm during installation 200 mm installed |
| 19 | Tensile strength | KN | 7.00 kN |
| 20 | Span length | Mtrs | Should be suitable for 100 Mtrs span length with 7.00 kN Tensile Strength per 100 Mtrs. |
| 21 | Allowable sag | | 1.0 % of maximum span length |
| 22 | Fibre cable drum lengths | Km | 2 km of drum length Minimum |
| 23 | Wind speed | Km / Hr. | 180 |

Service Conditions

The equipment / materials offered will be entirely satisfactory for operation under the climatic conditions indicated below:

- | | |
|---|----------|
| a) Maximum ambient air temperature (in shade) | 45 deg.C |
| b) Maximum ambient air temperature (under sun) | 50 deg.C |
| c) Maximum daily average ambient air temperature | 35 deg.C |
| d) Maximum yearly average ambient air temperature | 30 deg.C |
| e) Maximum humidity | 100% |

Due consideration will be given to any special devices or attachment put forward by the Bidder which are calculated to enhance the general utility and the safe and efficient operation of the equipment / material.

2.12 DETAILS OF FIBRES:

| S.No. | Description | Parameters |
|-------|---|------------------|
| 1 | Mode field DIAMETER (um) | 9.2 |
| 2 | Deviation in mode field diameter (m) | 0.4 |
| 3 | Attenuation Coefficient (dB/km) | 0.35 max |
| 4 | Attenuation Variation (dB/km) with | |
| | a At Wavelength (25nm) | 0.02 (1525-1575) |
| | b At Temperature | 0.05 |
| 5 | Mode Field non-circularity (%) | 6 |
| 6 | Cutoff Wavelength (nm) | 1260 |
| 7 | Chromatic Dispersion (ps/nm ² km) | |
| | a @1310 (1285-1330) nm | 3.5 |
| | b @1310 (1270-1340) nm | 6 |
| | c @1310 (1525-1575) nm | 20 |
| 8 | Zero dispersion wavelength (nm) | 1300 –1324 |
| 9 | Zero dispersion slope (ps/nm ² km) | 0.092 |
| 10 | Refractive index | 1.47 |
| 11 | Refractive index profile | Step index |
| 12 | Cladding design | Matched |
| 13 | Numerical aperture | 0.1 |
| 14 | Bandwidth distance product (MHz km) | N/A |
| 15 | Bend Performance (37.5 mm radius, 100 turns) | < 0.05 dB |

2.13 The operating wave length shall be 1300 – 1580 nm. (Attenuation shall be as specified in G.652D)

2.14 The fibres shall be optimized for operation between 1300 – 1595 nm such that the dispersion coefficient is nominally zero but shall not exceed 33.5 ps / km. nm.

2.15 The Bidder shall state the attenuation and the dispersion coefficients at the wavelength of 1550 nm and 1310 nm.

2.16 MIINIMUM BENDING RADIUS:

The Bidder shall specify the minimum allowable radius of bending for ADSS under all temperature conditions for all long term and short term applications.

2.17 OPTICAL WAVEGUIDE FIBRES:

Design requirements of the optical wave-guide fibres shall be as specified

The single mode optical wave-guide fibres shall have characteristics in accordance with the International Telegraph and Telephone Consultative Committee (CCITT) - Red Book (1984) – Volume-III. FASCICLE III.2 – International Analogue Carrier System. Transmission Media, Characteristics. Recommendations G.652D (Study Group XV and EMBD):

The offered single mode fibre shall be at dispersion minimized at a wavelength around 1550 nm for use in 1550 nm window. The maximum attenuation coefficient of any individual fibre shall not exceed 0.25 db/km in the 1550 nm region at 20 deg. C. The Bidder shall offer the typical attenuation spectral curves in the 1200 nm to 1600 nm wavelength range. The additional attenuation introduced for 100 turns of uncabled optical fibres (loosely wound) with 37.5 mm radius mandrel and measured at 1550 nm at +20 deg. C shall be less than 0.5 db compared to the initial value measured before winding. The additional temporary attenuation compared to the initial value measured at 20 deg. C due to

- i) Temperature cycling (-20 deg. C to + 80 deg. C) shall be less than 0.05 db/km.
- ii) Temperature rise on account of short circuit current shall be less than 0.25 db/km. The above increase in attenuation shall be only temporary. There shall be no measurable increase in the fibre attenuation after normalcy is restored. The attenuation of the fibres embedded in the ADSS shall be distributed uniformly throughout its length so that there are no point discontinuities in excess of 0.05 db. The fibre lengths in each reel shall be continuous. No splice of fibre within a reel of ADSS shall be accepted. The optical wave-guide fibres shall be completely protected from water penetration and environmental conditions. The Bidder shall indicate index of refraction of the fibre core and cladding at 1550 nm and the effective group refractive index for use with Optical Time Domain Reflect Meter (OTDR).

2.18 FIBRE SPLICE LOSS.

The splicing loss of any two fibres in any case shall not exceed 0.10 db/splice. Ageing shall not cause increase of the nominal optical attenuation at ambient temp. at 1550 nm by more than 0.05 db/km of fibre over a period of 25 years. The bidder shall submit the ageing characteristics of the offered optic fibres. The total additional attenuation above the nominal attenuation due to regular splices, repair splices, connectors, temperature variation, ageing etc. shall be indicated by the Bidder.

2.19 CHROMATIC DISPERSION.

A single mode optical fibre cable (ITU-T Rec.G.652D) shall have following dispersion characteristics.

| | | |
|----|---|------------------------|
| a) | Zero dispersion wave length | 1550 nm |
| b) | Maximum tolerance on the Zero dispersion wavelength | +/- 15 nm |
| c) | Maximum chromatic dispersion coefficient in operation window from 1525 to 1575 nm wavelength region | ≤ 3.5 PS/ nm x km |

2.20 FIBRE MATERIAL

The fibre shall be manufactured from high grade silica and doped as necessary to provide required transmission performance. The chemical composition of the fibres shall be specifically designed to minimize the effect of hydrogen on the transmission properties. The fibres shall be heat resistant. The Bidder shall submit a certificate or test data to guarantee the maximum rated temperature of the fibres.

2.21 FIBRE IDENTIFICATION.

Each optical fibre for identification shall be colour coded corresponding to sequential numbering. The colors and numbering shall be in accordance with relevant International / Indian Standards in vogue. The colour shall be integrated in the fibre coating and shall be homogeneous. The colour shall not be erased when handled during splicing. The original colour shall be dissemble throughout the design life of the ADSS. The colour should not bleed from one fibre to the other and not fade when wiping the fibre with acetone or alcohol. If the fibres are regrouped in bundles or in tubes the later shall be colored according to a determined code.

3. FIBRE CHARACTERISTICS:

3.0 Fibre Types:

All fibres shall be of the single mode dual window type. Fibres shall comply with ITU-T Recommendation G.652D (Characteristics of a Dual – Window Single Mode Optical Fibre Cable).

3.1 The fibre shall be entirely suitable for splicing by means of a normal fusion splicing techniques.

- 3.2 The fibre shall be manufactured from high grade silica and doped as necessary to provide the required transmission performance.
- 3.3 The chemical composition of the fibres shall be specially designed to minimize the effect of hydrogen on the transmission properties.
- 3.4 The fibre cable life expectancy shall be at least 30 years.

4.0 **NUMBER OF FIBRES**

The standard number of fibres to be provided in a cable is 12.

4.1 **FIBRE COLORING**

Fibre coloring shall conform to EIA/TIA-598. The color-coding shall be permanent thus withstanding normal handling; e.g., during termination, testing, or cable relocation. Refer to EIA – 359 for color identification and coding.

5. **FIBRE BUFFERING AND PROTECTION**

- 5.0 The primary coating shall consist of an inert material, which can be readily removed for splicing purposes without damage to the fibre and without necessitating the use of hazardous chemicals.
 - 5.1 A secondary coating may be applied directly over the primary coating (tight buffering), or alternatively, a loose jacket may be provided (loose buffering). Where a tight fitting secondary coating is provided, it shall consist of an inert material. Where a loose jacket is provided, jell or hydroscopic substance shall be included in the cable structure to prevent moisture from being retained inside the loose jacket.
 - 5.2 The fibre coating shall be translucent such that fibre splicing techniques using optical alignment of cores by means of injection and detection of light through the cladding shall be supported .In addition, the fibre coating shall be optically matched to the cladding to promote cladding mode stripping.
 - 5.3 The composition of the cable shall be specifically designed to reduce the production of hydrogen gas and to prevent the migration of hydrogen into the fibre.
 - 5.4 The Bidder shall describe specific measures taken to reduce the production of hydrogen gases and any installation constraints that should be observed.
- ### 6. **TECHNICAL CHARACTERISTICS**
- 6.0 **Fibre cable drum lengths** shall be such that to avoid joint when used in a 33 kV transmission line of **2 km length** to reduce losses due to fibre splices.

6.1 The longitudinal strain specifications shall conform to IEEE Standard P1222-1995, sections 4.1.1.9 and 5.1.1.9 for ADSS cable.

6.2 The ADSS cable shall withstand 7.00 KN for average span length of 60 to 80 Mtrs.

7. DRUMS:

7.1 The cables shall be supplied in non-returnable strong wooden (or alternatively steel) drums provided with lagging of adequate strength, constructed to protect the cable against any damage and displacement during transit, storage and subsequent handling and stringing operations in the field. The bidder shall list the information concerning the following: weight, dimensions, material and standards applied.

7.2 All wooden components shall be manufactured out of seasoned soft wood free from defects that may materially weaken the component parts of the drums. Preservative treatment for anti-termite /anti-fungus shall be applied to the entire drum with preservatives of a quality which is not harmful to the cable. The bidder shall furnish in the bid details of anti-termite / anti fungus treatment given to the drum.

7.3 Before reeling, cardboard or double corrugated or thick bituminous water proof bamboo paper shall be secured to the drum barrel and inside of flanges of the dry drum by means of a suitable commercial adhesive material. The paper should be dried before use After reeling the cable the exposed surface of the outer layer of the cable shall be wrapped with thin polythene sheet across the flanges to protect the cable from dirt, grit and damage during transportation and handling and also to prevent ingress of rain water during storage and transport.

7.4 A minimum space of 75 mm shall be provided between the inner surfaces of the external protective lagging. A few staggered lagging on the outermost layer of cable shall be provided to avoid unreeling of cable during transit. There shall be minimum of two binders consisting of iron/ galvanized steel wire. Each protective lagging shall have two recesses to accommodate the binders.

7.5 The cable ends shall be properly sealed and secured with the use of U-nails or bolts on the side of one of the flanges to avoid loosening of the cables layers in transport and handling.

7.6 **Only one length of cable** shall be wound on each drum. The method of lagging to be employed shall be clearly stated in the tender. Each drum shall be accompanied by the following information.

- a. Manufacturer's name and address
- b. Contract / Award letter number
- c. Type of the cable
- d. Gross weight of the cable and drum

- e. Weight of empty drum with lagging
- f. Net weight of the cable
- g. Length of the cable
- h. Drum and lot number
- i. Name and address of the consignee
- j. Month and year of manufacture
- k. Rotation of drum

8. REQUIREMENT FOR INSTALLATION AND LAYING OF ADSS AND OTHER CABLES AND ACCESSORIES:

8.1 SURVEY OF ADSS CABLE ROUTE:

The bidder shall at their own expense visit the 33kV & 11 kV overhead line site where the ADSS optical fibre cabling system is to be installed (as per the ADSS cable routing plan provided in the tender document) prior to bid submission for proper execution of installation work of ADSS cable. The successful bidder shall take care following points in the survey and detailed report shall be submitted to this office for approval prior to starting the work: -

- a. List of all spans and total link length.
- b. Details of existing poles / towers / structures.
- c. Suitability for installation of ADSS cable and associated hardware fittings.
- d. Proposed splice locations.

8.2 SPAN LENGTHS AND SAG REQUIREMENTS:

The span lengths are generally considered between 30 to 100 meters. The average span length between poles has been considered as 60 to 80 meters. The maximum allowable sag is 1%. The minimum ground clearance from lowest point of sag of ADSS cable shall conform to Indian Electricity act, the bidders may adopt other methods provided such methods ensure that the technical requirements for ADSS cable are not jeopardized from the point of view of insulations/static voltage hazard both on the ADSS and the fibre.

8.3 METHODOLOGY FOR INSTALLATION AND TERMINATION:

The ADSS cable stringing, installation, termination, details of personnel and time requirement etc. shall be submitted for approval prior to the installation. The ADSS cable shall be terminated in the available FODP / LIU at both ends i.e. 132 kV Rawanbhata end & SLDC Dangania end. The positioning of the ADSS cable on the poles/towers shall ensure that effect of electric field and consequential damage; both long term and short term on the outermost sheath of ADSS cable shall be minimum. The maximum allowable sag, stringing tension, maximum allowable torsion shear stress, crush strength and other physical parameters of the cable shall not be exceeded.

8.4 OPTICAL FIBRE SPLICES:

Splicing of the optical fibre cabling shall be minimized through careful planning. There shall be no mid-span splices allowed. All required splices shall be planned to occur within facilities or on poles/tower structures. All optical fibre splicing shall comply with the following:-

- a. All fibre splices shall be accomplished through fusion splicing.
- b. Each fibre splice shall be fitted with a splice protection sheath fitted over the final splice.
- c. All splices and bare fibre shall be neatly installed in covered splice trays. No more than six (6) fibres shall be installed in each splice tray.
- d. For each link, bi-directional attenuation of single mode fusion splices measured at 1310 nm & 1550 nm shall not average more than 0.05 dB. The bi-directional splice loss of each splices shall not exceed 0.1 dB when measured at 1310 nm & 1550 nm.
- e. For in-line splicing, fibre optic cable service loops of adequate length shall be provided so that all splices occurring at pole / tower structures can be performed at ground level.

Optical fibre attenuation shall be measured before and after installation of the ADSS cable. Any increase in attenuation or step discontinuity in attenuation shall not be accepted. Attenuation after splicing shall be measured. Any increase in attenuation beyond technical specification shall not be accepted.

8.5 CABLE RACEWAYS:

To the extent possible, existing cable raceways shall be utilized. The Contractor is required to provide and install any additional indoor cable raceways which may be required for proper implementation of the fibre optic cabling system. This requirement shall be finalized during survey.

8.6 OTHER REQUIREMENTS:

The standard set of installation accessories and fixtures required for successful installation of ADSS cable is to be submitted by bidder in his offer. However, during installation, if it is found by the bidder that any other accessories or fixtures are required for successful installation of ADSS cable, the same shall be supplied and installed by the Bidder at no additional cost.

The bidder shall transport the cable and associated accessories and fixtures from area store to the site. All required transportation and labour shall be supplied by the bidder. The bidder shall be solely responsible for any shortages or damages in transit, handling and/or in storage of the material at site. Any demurrage, wharfage and other such charges framed by the transporter shall be to the account of the bidder.

The bidder shall maintain an accurate and exhaustive record detailing the list of all material received by him and keep such record open for the inspection by Consignee. The cable shall be handled very carefully to prevent any damage or loss. In case of damage to the cable or other items, necessary compensation in the form of replacement shall be arranged by the bidder at their cost.

It shall be the bidder's / contractor's responsibility to provide adequate communications among all crew members and support staff to ensure safe and successful installations. During installation, proper attention towards safety of men and machines shall be ensured by the bidder. All safety norms and precautions shall be followed to minimize the possibility of accidents, which if happens, will have to be dealt by the bidder alone. The SLDC,CSPTCL,RAIPUR shall not be held responsible in any manner for such accident. SLDC,CSPTCL,RAIPUR shall have no financial implications towards contractor etc for any claim arising out of accident during installation of cable and other equipments. This shall be the sole responsibility of the contractor.

9. STANDARDS:

The material shall conform to the following Indian / International Standards, specified under and published unless otherwise specified in these specifications.

| REFERENCE ABBREVIATION | NAME & ADDRESSES |
|---------------------------|---|
| | British Standards, British Standards Institution, 101, Pentonville Road, N-190-ND, UK |
| BS | |
| | International Electrotechnical Commission, Bureau Central DE la Commission, Electro Technique International, 1 Rue de verembe, Geneva, Switzerland. |
| IEC/CISPR | |
| | INDIAN STANDARD INSTITUTION, ManakBhavan, 9, Bahadur Shah ZafarMarg, New Delhi – 110 001, INDIA |
| IS | |
| | International Organization for Standardization, DANISH BOARD of Standardization Danish Standardization Street, aurehoegvej –12 DK – 2900, Heelestrup, Denmark. |
| ISO | |
| | NATIONAL ELECTRIC MANUFACTURE ASSOCIATION, 155 East 44th Street. New York, NY 10017, USA. |
| NEMA | |
| | CANADIAN STANDARD ASSOCIATION |
| CSA | 178, Raxdale Boulevard, Raxdale Ontario, Canada M9W IR |
| | IEEE, 347 East 47th Street |
| IEEE | New York, NY 10017A USA |
| | GLOBAL ENGINEERING DOCUMENT |

| | |
|----------|--------------------------------------|
| EIA/ TIA | 15, Inverness Way East |
| | Endlewood, Colorado 80112 –5704 USA. |
| | NATIONAL FIRE PROTECTION ASSOCIATION |
| NEC | 1 Battery March Park |
| | Quincy, Massachusetts 02269-0059 |
| | USA. |
| | JAPANESE STANDARDS INDUSTRIAL |
| JIS | 1024 Akasaka 4- Chome |
| | Minato – KU |
| | Tokyo, Japan. |

INDIAN / INTERNATIONAL STANDARDS

| S. NO. | INDIAN STANDARD | TITLE | INTERNATIONAL STANDARDS |
|--------|-----------------|---|-------------------------|
| 1. | | The international telecommunication union (ITU-T) recommendations | G.652D, G.530 |
| 2. | | International electro technical commission (IEC) vocabulary | IEC:50 – 1975 |
| 3. | | Optical fibres Part 1: generic specification | IEC: 793-1 |
| 4. | | Optical fibre cables Part 1: generic specification | IEC: 794-1 |
| 5. | | Aluminum alloy redraw rods | IEC: 104-1987 |
| 6. | | Aluminum clad steel wires for electrical purposes | IEC:1232-1993 |
| 7. | | Fibre optic test Procedure series | EIA-TIA-445 (FOTP.S) |
| 8. | IS: 2121 | Specification for conductor and earth wire Accessories for overhead power lines | |
| 9. | | IEEE standard construction of composite Fibre optic overhead ground wire (OPGW) For use on electric utility power lines | IEEE: 1138-1994 |
| 10. | IS: 398 | Standard conductor for overhead lines | IEC: 1089-1993 |
| 11. | | IEEE standard for all dielectric self-supporting fibre optic cable (ADSS) for use on overhead utility lines. | IEEE: P1222-1995 |
| 12. | | Standard colors for color identification and coding | IEEE: 359A |
| 13. | | Color coding for fibre optic cables | IEEE: 598 |
| 14. | | ANSI / IEEE Standard For Aerial ADSS Fibre – Optic Cable | ANSI/IEEE: 524 |
| 15. | | NFPA NATIONAL ELECTRIC CODE OR PLENUM FIBRE – OPTIC CABLE | NEC: 770 |

10. TYPE TEST STANDARDS:

The firm / contractor shall conform to following Type Test Standards of ADSS cable and the firm / contractor shall give the compliance for the same.

| <u>S.No.</u> | <u>TEST</u> | <u>STANDARD (S)</u> |
|--|---------------------|---|
| (I) <u>OPTICAL CHARACTERISTICS OF FIBRES</u> | | |
| 1 | Attenuation | IEEE Std. 1138 IEEE STD. P1222 (EIA/TIA – 455-61,78A) (IEC 793-1-C1A,B,C) |
| 2 | CUTOFF WAVELENGTH | IEEE STD. 1138 IEEE STD PI222 (EIA-455-80, 170) (IEC-793-1-C7A,B) |
| 3 | FIBER DISPERSION | IEEE STD. 1138 IEEE STD. P1222 (EIA/TIA-455-168A,169A,175A) (IEC-793-1-C5A,B,C) |
| 4 | FREQUENCY RESPONSE | IEC-793-1-C2B |
| 5 | MODE FIELD DIAMETER | IEEE STD. 1138 IEEE STD. P1222 (EIA/TIA-455-164A,165A,167A) (EIA-455-174) (IEC 793-1-C9A,B,C,D) |
| 6 | TEMPERATURE CYCLING | IEEE STD. 1138 IEEE STD. P1222 (EIA/TIA-455-69A) (IEC 793-1-D1) |
| (II) <u>MECHANICAL CHARACTERISTICS OF FIBRE</u> | | |
| 1 | ABRASION | IEC 793-1-B4 |
| 2 | CORE CONCENTRICITY | IEC 793-1-A3 |
| 3 | MACROBENDING | EIA/TIA-455-62A (IEC 793-1-C11) |
| 4 | MICROBENDING | IEC-793-1-C3 |

| | | |
|---|---|--|
| 5 | PROOF TEST a. CONSTANT STRESS b. CONSTANT LONGITUDINAL STRAIN c. CONSTANT BENDING STRAIN | IEC-793-1-B1 |
| 6 | STRIPPABILITY | IEC 793-1-B6 |
| 7 | VISUAL EXAMINATION | EIA/TIA-455-13 (IEC 793-1-B5) |
| | | |
| (III) <u>MECHANICAL CHARACTERISTICS OF CABLE</u> | | |
| 1 | ADSS CABLE FITTINGS | IEEE STD. P1222 |
| 2 | AEOLIAN VIBRATION | IEEE STD. 1138 IEEE STD. P1222 (ANNEX A) |
| 3 | CABLE BENDING | IEEE STD. 1138 IEEE STD P1222 (IEC 794-1-E11) (EIA-455-88) |
| 4 | COLOR CODING | EIA-359A,598 (IEC 304) |
| 5 | COMPOUND FLOW | EIA-455-81A (IEEE STD. 1138) (IEEE STD. P1222) |
| 6 | COMPRESSIVE LOADING | EIA/TIA-455-41A |
| 7 | CORROSION (SALT SPRAY) | EIA/TIA-455-16A |
| 8 | CREEP | IEEE STD. 1138 IEEE STD. P1222 |
| 9 | CRUSH RESISTANCE | IEEE STD. 1138 IEEE STD. P1222 (EIA-455-26A0 (IEC 794-1-E3) |

| IV | Test | Standard(s) |
|-----------|-------------------------------|--|
| 1 | Cut Through | IEC 794-1-E12 |
| 2 | Flexibility/Cyclic Bending | EIA-455-104A (IEC 794-1-E6,E11) |
| 3 | Fungus Resistance | EIA-455-56A |
| 4 | Galloping | IEEE Std. 1138 IEEE Std. P1222 9EIA/TIA-455-25A) |
| 5 | High –Low Temperature Bending | EIA/TIA-455-37A |
| 6 | Humidity | EIA/TIA-455-5B |
| 7 | Impact | IEEE Std. 1138 IEEE Std. P1222 (IEC 794-1-E1) |
| 8 | Sheave | IEEE Std.1138 IEEE Std. P1222 (Annex A) |
| 9 | Temperature Cycling | IEC 794-1-F1 (EIA-455-162) |
| 10 | Tensile Strength | IEEE Std. 1138 IEEE Std. P1222 (IEC 794-1-E1) (EIA-455-33A) |
| 11 | Torsion, Twist | EIA-455-36A,85A (IEC 794-1-E7) |
| 12 | Water Blocking | IEEE Std. 1138 |
| 13 | Penetration | IEEE Std. P1222 (IEC 794-1-F5) (EIA/TIA-455-82B) |
| 14 | Water Wicking | EIA/TIA-455-39A |
| 15 | Weathering, Heat Aging | EIA-455-17A |

In the event of the supply of material conforming to any standard including JIS other than Standards listed above, the salient features of comparison shall be brought out and furnished along with the bid. A copy of each of the standard in English version shall be enclosed with the bid.

SCHEDULE-I

**SCHEDULE OF PRICES AND QUANTITY FOR SUPPLY, INSTALLATION(Live Line), TESTING & COMMISSIONING OF 12
Fibre ADSS CABLE ALONG WITH ASSOCIATED HARDWARE FITTINGS & ACCESSORIES**

| SI No. | Particulars | Qty | UoM | Unit prices including of P&F in Rs. | ED in % @ | Unit Price including ED | Sales Tax / VAT in % @ on "7" | Any Other Tax | Unit Freight Rate in Rs. | Unit FOR destination price Rs. | Total Amount for Supply of Items in Rs. |
|----------|--|------|-------|-------------------------------------|-----------|-------------------------|-------------------------------|---------------|--------------------------|--------------------------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 = 5+6 | 8 | 9 | 10 | 11 = 7+8+9+10 | 12 = 3x11 |
| A | <u>Supply of 12 Fibre DWSM ADSS Cable, its Accessories and Hardware Fittings</u> | | | | | | | | | | |
| 1 | 12 Fibre Dual Window Single Mode ADSS Fibre Optic Cable for connecting Rawanbhata 132 KV S/s to SLDC Dangania Raipur | 7000 | Mtrs. | | | | | | | | |
| 2 | Suspension Assembly complete in all respect including earthing clamps. | 149 | Set | | | | | | | | |
| 3 | Tension Assembly suitable for ADSS Cable | 100 | Nos | | | | | | | | |
| 4 | Vibration Dampers for ADSS Cable | 400 | Nos | | | | | | | | |
| 5 | Inline splice enclosure | 6 | Nos. | | | | | | | | |
| | Total "A" (1 to 5) | | | | | | | | | | |

| Sl No. | Particulars | Qty | UoM | Unit Erection Charges in Rs. | Service Tax including CESS @ 15% on "5" | Unit Erection Charges including Service Tax | | | | | Total Amount for Installation (live line), Testing & Commissioning in Rs. |
|----------|--|------|-------|------------------------------|---|---|--|--|--|--|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 = 5+6 | | | | | 8 = 3 x 7 |
| B | <u>Installation(Live line), Testing & Commissioning of 12 Fibre DWDM ADSS Cable, its Accessories and Hardware Fitting</u> | | | | | | | | | | |
| 1 | Installation & Commissioning work of ADSS Cable on 33 KV Distribution Poles including, loading, unloading, transportation of ADSS cable from store to installation site, fixing of Hardware accessories, splicing at joint box (in-line splice enclosure) locations and at FODP ends, OTDR testing from both FODP locations etc. | 7000 | Mtrs. | | | | | | | | |
| | Total "B" | | | | | | | | | | |

| | | |
|----------|--------------------|--|
| C | Total "A+B" | |
|----------|--------------------|--|

TOTAL PRICE IN Rs.

SIGNATURE OF BIDDER & SEAL

SCHEDULE-II

SCHEDULE OF TECHNICAL DEVIATIONS

We/I have carefully gone through the Technical specification and the General condition of contract and we/I have satisfied ourselves/myself and hereby confirm that our/my offer strictly conforms to the requirements of technical specification and General conditions of contract except for the deviations, which are given below:-

| S. No. | Descriptions & clause no. of the specification & page number | Stipulation in specification | Deviation offered. | Remarks regarding justification of the deviation |
|--------|--|------------------------------|--------------------|--|
| 1 | 2 | 3 | 4 | 5 |
| | | | | |
| | | | | |

Except for aforesaid deviations, the entire order, if placed on us, shall be executed in accordance with your specification and any other conditions, variation/deviation etc. if found elsewhere in our offer should not be given any considerations while finalising the tender.

Date
Place

SIGNATURE OF BIDDER
NAME
DESIGNATION
(SEAL)

SCHEDULE - III

SCHEDULE OF COMMERCIAL DEVIATIONS

We/I have carefully gone through the Commercial requirements of specification and the General condition of contract and we/I have satisfied ourselves/myself and hereby confirm that our/my offer strictly conforms to the requirements of commercial specification and General conditions of contract except for the deviations, which are given below:-

| S.No. | Descriptions & clause no. of the specification & page number | Stipulation in specification | Deviation offered. | Remarks regarding justification of the deviation |
|-------|--|------------------------------|--------------------|--|
| 1 | 2 | 3 | 4 | 5 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Except for aforesaid deviations, the entire order, if placed on us, shall be executed in accordance with your specification and any other conditions, variation/deviation etc. if found elsewhere in our offer should not be given any considerations while finalising the tender.

Date
Place

SIGNATURE OF BIDDER
NAME
DESIGNATION
(SEAL)

SCHEDULE – IV
SCHEDULE OF TENDER’S EXPERIENCE

Bidder shall furnish here a list of similar jobs executed by him only to Indian power utilities. A reference may be made by the purchase to them in order be considers such a reference necessary.

| S.No. | Name & Particulars of Panels ordered | Order No. & date | Period & date of supply | Name of order placing Power utility placing authority | Person to whom reference to be made |
|-------|--------------------------------------|------------------|-------------------------|---|-------------------------------------|
| | | | | | |

Date
Place

SIGNATURE OF BIDDER
NAME
DESIGNATION
(SEAL)

SCHEDULE-V-A

COMMERCIAL INFORMATION

Strike-off, whichever is not applicable

| | | |
|-------|---|--|
| 1.i) | Whether purchased from this office or downloaded? | Yes/No |
| ii) | If down loaded, whether tender cost furnished? Details of MICR DD for tender cost Rs.1000.00 | Yes/No |
| iii) | Earnest Money details | |
| iv) | Amount of EMD and full details | |
| v) | If exempted, state whether bidder is | SSI Unit of CG / Small scale unit registered with NSIC/ Fully owned State Central Govt. Unit. |
| vi) | Reference of documentary evidence regarding exemption enclosed | Yes /No |
| 2. | Whether the offer is valid for 120 days from the date of opening of commercial /technical bid | Yes /No (If no, state validity period) |
| 3. | State whether the quoted prices are firm | Yes /No |
| 4. | Option of Modvat Benefit. Whether benefit of Modvat has been taken into consideration in quoting the rate in price bid | Yes /No |
| 5. a) | Rate of Central Excise duty | |
| b) | Whether you agree to clause regarding variation in the rates of ED/ST | Yes /No |
| 6. | Rate of Sales Tax on the date of bid | |
| 7. | PAYMENT TERMS:- Whether CSPTCL's terms of payment is acceptable to the bidder (if no state conditions) | Yes /No |
| 8. | DELIVERY PERIOD:- | |
| 9. | PENALTY CLAUSE Whether agreeable to CSPTCL's Penalty clause | Yes /No |
| 10. | GUARANTEE PERIOD :- Whether agreed to CSPTCL's guarantee period of 18 months from date of supply or 12 months from date of commissioning whichever is earlier. If not mention offered guarantee. | Yes /No |
| 11. | SECURITY DEPOSIT | Yes /No |
| a. | Whether agreeable to furnish CSPTCL's Standard security deposit @ 10% of value of order for satisfactory execution of the order and to cover guarantee period | |
| b. | If not, indicate deviation specifically | |

| | | |
|-----|--|---------|
| 12. | EXTENSION ORDER:- Whether you are agreeable to accept extension order for 50% of quantity on the same rates, terms & condition if any extension order is placed within 6 months from the date of placement of detailed order. | Yes /No |
| 13. | Please mention whether rates offered are applicable for part quantities. | Yes /No |
| 14. | Mention Turn over of the firm for last three years (Enclose balance sheets in support) | |
| (a) | 2012-13 | |
| (b) | 2013-14 | |
| (c) | 2014-15 | |
| 15. | Year of start of manufacture of offered equipment/ material. | |

Date
Place

SIGNATURE OF BIDDER
NAME
DESIGNATION
(SEAL)

SCHEDULE-V-B

TECHNICAL INFORMATION

Strike-off, whichever is not applicable

Separate sheet should be used, wherever necessary.

| | | |
|---|---|----------------------|
| 1 | Whether material offered is exactly as per the technical specification | Yes/No |
| 2 | Whether the copies of orders received during last 1 years from other Indian State Electricity Board/ NTPC & other organization for similar materials enclosed | Yes/No, give details |
| 3 | Whether pamphlets/technical details literatures along with drawing etc. Furnished with the offer | Yes/no, give details |
| 4 | Whether you agree for inspection by CSPTCL's representative prior to dispatch and bear the testing charges for all tests as per relevant standards | Yes/No |
| 5 | GA drawing furnished with the offer | Yes/No |

Date
Place

SIGNATURE OF BIDDER
NAME
DESIGNATION
(SEAL)

SCHEDULE V-C
COMMERCIAL QUESTIONNAIRE

| | | | |
|----|----|--|----------|
| 1. | | Name and Address of the bidder | |
| 2 | | Name and Address of the firm / company etc. | |
| | a) | Registered Office | |
| | b) | Address | |
| | c) | Telegraphic address | |
| | d) | Telex / Fax No. | |
| | e) | Telephone number | |
| 3. | | Confirm whether the bidder is a manufacturer | Yes / No |
| 4. | | Only the manufacturers to give following particulars | |
| | a) | Address of the factory | |
| | b) | Year of starting manufacture | |
| | c) | Year of start of manufacture of offered equipment (same rating) | |
| | d) | Yearly / Monthly production capacity | |
| | e) | Maximum yearly production achieved so far | |
| 5 | | Whether the firm is a C.G. SSI Unit? | |
| | a) | If yes, write Registration no. | |
| | b) | Whether the documentary evidence regarding registration enclosed | |
| | c) | Items of Registration | |
| | d) | Period of Registration | |
| | e) | Furnish latest copy of competency certificate. | |
| 6 | a) | Whether bidder is an old participant with CSPTCL | Yes / No |
| | b) | If yes, whether documentary evidence is enclosed? | |
| 7 | | Whether you are exempted from payment of excise duty at present and whether it will be charged to the CSPTCL, in case it becomes payable at a later date after placement of order. (Please state cost of material if ordered against this tender specification which will be excise duty free and rate of E.D. leviable for materials exceeding this limit.) | |

| | | | |
|----|------|--|--|
| 8 | i) | Whether concessional rate of Sales tax as applicable to material offered within the state of origin from where the material is to move. | |
| | ii) | Whether you agree to charge Sales Tax on ex factory price + Excise Duty | |
| | iii) | Please furnish Sales Tax registration number | |
| 9 | | Whether the firm is prepared to make good any loss or damage in transit immediately and free of all charges and prefer the claim for such loss from insurance company preferably | |
| 10 | | Whether the list of orders received by you from State Electricity Utility/ State Government/ DGS&D/ PGCIL is enclosed? | |
| 11 | | Whether the details of departure / deviations from specification have been furnished? | |
| 12 | | Whether you are a State or Central Government Undertaking (furnish documentary evidence.) | |
| 13 | | Any other information that the bidder may like to be given in order to highlight his bid | |

Date
Place

SIGNATURE OF BIDDER
NAME
DESIGNATION
(SEAL)

SCHEDULE-VI

PRE-CONTRACT INTEGRITY PACT

1. GENERAL

- 1.1 This pre-bid contract Agreement (hereinafter called the Integrity Pact) is made on.....day of the month20..., between the CSPTCL acting through Shri.....ED (Trans.) (hereinafter called the “BUYER”, which expression shall mean and include, unless the context otherwise requires, his successors in the office and assigns) and the First Party, proposes to procure (name of the Stores/Equipment/Work/Service) and M/s. represented by Shri.....Chief Executive Officer (hereinafter called the “BIDDER/Seller”, which expression shall mean and include, unless the context otherwise requires, his successors on permitted assigns) and the Second Party, is willing to offer/has offered.
- 1.2 WHEREAS the BIDDER is a Private Company/Public Company/ Government undertaking/Partnership/Registered Export Agency, constituted in accordance with the relevant law in the matter and the BUYER is a power company an undertaking of Govt. of CG, performing its function on behalf of the Government of Chhattisgarh.

2. OBJECTIVES

NOW, THEREFORE, the BUYER and the BIDDER agree to enter into this pre-contract agreement, hereinafter referred to as Integrity Pact, to avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the Contract to be entered into with a view to:-

- 2.1. Enabling the BUYER to obtain the desired Stores/Equipment/Work/Service at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and
- 2.2. Enabling BIDDERS to abstain from bribing or indulging in any corrupt practices in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing any corrupt practices and the BUYER will commit to prevent corruption, in any form, by its official by following transparent procedures.

3. COMMITMENTS OF THE BUYER

The BUYER commits itself to the following:-

- 3.1 The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting of implementation process related to contract.
- 3.2 The BUYER will, during the pre-contract stage, treat BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to the other BIDDERS.

- 3.3 All the officials of the BUYER will report the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the BUYER with the full and verifiable facts and the same prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

4. COMMITMENTS OF BIDDERS

The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-

- 4.1. The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
- 4.2. The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage, or inducement to any official of the BUYER or otherwise in procuring the Contract of forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the CSPTCL for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the CSPTCL.
- 4.3. The BIDDER further confirms and declares to the BUYER that the BIDDER in the original Manufacture/Integrator/Authorized government sponsored export entity of the stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
- 4.4. The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payment he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 4.5. The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- 4.6. The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

- 4.7. The BIDDER shall not use improperly, for purpose of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposal and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.
- 4.8. The BIDDER commits to refrain from giving any compliant directly or through any other manner without supporting it with full and verifiable facts.
- 4.9. The BIDDER shall not instigate or cause to instigate any third person to commit any of the acts mentioned above.

5. PREVIOUS TRANSGRESSION

- 5.1. The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.
- 5.2. If the BIDDER makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

6. EARNEST MONEY (SECURITY DEPOSIT)

- 6.1. Every BIDDER while submitting commercial bid, shall deposit an amount as specified in RFP as Earnest Money/Security Deposit, with the BUYER through any of the following instruments:
 - (i) Bank Draft or Pay Order in favour of.....
 - (ii) A confirmed guarantee by an Indian Nationalised Bank, promising payment of the guarantee sum to the..... (BUYER).....on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the BUYER shall be treated as conclusive proof of payment.
 - (iii) Any other mode or through any other instrument (to be specified in the RFP).
- 6.2. The Security Deposit shall be valid up to complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and BUYER, including warranty period.
- 6.3. In the case of successful BIDDER a clause would also be incorporated in the Article pertaining to Performance Bond in the Purchase Contract that the provisions of Sanctions for violation shall be applicable for forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.
- 6.4. No interest shall be payable by the BUYER to the BIDDER on Earnest Money/Security Deposit for the period of its currency.

7. SANCTIONS FOR VIOLATIONS

- 7.1. Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the BUYER to take all or any one of the following actions, wherever required:-

- (i) To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.
- (ii) To forfeit fully or partially the Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is signed), as decided by the BUYER and the BUYER shall not be required to assign any reason therefore.
- (iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
- (iv) To recover all sum already paid by the BUYER, and in case of the Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate while in case of a BIDDER from a country other than India with Interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract such outstanding payment could also be utilized to recover the aforesaid sum and interest.
- (v) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.
- (vi) To cancel all or any other contracts with the BIDDER and the BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
- (vii) To debar the BIDDER from participating in future bidding processes of the CSPTCL for a minimum period of five years, which may be further extended at the discretion of the BUYER.
- (viii) To recover all sum paid in violation of this Pact by BIDDER(s) to any middlemen or agent or broker with a view to securing the contract.
- (ix) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.
- (x) If the BIDDER or any employee of the BIDDER or any person action on behalf of the BIDDER, either directly or indirectly, is closely related to any of the officers of the BUYER, or alternatively, if any close relative of an officer of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filling of tender. Any failure to disclose the interest involved shall entitle the BUYER to rescind the contract without payment of any compensation to the BIDDER.

The term 'close relative' for this purpose would mean spouse whether residing with the Government servant or not, but not include a spouse separated from the Government servant by a decree or order of a competent court; son or daughter or step son or step daughter and wholly dependent upon Government servant, but does not include a child or step child who is no longer in any way dependent upon the Government servant or of

whose custody the Government servant has been deprived of by or under any law; any other person related, whether by blood or marriage, to the Government servant or to the Government servant's wife or husband and wholly dependant upon Government servant.

- (xi) The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER, and if he does so, the BUYER shall be entitled forthwith to rescind the contract and all other contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.

7.2. The decision of the BUYER to the effect that a breach of the provisions of this pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Monitor(s) appointed for the purpose of this Pact.

8. **INDEPENDENT MONITORS**

- 8.1. The BUYER will appoint Independent Monitors (hereinafter referred to as Monitors) for this Pact.
- 8.2. The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 8.3. The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 8.4. Both the parties accept that the Monitors have the right to access all the documents relating to the project/ procurement, including minutes of meetings. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/ Subcontractor(s) with confidentiality.
- 8.5. As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BUYER.
- 8.6. The Monitor will submit a written report to the designated authority of BUYER/Secretary in the department/within 8 to 10 weeks from the date of reference or intimation to him by the BUYER /BIDDER and, should the occasion arise, submit proposal for correcting problematic situations.

9. **FACILITATION OF INVESTIGATION**

In case of any allegation of violation of any provision of this fact or payment of commission, the BUYER or its agencies shall be entitled to examine all the documents including the books of Account of the BIDDER and the BIDDER shall provide necessary information of the relevant documents and shall extend all possible help for the purpose of such examination.

10. **LAW AND PLACE OF JURISDICTION**

This pact is subject to Indian Law, the place of performance and jurisdiction shall be the seat of the BUYER.

11. **OTHER LEGAL ACTIONS**

The actions stipulated in this integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of any other law in force relating to any civil or criminal proceeding.

12. VALIDITY

- 12.1 The validity of this integrity Pact shall be from the date of its signing and extend up to 2 years or the complete execution of the contract to the satisfaction of both the BUYER and the BIDDER/Seller whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.
- 12.2. If one or several provision of this pact turn out to be invalid; the reminder of this pact shall remain valid. In such case, the parties will strive to come to an agreement to their original intention.
- 13. The parties hereby sign this integrity Pact aton.....

BUYER / BIDDER

Name of Officer
Destination Department/PSU

CHIEF EXECUTIVE OFFICER

Witness

Witness

1)..... 1)

2)..... 2)

* * * * *

SCHEDULE-VII

PROFORMA FOR BANK GUARANTEE TOWARDS SECURITY DEPOSIT

(To be executed on non judicial stamp paper worth Rs.250/- and Rs.1/- revenue stamps be affixed on the bank guarantee)

Bank Guarantee No. _____ Dtd. _____

In consideration of State Load Despatch Centre, Chhattisgarh State Power Transmission Co. Ltd., Raipur having agreed to accept this bank guarantee in lieu of cash deposit by way of Security for due and faithful performance required from M/s _____ herein after referred to as contractors, the bank of _____ hereby agrees unequivocally and unconditionally to pay within 48 hours on demand in writings from the CSPTCL or any officer authorized by it in this behalf, of any amount up to and not exceeding Rs. _____ (In words) Rs. _____ to the said Chhattisgarh State Power Transmission Co. Ltd. on behalf of the aforesaid M/s. _____ who have tendered and contracted for the supply of materials, equipments or services to the said CSPTCL against order No. _____ Dtd. _____ for the order value of Rs. _____.

This agreement shall be valid and binding on this bank up to and including _____ or for such further period as may hereunder be mutually fixed from time to time in writing by the CSPTCL, and the contractor, and shall not be terminable by notice or any change in the constitution of the aforesaid bank or the firm of contractors or by any other reasons whatsoever, and the banker's liability hereunder shall not be impaired or discharged by any extension of time or variation or alteration made, given, conceded or agreed to with or without the bank's knowledge or consent by or between the CSPTCL and the contractors in the existing and/ or further tenders and /or contracts.

It is agreed to by the Bank with CSPTCL that if for any reason a dispute arises concerning the Bank's liability to pay requisite amount to the CSPTCL under the terms of this guarantee the competent Court at Raipur shall have the jurisdiction to determine the said dispute and that this shall be without prejudice to the liability of Bank under the terms of this guarantee being unequivocal and unconditional as mentioned above.

The liability under this guarantee is restricted to Rs. _____ (In words _____) only. This Guarantee shall remain in force until _____. Unless a demand to enforce a claim is made under this Bank Guarantee by the CSPTCL to the Bank within six month from the date i.e. up to _____ the rights of CSPTCL under this guarantee shall be forfeited and the bank shall be relived and discharged from all liability there under.

Signature

For _____
Bank

Witnesses: -

1. _____ (Signature)
_____ (Name)
_____ (Address)

2. _____ (Signature)
_____ (Name)
_____ (Address)

SCHEDULE-VIII

PROFORMA OF AGREEMENT- BETWEEN THE CONTRACTOR & THE CSPTCL TO BE EXECUTED ON NON-JUDICIAL STAMP PAPER WORTH Rs.300=00 REVENUE STAMP OF RS. 1=00 SHOULD BE AFFIXED ON IT)

This Agreement is made on this _____ day of _____ 2016 between M/s _____ being a firm partnership/ proprietor registered under Indian Companies Act. 1956 having its office at _____ (herein after called the contractor which expression shall where the context to admit, be deemed to include all and each of partners as included in the deed of partnership jointly & separated and their heirs, executors, administrators and representatives) of the one part and SLDC, CSPTCL, Raipur being the Company constituted under section 133 of the electricity ACT, 2003 (CA36of2003). (Herein after called the CSPTCL, which expression shall where the context so admits, be deemed to include its permitted assigns) of the other part.

Where as in accordance with the tender Notice No. _____ issued by the _____ CSPTCL, Raipur of the CSPTCL and the contractor has submitted his tender No. _____ Dtd. _____ and opened on _____ for

_____ more particularly described, mentioned enumerated or referred to in the general conditions, specifications, schedule, drawings form of tender, covering letters, schedules, of price and further correspondence a copy of each of which is hereto annexed and it for purpose of identification signed by Shri _____ on behalf of the contractor and Chief Engineer (LD), SLDC, CSPTCL, Raipur, on behalf of the Transmission Company and all of which shall be deemed to form part of this Agreement or through separately get put herein and are included in the expression "Contractor" herein used (herein after referred to be the paid work).

And whereas the Transmission Company has accepted the tender of the contractor vide order No. _____ Dtd. _____ for the sum of Rs. _____ (Rupees) _____ only, on the terms and subject to the conditions herein after mentioned.

Now therefore, this agreement witness and it is hereby agreed as follows: -
The contractor shall execute the said work and do perform and carry out all matter incidental and/or ancillary thereto within the time and terms and conditions specified in the contract.

2.1 For the fulfillment of the contract, the Transmission Company shall pay to the contractor Rs. _____ (Rs.) _____) only or such other sum as may become payable in accordance with the contract.

2.2 In all matters existing under out of or in relations to this agreement, the terms and conditions of the contractor order No. _____ Dtd. _____ shall apply and such matters shall be determined accordingly.

2.3 The agreement shall be deemed to be entered into at Raipur and all disputes and claims, if any, out of or in respect of this agreement are to be settled at Raipur or to the tribunal only in any competent Court situated at Raipur.

In witness where of the parties hereto have signed this agreement on the date and year mentioned against their respective signature.

NAME & SIGNATURE OF WITNESS

i) Signature

Address

SIGNATURE OF THE CONTRACTOR

ADDRESS: -

ii) Signature

Address

NAME & SIGNATURE OF WITNESS

i) Signature

Address

ii) Signature

Address

**CHIEF ENGINEER (LD),
SLDC, RAIPUR**

ANNEXURE - I

GUARANTEED TECHNICAL PARTICULARS OF ADSS CABLE

| S.No. | PARAMETERS | Unit | Particulars / Description |
|-------|--|-------|---|
| 1 | No.ofFibres DWSM (Dual Window Single Mode) | No. | 12F |
| 2 | Buffer Type | - | Loose Tube |
| 3 | Buffer Material | - | PBT |
| 4 | Buffer Tube Diameter | mm | 2.5mm outer ; Inner 1.8mm |
| 5 | Strength member | - | Central Glass Reinforced Plastic |
| 6 | Peripheral strength member | - | Aramid Yarn |
| 7 | DWSM optical fibres color | - | Blue, Orange, Green and Natural |
| 8 | No.ofFibres per Tube | Nos. | Loose Tube – 3 Nos. 4 Fibres in each tube (Minimum) |
| 9 | Tube color | - | Blue tube as marker, Orange tube as tracer and remaining tubes of natural colors. |
| 10 | Tube Filling Compound | - | Loose tube is filled with thixotropic jelly. |
| 11 | Flooding Compound | - | Cable core is flooded with water blocking Jelly. |
| 12 | Single Layer Polyester Tape | - | Wrapped over the cable core. |
| 13 | LLDPE Inner Sheath | mm | Minimum thickness is 1.5 mm black color |
| 14 | Binding Yarn Tape | - | Longitudinal Tape and Contra Hellical Binders |
| 15 | HDPE (anti tracking UV) outer jacket | mm | Nominal thickness 2.00mm,+0.5mm,-0.3mm |
| 16 | Overall diameter of the cable | mm | 17.0mm, +/-0.5mm |
| 17 | Overall weight of the cable | Kg | 240 +/- 10 kg/km |
| 18 | Minimum bend radius | mm | 285 mm during installation 200 mm installed |
| 19 | Tensile strength | KN | 7.00 KN suitable for 100 Mtrs. span length |
| 20 | Span length | Mtrs | Should be suitable for 100 Mtrs. span length with Tensile Strangth of 7.00KN |
| 21 | Allowable sag | % | 1.0 % of maximum span length |
| 22 | Fibre cable drum lengths | km | 4 km of drum length minimum |
| 23 | Wind speed | Km/Hr | 180 Km/Hr |

SIGNATURE OF THE BIDDER

ANNEXURE - II

TECHNICAL PARTICULARS OF ADSS CABLE

(To be filled by Bidder)

| S.No. | Description | Units | Parameters |
|---------------------------------------|--|--------------|-------------------|
| 1 | Make & Model | | |
| 2 | No. of Fibres in ADSS | | |
| 3 | Mode | | |
| 4 | Buffer type | | |
| 5 | Buffer tube diameter | | |
| 6 | Buffer tube material | | |
| 7 | No. of buffer tubes | | |
| 8 | No. of fibres per tube | | |
| 9 | Identification/numbering of individual tubes | | |
| 10 | No. of empty tubes(if any) | | |
| 11 | Filling material | | |
| 12 | Inner Strength member | | |
| 13 | Peripheral Strength member | | |
| 14 | Binding yarn/tape | | |
| 15 | Approximate outside diameter | | |
| 16 | Cable diameter | | |
| 17 | Cable cross section area | | |
| 18 | Jacket non- circularity | | |
| 19 | Rip cord provided | | |
| 20 | Fully compliant with IEEE P1222 | | |
| 21 | Span length | | |
| 22 | Fibre Cable drum length | | |
| MECHANICAL PROPERTIES OF CABLE | | | |
| 1 | Max. Tensile Strength | kN | |
| 2 | Fibre Strain margin | | |
| 3 | Weight | Kg/km | |
| 4 | Crush strength | | |
| 5 | Modulus of Elasticity | kg/Sq.mm | |
| 6 | Minimum bending radius | Mm | |
| THERMAL PROPERTIES OF CABLE | | | |
| 1 | Coefficient of inner expansion | Per °C | |
| 2 | Coefficient of expansion Cladding Core | Per °C | |
| 3 | Nominal operating temperature range | °C | |
| 4 | SC current transient peak temperature | °C | |
| 5 | Maximum allowable temperature for lightning strike | °C | |
| 6 | Available length per spool Max. & Min.) | Meters | |

| | | | |
|---|---|------------------------|--|
| 7 | Splice loss (Max. & Min.) | db | |
| 8 | Operating Temperature range | °C | |
| 9 | Expected Cable Life | Years | |
| DUAL - WINDOW SINGLE MODE FIBRES | | | |
| 1 | Fibre manufacturer | | |
| 2 | Fibre production method | | |
| 3 | Core diameter | µm | |
| 4 | Core non circularity | % | |
| 5 | Cladding diameter | µm | |
| 6 | Core Clad Concentricity error | µm | |
| 7 | Cladding non-circularity | | |
| 8 | Protective coating type & Material | | |
| | Primary | | |
| | Secondary | | |
| 9 | Protective coating diameter | µm | |
| 10 | Coating concentricity | | |
| 11 | Colour coding scheme compliant with EIA395A / IEC3047 | | |
| 12 | Attenuation Coefficient | | |
| a | at 1310 nm | dB/km | |
| b | at 1550 nm | dB/km | |
| 13 | Attenuation variation with | dB/km | |
| a | Wavelength (+/- 25nm) | | |
| b | Temperature | | |
| 14 | Nominal Mode field Diameter | µm | |
| a | at 1310 nm | | |
| b | at 1550 nm | | |
| 15 | Mode field Diameter deviation | µm | |
| a | at 1310 nm | | |
| b | at 1550 nm | | |
| 16 | Mode field non circularity | % | |
| 17 | Chromatic dispersion Coefficient | µm | |
| a | at 1310 (1285- 1330) nm | | |
| b | at 1310 (1270-1340) nm | | |
| c | at 1550 (1525- 1475) nm | | |
| 18 | Zero dispersion wavelength | nm | |
| 19 | Zero dispersion slope | Ps/nm ² -km | |
| 20 | Cut – off Wavelength | | |
| 21 | Refractive Index | | |
| 22 | Refractive Index profile | | |
| 23 | Cladding design | | |
| 24 | Numerical aperture | | |

| | | | |
|----|----------------------------|-------|--|
| 25 | Bandwidth distance product | MHzkm | |
| 26 | Bend performance | dB/km | |

SIGNATURE OF THE BIDDER

ANNEXURE - III

**TENTATIVE BILL OF MATERIAL FOR THE WORK OF SUPPLY, INTALLATION,
TESTING & COMMISSIONING OF 12 FIBRE ADSS CABLE**

| Sl.No. | Item Description | Unit | Qty. |
|---------------|---|-------------|-------------|
| 1 | 2 | 3 | 4 |
| A | Supply 12 Fibre DWSM ADSS Cable | | |
| 1 | 12 Fibre Dual Window Single Mode ADSS Fibre Optic Cable for connecting Rawanbhata 132 KV S/s to SLDC Dangania Raipur. | Mtr | 7000 |
| B | Supply of 12 Fibre DWSM ADSS Cable Accessories and Hardware Fitting | | |
| 1 | Suspension Assembly complete in all respect including earthing clamps. | Set | 149 |
| 2 | Tension Assembly suitable for ADSS Cable | Nos | 100 |
| 3 | Vibration Dampers for ADSS Cable | Nos | 400 |
| 4 | Inline splice enclosure | Nos. | 6 |
| C | Erection, Testing & Commissioning work of ADSS Cable on 33 KV Distribution Poles including fixing of accessories, splicing & testing of fibres | | |
| 1 | Erection, Testing & Commissioning work of ADSS Cable on 33 KV Distribution Poles including fixing of accessories & Hardware Fittings, splicing & OTDR testing of fibres | Mtrs. | 7000 |

SIGNATURE OF THE BIDDER

ANNEXURE – IV – “A”

4/10/2017

Google Maps

Google Maps SLDC TO RAWANBHATA ADSS CABLE ROUTE



Imagery ©2017 DigitalGlobe, Map data ©2017 Google 200 m

Measure distance
Total distance: 5.08 km (3.16 mi)

<https://www.google.co.in/maps/@21.2042796,81.6165898,3033a,35y,38.79t/data=!3m1!1e3!1-en>

1/1

ANNEXURE – IV – “B”

