



IRCON INTERNATIONAL LIMITED
NAVRATNA COMPANY
(A Govt of India Undertaking)



(National Competitive Bidding)

e-PROCUREMENT DOCUMENTS
For

DESIGN, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 25 KV, 50 HZ, SINGLE PHASE, OHE TRACTION SYSTEM, EXTERNAL ELECTRIFICATION & SCADA WORKS FOR THE ESTABLISHMENT OF PRIVATE RAILWAY SIDING OF CSPGCL TAKING OFF FROM CERL LINE FOR TRANSPORTATION OF COAL FROM GP-III COAL BLOCK BY DEVELOPING A CROSSING STATION NEAR MILUPARA, BETWEEN GHARGHODA– GARE PELMA SECTION (CH. KM 22.456 TO KM 24.868 FROM GHARGHODA/CSB) AT GARE PELMA-III (5 MTY) MINES, RAIGARH AREA OF CSPGCL

TECHNICAL BID

No:e-Tender: IRCON/2059/CGRP/e-Tender/CSPGCL Siding/Electrical-01 Date 02.07.2026.

- **e-Procurement Notice**
- **Form of Bid**
- **Instruction to Tenderers**
- **Appendix to Tender**
- **Special condition of Contract**
- **General Conditions of Contract**
- **Technical Specifications**
- **Bill of Quantity**

July 2026

Corporate office: -	Project Office: -
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CIN: L45203DL1976GOI008171

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Section-I
e-Procurement Notice



IRCON INTERNATIONAL LIMITED
NAVRATNA COMPANY
(A Govt. of India Undertaking)



No: e-Tender: IRCON/2059/CGRP/e-Tender/CSPGCL Siding/ Electrical-01 Date:02.07.2026

e-PROCUREMENT NOTICE
(National Competitive Bidding)

1.0 Chief General Manager/Electrical/Chhattisgarh Rail Project, IRCON INTERNATIONAL LIMITED, 1st Floor, ARK, Opposite Zudio, Bilaspur, Chhattisgarh-495001, Email: narinders.bhareel@ircon.org Tel: PHONE: +91-7752-443719, Mob: +91-9109165412, for and on behalf of **Chhattisgarh State Power Generation Company Limited (CSPGCL) invites online bids on prescribed forms from bonafide firms/companies having requisite experience and financial capacity for execution of the work** detailed in the table given below. The bidder is advised to examine carefully all instructions including addendum/corrigendum(s), condition of contract data, forms, terms, technical specifications, bill of quantities etc. in the bid document.

1.1 The brief particulars of the Project and the tender are as follows in the **Key Information Table (KIT)**:

S.N.	Particular	Details/ Reference of Clause
1.	Name of Work	DESIGN, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 25 KV, 50 HZ, SINGLE PHASE, OHE TRACTION SYSTEM, EXTERNAL ELECTRIFICATION & SCADA WORKS FOR THE ESTABLISHMENT OF PRIVATE RAILWAY SIDING OF CSPGCL TAKING OFF FROM CERL LINE FOR TRANSPORTATION OF COAL FROM GP-III COAL BLOCK BY DEVELOPING A CROSSING STATION NEAR MILUPARA, BETWEEN GHARGHODA- GARE PELMA SECTION (CH. KM 22.456 TO KM 24.868 FROM GHARGHODA/CSB) AT GARE PELMA-III (5 MTY) MINES, RAIGARH AREA OF CSPGCL
2.	Estimated Cost of Work	Rs. 94769831.50/- (Inclusive of GST@18%)
3.	Completion Period	08 months (including monsoon period) (refer SCC Cl 45.0)
4.	Publishing Date	02.07.2026 at 17:30 Hrs
5.	Bid Document Download/ Start Date	02.07.2026 at 17:30 Hrs
6.	Clarification Start Date & Time	03.07.2026 at 11:30 Hrs
7.	Clarification End Date & Time	09.07.2026 17:30 Hrs
8.	Pre-bid Meeting Date, Time & Venue (Optional)	There is no Pre-bid meeting
9.	Email for receiving Pre-bid queries	narinders.bhareel@ircon.org , ashok.sharma@ircon.org cerl.2059@ircon.org
10.	Last date for receiving Prebid Queries	Within 7 days from date of e-procurement notice published

TENDER FOR 25 KV AC OHE WORKS, EXTERNAL ELECTRIFICATION WORKS & SCADA WORKS OF CSPGCL SIDING
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11.	Bid Submission Start Date & Time	17.07.2026 at 09:00 Hrs
12.	Bid Submission End Date & Time	28.07.2026 at 15:00 Hrs
13.	Bid Opening Date & Time	29.07.2026 at 15:00 Hrs
14.	Type of Tender	Open
15.	No. of Packets	Two Packet
16.	e-Procurement Portal	https://etenders.gov.in/eprocure/app
17.	Fee for participating in the bidding (Non-Refundable)	₹20,000/- (Rupees Twenty Thousand only) (refer e-Procurement Notice Cl 4.5)
18.	Earnest Money Deposit	₹ 10,48,000/- Pay order/ Demand draft should be payable at Bilaspur (refer ITT Cl .9)
19.	Tender Box location address to submit physical document, if any	IRCON INTERNATIONAL LIMITED 1st Floor, ARK, Opposite Zudio, Bilaspur, Chhattisgarh- 495001 (refer Cl. 9 & Annexure-VII of ITT)
20.	Validity of the Bid	90 days after the date of opening (Technical Bid) of the tender.
21.	Place of Registration of firm/company:	Anywhere in India in case of National Competitive bidding (refer ITT Cl 1.2)
22.	Whether Joint Venture (JV) is permitted or not.	<i>JV is not permitted</i>
23.	Maximum no. of JV members allowed.	<i>NA</i>
24.	Client/ Owner Name	(refer ITT Cl 1.4 a))
25.	Employer/ Executing Agency Name & address	(refer ITT Cl 1.4 b))
26.	Scope of Work	(refer SCC Cl 3.0)
27.	Purchase Preference to MSEs	Not Applicable
28.	Proforma for Statement of Minor Deviations	Annexure-IV(A) of ITT (refer ITT Cl 6 & 7)
29.	Statement of Minor Deviations with Price in the Financial Bid	Annexure-IV(AA) of Bill of Quantity (BOQ) (refer ITT Cl 6 & 7)
30.	Performance Security	5% of Contract Value (refer Clause No. 31.1 of SCC)
31.	Retention Money	Refer Clause No. 31.2 of SCC
32.	Insurance	Refer Clause No. 35 of SCC
33.	Price Variation	Refer Clause No. 41 of SCC
34.	Submission of Performance Security	Within 21 days from the date of issue of Letter of Acceptance (LOA) (Refer Clause No. 31.1. of SCC)

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35.	Defect Liability Period	12 months from the date of completion of the work. (Refer Clause No. 43 of SCC)
36.	Signing of Agreement	Within 28 days from the date of issue of Letter of Acceptance (LOA) (Refer Clause No. 32 of SCC)

- 2.0 Website <https://etenders.gov.in/eprocure/app> may be referred for detailed terms and conditions of the bidding documents, which is available on line. Amendments/ Corrigendum/ Addendum, if any would be hosted on the website only.

3.0 **ELIGIBILITY CRITERIA**

Eligibility of the applicants shall be assessed based on the “**Essential Qualifying Criteria**” as given in Annexure-V to “Instructions to Tenderers”.

4.0 **Accessing of Bid Documents& Fee for participating in the bidding**

- 4.1 The complete Bid Document can be viewed/ downloaded from the e-Procurement portal i.e. <https://etenders.gov.in/eprocure/app> free of cost.
- 4.2 Help for Contractors, FAQ, Information about DSC and Bidders Manual Kit containing the detailed guidelines for e-Procurement system are also available on Central Public Procurement Portal.
- 4.3 It is mandatory for all the bidders to have a valid Class-III Digital Signature Certificate (in the name of person having power of attorney to sign the Bid) from any of the licensed Certifying Agency (Bidders can see the list of licensed CA's from the link www.cca.gov.in) to participate in e-Procurement of IRCON.
- 4.4 It is mandatory for the bidders to get their firm/company registered with e-procurement portal <https://etenders.gov.in/eprocure/app> to have user ID & password. A firm/ company who has registered with the e-Procurement portal as a single entity in the individual capacity can submit the tender either as individual firm/ company or joint venture/ consortium, if JV/ consortium is permitted.
- 4.5 Tender documents will be available online on website <https://etenders.gov.in/eprocure/app> as per date mentioned in Key Information Table (KIT) which can be downloaded free of cost. However, to participate in the online bidding process, bidders are required to pay a non-refundable fee of **₹. 20,000/- (Rupees Twenty Thousand only)** towards the cost of one set of tender documents through NEFT or RTGS only in IRCON's bank account no.: **50200084357297, IFSC Code : HDFC0000771 at HDFC Bank, Block -A, Rao 7 -Trade Center, Link Road, Bilaspur, CG-495001** in favour of “IRCON INTERNATIONAL LIMITED” payable at Bilaspur.

5.0 **Instructions to Bidders for Online Bid Submission on the e-Procurement portal <https://etenders.gov.in/eprocure/app> .**

Bidders may download and refer the “Instructions for Online Bid Submission” from (<https://etenders.gov.in/eprocure/app;jsessionid=F90A7689A0BF87EF35B88D2CA57C6FD4.cppsugap2?page=StandardBiddingDocuments&service=page>).

6.0 **Pre-bid meeting**

- 6.1 There is no pre bid meeting: However prospective bidder may submit their queries in writing, if any, within 7 days from date of e-procurement notice published at email: narinders.bharel@ircon.org, ashok.sharma@ircon.org, and cerl.2059@ircon.org No queries will be entertained after that.
- 7.0 IRCON may issue addendum(s)/corrigendum(s) to the tender documents. In such case, the addendum(s)/corrigendum(s) shall be issued and placed on website **<https://etenders.gov.in/eprocure/app>** at any time before the closing time of tender. The tenderers who have downloaded the tender documents from website must visit the website and ensure that such addendum(s)/corrigendum(s) (if any) is also downloaded by them. This shall be the responsibility of the prospective registered bidders to keep checking the web site for any such corrigendum/addendum till the bid submission end date and time, and ensure that bid submitted by them are in accordance with all the corrigendum(s)/addendum(s). Suitable time extension (not less than 3 days beyond the date of last amendment) for submission of bids will be granted.

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- 8.0 The tender documents shall be submitted online in the prescribed format given on the website and technical bids received online shall be opened as per date mentioned in Key Information Table (KIT) or Corrigendum thereof. No other mode of submission is acceptable. Detailed credentials as per the requirement of eligibility criteria and all tender papers except Bill of Quantities are to be submitted in "Technical Bid". Bill of Quantities with rates duly filled in along with Proforma for statement of minor deviations (Annexure-IVAA) with price adjustment for each deviation(s) duly filled in are to be submitted in the format provided online in the name of "Financial Bid". Hence, physical submission of the documents is limited to submission of original Earnest Money Deposit in the form of Pay Order/ Demand Draft/ Fixed Deposit Receipt/ Bank Guarantee (Note: In case of e-BG physical submission of Bank Guarantee is not required) as per provision given in sub-clause 9.1 of Instructions to Tenderers. Representative of the bidder, who wish to attend in person, may attend the online opening of the bids on the scheduled date and time of Bid opening by IRCON Officials. However, such representatives shall be allowed to attend the opening of the Bids, only, if such person presents the letter of authority issued in his name by the bidder on his letter head.
- 9.0 Bidders cannot submit the tender after the due date and time of e-bid submission. Time being displayed on Central Public Procurement Portal <https://etenders.gov.in/eprocure/app> ("Server System Clock Time") shall be final and binding on the bidder. e-Bids are required to be submitted by bidders, only as per the Indian Standard Time (IST) and not the time as per their location/country.
- 10.0 The bidders are advised to submit their e-bids well before the e-bid submission due date and time. IRCON shall not be responsible for any delay in submission of e-bids for any reason including server and technical problems.
- 11.0 The Technical and Financial Bid shall be digitally signed by the Authorized Signatory of the bidder & submitted "on-line" only. The authorized signatory of the bidder must be in possession of Power of Attorney before submitting the digitally signed bid. Scanned copies of various documents can be prepared in different file format (PDF, JPEG).
- 12.0 Tender shall be submitted as per "Instructions to Tenderers" forming a part of the tender document.
- 13.0 **Any tender received without original Earnest Money in the form as specified in tender documents shall not be considered and shall be summarily rejected.**
- 14.0 IRCON reserves the right to cancel the tenders before submission/opening of tenders, postpone the tender submission/opening date and to accept/reject any or all tenders without assigning any reasons thereof. IRCON's assessment of suitability as per eligibility criteria shall be final and binding.
- 15.0 Tenderers may note that they are liable to be disqualified at any time during tendering process in case any of the information furnished by them is not found to be true. EMD of such tenderer shall be forfeited. The decision of IRCON in this regard shall be final and binding.
- 16.0 IRCON reserves the right to pre-qualify the bidder(s) provisionally based on the documents submitted by them and open financial bid(s), subject to their final verification. In the event of any document being found false, the provisional qualification shall stand withdrawn, and the next lower bidder shall automatically come to the position of such disqualified bidder. Action against such disqualified tenderers shall be taken as per above clause no.: 15.0 of Notice Inviting Tender.
- 16.1 The tenderers shall submit affidavit stating that all their statements/documents submitted along with bid are true and correct. Standard format of affidavit to be submitted by the bidder is enclosed as Annexure-IV. Non submission of above affidavit by the bidder shall result in summarily rejection of his/their bid.
- 17.0 **The validity of the offer shall before the period indicated in Key Information Table (KIT) in Para 1.1 of e-Procurement Notice" after the date of opening (Technical Bid) of the tender.**

18.0 Public Procurement (Preference to Make in India), Order 2017

- 18.1.1 **Class-I Local Vendor-** a supplier or service provider, whose goods, services or works offered for procurement, has minimum local content equal to or more than 50%.
- 18.1.2 **Class-II Local Vendor-** a supplier or service provider, whose goods, services or works offered for procurement, has minimum local content more than 20% but less than 50%.

(Clarification: Local Vendor does not mean Vendor from a particular state/area.)

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- 18.1.3 **Non-Local Vendor**- a supplier or service provider, whose goods, services or works offered for procurement, has minimum local content less than or equal to 20%.
- 18.2 In procurement of all goods, services or works in respect of which the Nodal Ministry/ Department has communicated that there is sufficient local capacity and local competition, only 'Class-I local vendor', as defined above, shall be eligible to bid irrespective of purchase value.
- 18.2.1 Only '**Class-I local vendor**' and '**Class-II local vendor**' shall be eligible to bid in procurement of all goods, services or works, and with estimated value of purchases less than Rs. 200 Crore.
- 18.2.2 In all other domestic tenders, 'Class-I local vendors' and 'Class-II local vendors' can participate in the bidding process.
- 18.2.3 'Class-I local vendors' shall get purchase preference over 'Class-II local vendors'.
- 18.2.4 'Class-II local vendors' will not get any purchase preference.
- 18.2.5 Non local vendors can participate only when global tender is invited. In global tender enquiry, 'Non-local vendors' shall also be eligible to bid along with 'Class-I local vendors' and 'Class-II local vendors'.
- 18.2.6 The bidder(s) offering imported products will fall under the category of Non-local vendors. They can't claim themselves as Class-I local vendors/ Class-II local vendors by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.
- 18.3 The margin of purchase preference shall be 20%.
- 18.3.1 'Margin of purchase preference' means the maximum extent to which the price quoted by a "Class-I local Vendor may be above the L1 for the purpose of purchase preference.
- 18.4 Bidders (manufacturer or principal of authorised representative) who have a valid/approved ongoing 'Make in India' agreement/ program and who while meeting "Essential Qualifying Criteria" **as given in Annexure-V to "Instructions to Tenderers"**, would also be considered to be qualified provided:
- i) their foreign 'Make-in-India' associates meets "Essential Qualifying Criteria" **as given in Annexure-V to "Instructions to Tenderers"** without exemption, and
 - ii) the Bidder submits appropriate documentary proof for a valid/approved ongoing 'Make in India' agreement/program.
 - iii) the bidder (manufacturer or principal of authorised representative) furnishes along with the bid a legally enforceable undertaking jointly executed by himself and such foreign Manufacturer for satisfactory manufacture, Supply (and erection, commissioning if applicable) and performance of 'The Product' offered including all warranty obligations as per the general and special conditions of contract.
- 18.5 In the procurements of goods or works, which are covered by sub-clause 18.2.1 and 18.2.5 above and which are divisible/ splittable in nature, the 'Class-I local vendor' shall get purchase preference over 'Class-II local vendor', as per the following procedure:
- 18.5 (i) Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local vendor', the contract for full quantity will be awarded to L1.
- 18.5 (ii) If L1 bid is not a 'Class-I local vendor', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local vendors', will be invited to match the L1 price for the remaining 50% quantity subject to the 'Class-I local vendor's quoted price falling within the purchase preference margin of (L1 + 20%), and contract for that quantity shall be awarded to such 'Class-I local vendor' subject to matching the L1 price. In case such lowest eligible 'Class-I local vendor' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local vendor' within the purchase preference margin of (L1 + 20%) shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on 'Class-I local vendors, then such balance quantity may also be ordered on the L1 bidder.

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- 18.6 In procurements of goods or works, which are covered by sub-clause 18.2.1 and 18.2.5 above and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'Class-I local vendor' shall get purchase preference over 'Class-II local vendor' as well as 'Non-local vendor' as per following procedure:
- 18.6 (i) Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local vendor', the contract will be awarded to L1.
- 18.6 (ii) If L1 is not 'Class-I local vendor', the lowest bidder among the 'Class-I local vendors', will be invited to match the L1 price subject to Class-I local vendor's quoted price falling within the purchase preference margin of (L1+ 20%), and the contract shall be awarded to such 'Class-I local vendor' subject to matching the L1 price.
- 18.6 (iii) In case such lowest eligible 'Class-I local vendor' fails to match the L1 price, the 'Class-I local vendor' with the next higher bid within the purchase preference margin of (L1+ 20%) shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local vendor' within the purchase preference margin of (L1+20%) matches the L1 price, then the contract may be awarded to the L1 bidder.
- 18.7 The 'Class-I local vendor' / 'Class-II local vendor' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local vendor' / 'Class-II local vendor', as the case may be. They shall also give details of the location(s) at which the local value addition is made.
- 18.8 In cases of procurement for a value in excess of Rs. 10 Crores, the 'Class-I local vendor' / 'Class-II local vendor' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of supplies other than companies) giving the percentage of local content.
- 18.9 A vendor who has been debarred by any procuring entity for violation of this Order shall not be eligible for preference under this Order for procurement by any other procuring entity for the duration of the debarment.
- 18.10 Entities of countries which have been identified by the Nodal Ministry/Department as not allowing Indian companies to participate in their Government procurement for any item related to that Ministry/Department shall not be allowed to participate in procurement for all items related to the nodal Ministry/Department, except for the list of items published by the Ministry/Department permitting their participation. The term entity of a country shall have the same meaning as in the FDI policy of DPIIT as amended from time to time.

For & on behalf of
Chhattisgarh State Power Generation Company Limited (CSPGCL)

(N.S.Bharel)
Chief General Manager/Electrical/BSP
Chhattisgarh Rail Project,
IRCON INTERNATIONAL LIMITED,
1st Floor, ARK, Opposite Zudio,
Bilaspur, Chhattisgarh-495001,
Email: narinders.bharel@ircon.org
Tel: PHONE: +91-7752-443719,
Mob: +91-9109165412

SECTION - II

Form of Bid

FORM OF BID

To

IRCON INTERNATIONAL LIMITED,
Acting Through
Chief General Manager/Electrical/CGRP
Ircan International Limited,
1st Floor, ARK, Opposite Zudio,
Bilaspur, Chhattisgarh-495001

Dear Sir,

I/We, _____ (*Name and address of the tenderer*) have read the various terms and conditions of the e-Procurement documents attached herewith duly signed by me/us and agree to abide by the same. I/We also agree to keep this tender open for acceptance **within the period of the validity of bids** and on default thereof our Earnest Money is liable to be forfeited.

I/We hereby declare that we have visited the site of the work and have made ourselves fully conversant of the conditions therein and including the topography of area, soil strata at site of work, sources and availability of construction materials, rates of construction materials, water, electricity, all local taxes, royalties, octroi etc., availability of local labour (both skilled and unskilled), relevant labour rates and labour laws, the existing road and approaches to the site of work, requirements for further service roads / approaches to be constructed by me / us, the availability and rates of private land etc. that may be required by me / us for various purposes, climatic conditions, law and order situation and availability of working days.

I/We have quoted our rates for various items in the Bill of Quantities taking into account all the above factors and I/We offer to do the work " _____ " (*Name of the work*) at the rates quoted in the attached Bill of Quantities and hereby bind ourselves to complete the work in all respects within time schedule depicted in tender documents from the date of issue of letter of acceptance of tender.

I/We also understand that until a formal Contract Agreement is executed, Letter of Acceptance along with all tender documents shall constitute a binding contract between me/us and Ircan International Limited.

Our Bank Account No. for the purpose of refund of EMD is.....(Account No., Name of A/C Holder, other details for NEFT/RTGS).

Thanking you,

Yours Faithfully,

Signature _____ and name of the signatory _____ in capacity of _____ duly
authorized to sign bids for and on behalf of:

Date this _____ day of _____ 202_. (*In Block capital letters*)

SECTION III: Instructions To Tenderers/Bidders

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INSTRUCTIONS TO TENDERERS (ITT)

A.

1 General

- 1.1 Name of the Work: As indicated in 'Key Information Table (KIT) in Para 1.1 of e-Procurement Notice'.
- 1.2 "A bidder in the capacity of Individual or Sole Proprietor, Partnership Firm, or Company/ Joint Venture (JV) (if permitted as per clause 1.2.2 below) can participate in the tender and the bidder must upload copies of the constitution of its firm such as Partnership Deed, Registration Certificate, Memorandum & Articles of Association, etc., as applicable, MOU/ Joint Venture agreement, if applicable, duly attested by the authorized signatory along with Power of Attorney of authorized signatory, signing the e-bid documents digitally as well as manually, duly attested by Notary Public".
- 1.2.1 Place of Registration of firm/ company as indicated in "Key Information Table (KIT) in Para 1.1 of e-Procurement Notice".
- 1.2.2 Please refer Key Information Table (KIT) in Para 1.1 of e-Procurement Notice to check whether Joint Venture (JV) is permitted or not permitted to participate in the tender.
- 1.2.2.1 Deleted.
- 1.2.3 Foreign bidder as a single entity is not permitted to participate in the national competitive bidding, if it is not legally valid firm/ company registered in India as per Indian laws. However, if Joint Venture is permitted in this tender as per sub-clause no. 1.2.2 above, then foreign bidder can participate as a member of JV. Foreign bidder from a country which shares land border with India also has to satisfy the requirements mentioned in sub-clause 1.3 below.
- 1.2.4 Joint Venture Clause: **Not Applicable**
- 1.2.5 **Participation of Partnership Firms:**
- 1.2.5.1 The Partnership Firms participating in the tender should be legally valid under the provisions of the Indian Partnership Act.
- 1.2.5.2 The partnership firm should have been in existence or should have been formed prior to submission of tender. Partnership firm should have either been registered with the Registrar or the partnership deed should have been notarized as per the Indian Partnership Act, prior to submission of tender.
- 1.2.5.3 Separate identity / name should be given to the partnership firm. The partnership firm should have PAN / TAN number in its own name and PAN / TAN number in the name of any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners.
- 1.2.5.4 Once the tender has been submitted, the constitution of the firm shall not normally be allowed to be modified / altered / terminated during the validity of the tender as well as the currency of the contract except when modification becomes inevitable due to succession laws etc., in which case prior permission should be taken from the Employer and in any case the minimum eligibility criteria should not get vitiated. The re-constitution of firm in such cases should be followed by a notary certified Supplementary Deed. The approval for change of constitution of the firm, in any case, shall be at the sole discretion of the Employer and the tenderer shall have no claims what-so-ever. Any change in the constitution of Partnership firm after submission of tender shall be with the consent of all

partners and with the signatures of all partners as that in the Partnership Deed. Failure to observe this requirement shall render the offer invalid and full Bid Security shall be forfeited.

If any Partner/s withdraws from the firm after submission of the tender and before the award of the contract, the offer shall be rejected and Bid Security of the tenderer will be forfeited. If any new partner joins the firm after submission of tender but prior to award of contract, his / her credentials shall not qualify for consideration towards eligibility criteria either individually or in proportion to his share in the previous firm. In case the tenderer fails to inform the Employer beforehand about any such changes / modification in the constitution which is inevitable due to succession laws etc. and the contract is awarded to such firm, then it will be considered a breach of the contract conditions liable for determination of the contract under Clause 50 of the Standard General Conditions of Contract.

- 1.2.5.5 A partner of the firm shall not be permitted to participate either in his individual capacity or as a partner of any other firm in the same tender.
- 1.2.5.6 The tender form shall be submitted only in the name of partnership firm. The Bid Security shall be submitted by partnership firm. The Bid Security submitted in the name of any individual partner or in the name of authorized partner (s) shall not be considered.
- 1.2.5.7 On issue of Letter of Acceptance (LOA) to the partnership firm, all the guarantees like Performance Guarantee, Guarantee for various Advances to the Contractor shall be submitted only in the name of the partnership firm and no splitting of guarantees among the partners shall be acceptable.
- 1.2.5.8 On issue of Letter of Acceptance (LOA), contract agreement with partnership firm shall be executed in the name of the firm only and not in the name of any individual partner.
- 1.2.5.9 In case the Letter of Acceptance (LOA) is issued to a partnership firm, the following undertakings shall be furnished by all the partners through a notarized affidavit, before signing of contract agreement.

(a) Joint and several liabilities:

The partners of the firm to which the Letter of Acceptance (LOA) is issued, shall be jointly and severally liable to the Employer for execution of the contract in accordance with General and Special Conditions of the Contract. The partners shall also be liable jointly and severally for the loss, damages caused to the Employer during the course of execution of the contract or due to non-execution of the contract or part thereof.

(b) Duration of the partnership deed and partnership firm agreement:

The partnership deed/partnership firm agreement shall normally not be modified/altered/ terminated during the currency of contract and the maintenance period after the work is completed as contemplated in the conditions of the contract. Any change carried out by partners in the constitution of the firm without permission of the Employer, shall constitute a breach of the contract, liable for determination of the contract under Clause 50 of the Standard General Conditions of Contract.

(c) Governing laws:

The partnership firm agreement shall in all respect be governed by and interpreted in accordance with the Indian laws.

(d) No partner of the firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other partner/s and that of the Employer.

- 1.3 Any bidder from a country, which shares a land border with India, will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority which shall be the nominated/ Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). Further, any bidder (including an Indian Bidder) who has a specified Transfer of Technology (ToT) arrangement with an entity from a country which shares a land border with India, shall also be required to be registered with the same competent authority as above.

The above requirement of registration of bidders who have specified Transfer of Technology (ToT) arrangement with an entity from a country which shares a land border with India will be applicable for all Procurements where tenders are issued/ published after 01.04.2023.

- i) "Bidder (or entity) from a country which shares a land border with India" for the purpose of this Clause means: -
- a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose beneficial owner is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture (if joint venture is permitted in the tender in terms of sub-clause 1.2.2 above) where any member of the consortium or joint venture falls under any of the above.
- ii) The beneficial owner for the purpose of (i) above will be as under:

1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation-

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company.
 - b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together , or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more

juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;

4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control of ownership.
- iii) An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

(NOTE:

- a) A person who procures and supplies finished goods from an entity from a country which shares a land border with India will, regardless of the nature of his legal or commercial relationship with the producer of the goods, be deemed to be an Agent for the purpose of this Order.
 - b) However, a bidder who only procures raw material, components etc. from an entity from a country which shares a land border with India and then manufactures or converts them into other goods will not be treated as an Agent.]
- iv) The successful bidder shall not be allowed to sub-contract works to any contractor from a country, which shares a land border with India unless such contractor is registered with the Competent Authority.
- v) The registration shall be valid at the time of submission of bid and at the time of acceptance of bid.
- vi) If the bidder was validly registered at the time of acceptance/ placement of order, registration shall not be a relevant consideration during contract execution.
- 1.3.1 *"Transfer of Technology"* means dissemination and transfer of all forms of commercially usable knowledge such as transfer of know-how, skills, technical expertise, designs, processes and procedures, trade secrets, which enables the acquirer of such technology to perform activities using the transferred technology independently. (Matters of interpretation of this term shall be referred to the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade, and the interpretation of the Committee shall be final.)
- 1.3.2 *"Specified Transfer of Technology"* means a transfer of technology in the in the sectors and/ or technologies, specified as under occurring on or after 23.07.2020:
- (a) Certain sectors and technologies have been identified as sensitive from the national security point of view. The sectors listed in Schedule I below are considered Category-I sensitive sectors. The sectors listed in Schedule II below are considered Category-II sensitive sectors. The technologies listed in Schedule III below are considered sensitive technologies.
 - (b) For Category-I sensitive sectors, bidders with ToT arrangement in any technology with an entity from a country which shares a land border with India shall require registration.

- (c) For Category-II sensitive sectors, bidders with ToT arrangement in the sensitive technologies listed in Schedule III, with an entity from a country which shares a land border with India shall require registration.
- (d) In Category-II sensitive sectors, the Secretary (or an officer not below the rank of Joint Secretary to Government of India, so authorized by the Secretary) of the Ministry/ Department of the Government of India is empowered, after due consideration, to waive the requirement of registration for a particular item/ application or a class of items/ applications from the requirement of registration, even if included in Schedule III. The Ministry/ Department concerned shall intimate the Department for Promotion of Industry and Internal Trade (DPIIT) and National Security Council Secretariat (NSCS) of their decision to waive the requirement of registration. Ministries/ Departments of the Government of India are not required to consult the DPIIT/ NSCS before deciding and are only required to intimate the decision to DPIIT/ NSCS. If any point is raised by DPIIT/ NSCS, it should be considered in future procurements; ongoing procurement for which the waiver was granted need not be interrupted or altered.

Sr. No.	Schedule I	Schedule II	Schedule-III
	Category-I Sensitive sectors	Category-II Sensitive sectors	Sensitive Technologies
(i)	Atomic Energy	Power and Energy (including exploration/ generation/ transmission/ distribution/ pipeline)	Additive Manufacturing (e.g. 3D Printing)
(ii)	Broadcasting/ Print and Digital Media	Banking and Finance including Insurance	Any equipment having electronic programmable components or autonomous systems (e.g. SCADA systems)
(iii)	Defence	Civil Aviation	Any technology used for uploading and streaming of data including broadcasting, satellite communication etc.
(iv)	Space	Construction of ports and dams & river valley projects	Chemical Technologies
(v)	Telecommunications	Electronics and Microelectronics	Biotechnologies including Genetic Engineering and Biological Technologies
(vi)		Meteorology and Ocean Observation	Information and Communication Technologies
(vii)		Mining and extraction (including deep sea projects)	Software
(viii)		Railways	
(ix)		Pharmaceuticals & Medical Devices	
(x)		Agriculture	

(xi)		Health	
(xii)		Urban Transportation	

1.3.3 The above Clause 1.3 will not be applicable for cases following under Special Cases:

- A. In projects which receive international funding with the approval of the Department of Economic Affairs (DEA), Ministry of Finance, the procurement guidelines applicable to the project shall normally be followed, notwithstanding anything contained in this order and without reference to the Competent Authority. Exceptions to this shall be decided in consultation with DEA.
- B. This order shall not apply to procurement by Indian missions and by offices of government agencies/ undertakings located outside India.
- C. This order will not apply to bidders (or entities) from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects. Updated lists of countries to which lines of credit have been extended or in which development projects are undertaken are given on the website of the Ministry of External Affairs.
- D. Procurement of spare parts and other essential service support like Annual Maintenance Contract (AMC)/ Comprehensive Maintenance Contract (CMC), including consumables for closed systems, from Original Equipment Manufacturers (OEMs) or their authorized agents, shall be exempted from the requirement of registration.

1.4 The work is proposed to be executed under the following relationship.

- a) Client/Owner: As indicated in 'Key Information Table (KIT) in Para 1.1 of e-Procurement Notice'.

Chhattisgarh State Power Generation Company Limited
Vidyut Sewa Bhavan, Dangania,
Raipur, Chhattisgarh - 492013

- b) Employer/Executing Agency:

IRCON INTERNATIONAL LIMITED
1st Floor, ARK, Opposite Zudio,
Bilaspur, Chhattisgarh-495001

- c) Contractor: The successful tenderer to whom the work is awarded shall become the contractor for the execution of this work

1.5 Throughout these bidding documents, the terms "bid" and "tender" and their derivatives ("bidder"/ "tenderer"), "bid/tendered", "bidding"/ "tendering", etc.) are synonymous. Day means calendar day. Singular also means plural.

1.6 Scope of Work: As indicated in 'Key Information Table (KIT) in Para 1.1 of e-Procurement Notice' and Clause 3 of SCC.

The scope given in the KIT is only indicative. The detailed scope has been described in the tender documents.

1.7 Approximate Estimated cost of the work is as indicated in the 'Key Information Table (KIT) in Para 1.1 of e-Procurement Notice.'

1.8 A bidder shall submit only one bid in the capacity of an Individual or Sole Proprietor, Partnership firm, or Company or Joint Venture (if permitted in the tender). In case joint venture is permitted in the tender in terms of sub-clause 1.2.2 above, a member of JV shall not be permitted to participate either in individual capacity or as a member of another JV in the same tender. Violation of this condition is liable to disqualify the tenders in which such bidder has participated and EMD of all such tenderers shall stand forfeited.

2 Cost of Bidding

2.1 The bidder shall bear all costs associated with the preparation and submission of the bid and the Employer will in no case be responsible or liable for these costs regardless of the conduct or the outcome of the bidding process.

B. The Bidding Documents

The tenderers must use the formats available in technical bid and financial sheets available in excel format in this Tender Document for submission of their Technical as well as Financial Bid. Any Bid not conforming to the prescribed format is liable to be declared non-responsive.

3 Content of bidding documents

3.1 The bidding documents include the following:

e-Procurement Notice
Form of Bid
Instructions to Tenderers
Appendix to Tender
Special Conditions of Contract
General Conditions of Contract
Particular Technical Specifications
General Technical Specifications
Drawings
Bill of Quantities

3.2 The bidder is expected to examine all instructions, terms, conditions, forms, specifications, corrigendum/addendums and other information in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the bidders' risk and may result in rejection of his bid.

4 Understanding and Amendment of Tender Documents

4.1 The bidder must obtain for itself on its own responsibility and its own cost all the information including risks, contingencies & other circumstances in execution of the work. It shall also carefully read and understand all its obligations & liabilities given in tender documents.

4.2 The bidder is advised to visit and examine the site where the work is to be executed and its surroundings or other areas as deemed fit by the bidder and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and execution of the contract. The cost of visiting the site and collecting relevant data shall be at the bidder's own expenses. It is a condition of the tender that the tenderer is deemed to have visited the site and satisfied himself with all the conditions prevailing including any difficulties for executing the work.

- 4.3 Bidders will examine the various provisions of The Central Goods and Services Tax Act, 2017 (CGST)/ Integrated Goods and Services Tax Act, 2017 (IGST)/ Union Territory Goods and Services Tax Act, 2017 (UTGST)/ respective state's State Goods and Service Tax Act (SGST) also, as notified by Central/State Government and as amended from time to time and applicable taxes before bidding. Bidders will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.
- 4.4 The successful bidder who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to IRCON immediately after the award of contract, without which no payments shall be released to the contractor. The contractor shall be responsible for deposition of applicable GST to the concerned authority.
- 4.5 In case the successful bidder is not liable to be registered under CGST/IGST/UTGST/SGST Act, IRCON shall deduct the applicable GST from his/their bills under Reverse Charge Mechanism (RCM) and deposit the same to the concerned authority.
- 4.6 At any time prior to the deadline for submission of bids, Employer may for any reason whether at its own initiative or in response to any request by any prospective bidder amend the bidding documents by issuing Corrigendum(s)/ Addendum(s), which shall be part of the tender documents.
- 4.7 Employer may at its discretion extend the deadline for submission of the bids at any time before the time of submission of the bids.

C. Preparation of the Bids

5 Language of Bid

- 5.1 The bid prepared by the bidder and all documents related to the bid shall be written in English.

6 Signing of All Bid papers and Completing Bill of Quantities

- 6.1 It shall be deemed that e-bid uploaded by the tenderer is digitally signed by his authorized representative holding the Power of Attorney.
- 6.2 While filling up the rates/ percentage in the Bill of Quantities, tenderer shall ensure that the rates/ percentage, as applicable, are filled up in figures only. System will automatically convert such filled up rates/ percentage into words. In case of item rate/percentage tenders, the system will automatically calculate the total price by multiplying the unit rate with quantity/ quoted percentage with estimated cost put to tender.
- 6.3 The bid should be submitted online only in the prescribed format given in the e-procurement portal of IRCON. No other mode of submission is accepted. The Technical and Financial Bid shall be digitally signed by the authorized signatory of the bidder & submitted "online" only. **No hard copy of Technical and Financial bid is required to be submitted except the documents as specified in Annexure VII of ITT.**

The tenderer may download financial bid form& Proforma for Statement of minor deviations (Annexure 'IV(AA)' to financial bid) and upload the same duly filled through online e-Procurement process.

The tenderer must fill and submit the prices as per instructions given in Bill of Quantities and Proforma for Statement of minor deviations. The system does not permit any addition or alteration in the tender documents. The requisite details should be filled in by the tenderer wherever required in the documents. Incomplete tender or tender not submitted as per instructions is liable to be rejected.

The price of each minor deviation mentioned in the Proforma for statement of minor deviations will be the price which the tenderer agrees to offer to the employer from his quoted offer in BOQ if deviation is agreed by the employer. Any such deviation without a price shall not be considered and will be treated as withdrawn by the tenderer. Any other deviation mentioned anywhere in the submission other than in Annexure-IV(A) of Instructions to Tenderer shall be considered as if mentioned inadvertently by the tenderer and shall be considered as withdrawn without any confirmation from the tenderer.

7 Deviations

- 7.1 The tenderer should clearly read and understand all the terms and conditions, specifications, drawings, etc. mentioned in the original tender documents.

The tenderer may submit minor deviations in Annexure IV(A) and a confirmation that price of every such minor deviation has been given in the financial bid/Bill of Quantity (BOQ). Minor deviation may be in the employer's requirements or in any other tender requirement which do not alter the basic functionality of the work or part thereof. If there is no such minor deviation, then the tenderer must write "NIL" in this Annexure. Tenderer to note that such minor deviations may or may not be accepted by the employer and the tenderer shall not have any right to any claim on this account. The offer in BOQ shall be given without considering any deviation in tender conditions. The lowest bidder will be decided without considering any deviation in the tender conditions. If the lowest bidder has given some minor deviations then the Employer has right to accept some or all such minor deviation and the offer of the lowest bidder will be reduced by the price of such accepted deviations (Tenderer to see note 1 of Annexure-IV(A) of ITT).

8 Submission of tender documents

Tender Documents will be received in electronic form only after payment of Tender Document fee.

9 Earnest Money:

- 9.1 The tenderer must furnish the Earnest Money as indicated in 'Key Information Table (KIT) in Para 1.1 of e-Procurement Notice' for the work as specified failing which the tender shall be summarily rejected. The Earnest Money may be in any one of the following forms:

- a) Pay Order/Demand Draft of any Scheduled Bank in India in favour of Ircon International Limited payable at a place as given in Key Information Table (KIT) in Para 1.1 of e-Procurement Notice'. It is mandatory for bidders to provide their Banker's details (Name of Bank & Branch) along with their own bank details (Account No., Name of Account Holder, NEFT/RTGS details).
- b) Fixed Deposit Receipt issued by any Scheduled Bank in India endorsed in favour of IRCON INTERNATIONAL LIMITED.
- c) EMD value up to Rs.10.00 Lacs must be in the form of Pay Order/DD/FDR. In addition, EMD may also be paid through NEFT or RTGS in IRCON's bank account no.:

50200084357297, IFSC Code: HDFC0000771 at HDFC Bank, Block-A, Rao Trade Center, Link Road Bilaspur, CG-495001 in favor of "IRCON INTERNATIONAL LIMITED" payable at Bilaspur and email ID cerl.2059@ircon.org. In case of EMD amount being more than Rs.10.00 Lacs, it can also be deposited in the form of irrevocable Bank Guarantee (e-BG issued on NeSL Platform is also acceptable) issued by a Scheduled Bank as per the format enclosed at Annexure IX to 'SCC' / Insurance Surty Bond in the format annexed as Annexure IX A by an Insurance Company authorized to do so by IRDAI valid for minimum 180 days beyond the last date of submission of bid. B.G./Insurance Surety Bond not valid for 180 days beyond the last date of submission of bid, will not be considered a valid EMD instrument.

- d) The scheduled bank issuing the Bank Guarantee must be on the Structure Financial Messaging System (SFMS) platform. A separate advice of the B.G. shall invariably be sent by the issuing bank to the Employer's Bank through SFMS and only after this, the B.G. shall become operative and acceptable to the Employer.
- e) Earnest Money in the form of Pay Order/DD/FDR/BG/Insurance Surety Bond shall be scanned & uploaded through online e-Procurement process. Further EMD in original form (For BG along with a copy of 'SFMS – Messaging Report' sent by the BG issuing Bank) sealed in an envelope must be submitted in the tender box at the address given in Key Information Table (KIT) in Para 1.1 of e-Procurement Notice **not later than the prescribed date and time for e-bid submission (In case of e-BG issued on NeSL Platform, the original BG is not required to be submitted in the tender box).**
- f) Proof of transaction towards payment of Earnest Money through NEFT or RTGS shall be scanned either in PDF or JPEG format such that file size is not more than 5 MB and uploaded during the online submission of the e-bid not later than the prescribed date and time for e-bid submission.
- g) No interest shall be allowed on Earnest Money Deposit.

9.2 Forfeiture of Earnest Money:

- 9.2.1 The Earnest Money of the tenderer shall be forfeited if he withdraws his tender after opening of the tender during the period of tender validity specified in the "Key Information Table (KIT) in Para 1.1 of e-Procurement Notice" or extended validity period as agreed to in writing by the tenderer.
- 9.2.2 The Earnest Money of the successful tenderer is liable to be forfeited if he fails to;
 - i) sign the Contract Agreement in accordance with the terms of the tender, or
 - ii) furnish Performance Guarantee in accordance with the terms of the tender, or
 - iii) commence the work within the time period stipulated in the tender.
- 9.2.3 In case of forfeiture of EMD, the tenderer shall be debarred from bidding in case of re-invitation of the tenders.

9.3 Return of Earnest Money:

- 9.3.1 The Earnest Money of the unsuccessful tenderers in the form of FDR/BG/Insurance Surety Bond shall be discharged and returned as promptly as possible and the Earnest Money in the form of DD/ Pay Order/ NEFT or RTGS shall be directly credited to his bank account through Electronic Fund Transfer, under advice to the bidder.

9.3.2 The Earnest Money Deposit of the successful tenderer shall be dealt as under:

- i) The Earnest Money Deposit of the successful tenderer shall be returned after submission of the Performance Bank Guarantee in the acceptable form as per relevant contract conditions and verification of the same from the issuing bank/Insurance Company
- ii) In case, there is no provision in the contract for submission of Performance Bank Guarantee:
 - a) If the Earnest Money Deposit (EMD) is in the form of Demand Draft/Pay Order/ NEFT or RTGS, the same shall be retained towards retention money and further deduction of retention money from the bills shall commence after adjusting this EMD amount.
 - b) If the Earnest Money Deposit is in the form of Fixed Deposit Receipt (FDR)/ Bank Guarantee (BG)/Insurance Surety Bond, the FDR/BG/Insurance Surety Bond shall be returned after deduction of an equivalent amount from the on account bills towards retention money and further balance amount of retention money shall continue to be recovered from on account /Final bills as per relevant contract conditions.

10 Integrity Pact (IP) :

- 10.1 Integrity Pact will be applicable for all tenders/ contracts (for works & supply) of value ` 5 Crore & above at all Indian projects. Integrity Pact attached as Annexure-VI to 'Instructions to Tenderers' shall become a part of tender.
- 10.2 Integrity Pact shall be signed by the authorized signatory of the tenderer and witnessed in the format attached as Annexure-VI at the time of signing Contract Agreement. Bidders shall abide by the provisions of Integrity Pact by signing the Affidavit attached as Annexure – IV to Instructions to Tenderers.
- 10.3 This Pact shall be signed by all the partners of Partnership firm and all the members of Joint Venture (JV)/ MOU (if participation of JV/ MOU is permitted in the tender).
- 10.4 Only those vendors/ bidders who sign the Affidavit shall be qualified to participate in the bidding process.
- 10.5 The Integrity Pact will be signed by IRCON at the time of execution of Agreement with the successful tenderer.
- 10.6 Name, Designation & Address of Tender Inviting Authority of IRCON :
Name: Shri Narinder Singh Bharel
Chief General Manager/Electrical/Chhattisgarh Rail Project
Address: Ircon International Limited,
1st Floor, ARK, Opposite Zudio,
Bilaspur, Chhattisgarh-495001
Email ID: narinders.bharel@ircon.org
- 10.7 Name & Address of IEMs:
 - (i) Name: Shri Bimal Julka,
IAS (Retd),
Address: D-419, Defence Colony
New Delhi – 110024
Email: iem.reference@ircon.org
 - (ii) Name: Shri Madhusudan Prasad, IAS(Retd)
Address: M-11, Green Park Main

New Delhi – 110016,
Email: iem.reference@ircon.org

- (iii) Lt. Gen Harsha Gupta
PVSM, UYSM, AVSM, YSM, VSM(Retd)
Apartment No A-113
India Bulls Enigma,
Dwarka Expressway, Sector-110,
Gurugram (Haryana)-122017
Email: iem.reference@ircon.org

- 10.8 IEM(s) shall not be made party to any dispute between the parties to the agreement for this work.

11 Period of validity of the tender

- 11.1 The tender shall remain valid for the period indicated in "Key Information Table (KIT) in Para 1.1 of e-Procurement Notice" after the date of the opening of the tender. If the tenderer gives validity period less than that fixed/ prescribed by Employer, the tender shall be liable to be rejected.
- 11.2 Notwithstanding the above clause, Employer may solicit the tenderer's consent to extend the validity period of the tender. The request and the response shall be made in writing.

D. Submission of Bids

12 Deadline for submission of tender

- 12.1 Earnest Money Deposit required in physical form, as per sub-clause 9.1 of "Instructions to Tenderers" must be submitted in the tender box at the address specified in the Key Information Table (KIT) in Para 1.1 of "e-Procurement Notice" **not later than the prescribed date and time for e-bid submission.**
- 12.2 Any tender related documents received after opening of the tender shall be rejected.

Tenderers must upload the good scanned copy of relevant documents required to be submitted on e-Procurement website as mentioned in the tender documents. The document which is not readable or legible will not be given cognizance. E-Bids which are not supported by relevant documents shall not be considered during evaluation of bid.

13 Modification / Substitution / Withdrawal of tender

- 13.1 The tenderer may modify, substitute or withdraw his e-bid after online submission prior to the date and time of e-bid opening.
- 13.2 For modification of e-bid, bidder has to upload / resubmit digitally signed modified e-bid in the CPP Portal (<https://etenders.gov.in/eprocure/app>).
- 13.3 For withdrawal of e-bid, bidder can withdraw his e-bid by clicking on withdrawal icon at e-procurement portal.
- 13.4 Before withdrawal of an e-bid, it may specifically be noted that after withdrawal of an e-bid for any reason, tender fee will not be refunded. The bidder trying to re-submit the e-bid will have to pay the cost of tender document again.
- 14 Submission of an e-bid by a tenderer implies that he had read all the tender documents including amendments if any, visited the site and has made himself aware of the scope and specifications of the work to be done, local conditions and other factors having any bearing on the execution of the work.

15 Parts of tenders

- 15.1 All documents/ forms/ instructions/ specifications etc. listed in item 3.1 of this Instructions To Tenderers and those attached as per the Annexure VII are deemed to be a part of the bid/ tender and accepted by the bidder.
- 15.2 In case of any ambiguity, IRCON will be free to seek confirmation of information from the issuer of the document.

E. e-Bid opening and Evaluation

16 Opening of the tender

- 16.1 Tenders will be opened at the address mentioned in "e-Procurement Notice" in presence of tenderers or authorized representatives of tenderers who wish to attend the opening of tenders. Physical presence during e-bid opening is optional.
- 16.2 Tenderers or their authorized representatives who are present shall sign register in evidence of their attendance.
- 16.3 Tenderer's name, presence or absence of requisite Earnest Money, total cost of work quoted or any other details as Employer may consider appropriate will be displayed with list to all participating bidders online after bid opening.

17 Clarification of the tenders

- 17.1 To assist the examination, evaluation and comparison of the tenders, Employer may at his discretion ask the tenderers for any clarifications as considered essential. All such correspondence shall be in writing and no change in price or substance of the tender shall be sought or permitted. The above clarification for submission of the details shall form part of the tender and shall be binding on tenderer.

18 Preliminary examination of bids

- 18.1 The Employer shall examine the bids to determine whether they are complete, whether physical copy of all the relevant documents have been scanned, uploaded and Earnest Money Deposit in original form received **not later than the prescribed date and time for e-bid submission** and generally they are in order.
- 18.2 Prior to the detailed evaluation, Employer shall determine whether each bid is of acceptable quality, is generally complete and is substantially responsive to the bidding documents. For purposes of this determination, a substantially responsive bid is one that conforms to all the terms, conditions and specifications of the bidding documents without material deviations, objections, conditionality or reservation and for minor deviation details have been submitted in Annexure 'IV(A)' in terms of clause 7.1 above and cost of withdrawal of minor deviations (if any) has been quoted in the Proforma for statement of minor deviation attached with the financial bid. A material deviation, objections, conditionality or reservation is one;
- i) That affects in any substantial way the scope, quality or performance of the contract.
 - ii) That limits in any substantial way, inconsistent with the bidding documents, the Employers' rights or the successful Bidder's obligations under the contracts; or
 - iii) whose rectification would unfairly affect the competitive position of other Bidders who are presenting substantially responsive bids.
- 18.3 If an e-bid is not substantially responsive, it shall be rejected by the Employer.
- 18.4 In case of tenders containing any conditions or deviations or reservations about contents of tender document, Employer may ask for withdrawal of such conditions/ deviations/ reservations. If the tenderer does not withdraw such conditions/ deviations/ reservations, the tender shall be treated as non-responsive. Employer's decision regarding responsiveness or non-responsiveness of a tender shall be final and binding.

19 **Evaluation and comparison of tenders**

- 19.1 Bids, which are determined as substantially responsive, shall be evaluated based on Essential Qualifying Criteria as given in the tender document. The tenderer must scan and upload all necessary authentic data with necessary supporting certificates of the various items of evaluation criteria failing which his tender is liable to be rejected.
- 19.1.1 The lowest bidder will be decided without considering any deviation in the tender conditions. If the lowest bidder has given some minor deviations then the Employer has right to accept some or all such minor deviation and the offer of the lowest bidder will be reduced by the price of such accepted deviations (Tenderer to see note 1 of Annexure-IV(A) of ITT).
- 19.2 The Employer/ Engineer reserves the right to negotiate the offer submitted by the tenderer to withdraw certain conditions or to bring down the rates to a reasonable level. The tenderer must note that during negotiations of rates of items of BOQ can only be reduced and not increased by the tenderer. In case the tenderer introduces any new condition or increases rates of any item of BOQ, his negotiated offer is liable to be rejected and the original offer shall remain valid and binding on him.

20 **Canvassing**

- 20.1 No tenderer is permitted to canvass to Employer on any matter relating to this tender. Any tenderer found doing so may be disqualified and his bid may be rejected.

21 **Right to accept any tender or reject all tenders**

Employer/ Engineer reserves the right to accept, split, divide, negotiate, cancel or reject any tender or to annul and reject all tenders at any time prior to the award of the contract without incurring any liability to the affected tenderers or any obligation to inform affected tenderer, the grounds of such action.

- 22 If the tenderer, as individual or as a partner of partnership firm, expires after the submission of his tender but before award of work, the Employer/ Engineer shall deem such tender as invalid.

23 **Award of Contract**

- 23.1 Employer/ Engineer shall notify the successful tenderer in writing by Courier/ Speed Post or per bearer or delivering the same by e-mail.
- 23.2 Letter of Acceptance after it is signed by the Contractor in token of his acceptance shall constitute a legal and binding contract between Employer/ Engineer and the contractor till such time the contract agreement is signed.

24 **Contractor Performance Feedback and Evaluation System**

The employer will have a 'Contractor Performance Feedback and Evaluation System' for periodic evaluation of Contractors performance during execution of Contract. In case contractor's overall performance is found unsatisfactory (<85% for Works Contracts and <75% for Consultancy Contracts) based on the parameters as listed in Annexure 'II' and 'III' respectively, the Contractor is liable to be declared a 'Non-Performer', and will become ineligible for participation in future tenders of this Organization for a period of 2 (two) years from the date of such decision. This decision is to be conveyed to the Contractor in writing. The non-performer status may be revoked during currency of the contract on improvement of performance parameters during the next annual review.

This is without prejudice to any other recourse available to the Employer under the Conditions of Contract.

25 **Ineligibility to participate in re-tenders/ future cases**

Notwithstanding anything contained in the Qualification Clauses of ITT, if a bidder withdraws from an offer after having been declared a preferred bidder or after Notification of Award or does not sign the Contract Agreement pursuant to the Letter of Acceptance or does not submit an acceptable Performance Security which results in tender being annulled then such bidder shall be treated as ineligible for participation in re-tendering of this particular work and also for any other work for a period of 6 months. A repeat incident of similar type within a period of 2 (two) years will render the bidder ineligible for participation in all future tenders for a further period of 2 (two) years.

26 Bidder non-eligibility for participation in tender & Declaration of non-performance or ban status or termination

26.1 Tenderers including any partner of JV/MOU (in case of JV/MOU permitted in the tender) are not eligible to participate in the tender process under the following conditions:

- a. They have been declared a non-performer by Central/ State Government Department in India including authority controlled by them during the last two years prior to the date of bid submission.
- b. They are currently debarred for tendering, blacklisted, suspended in Central/ State Government Department in India including authority controlled by them.
- c. Any previous contract awarded to them has been terminated by IRCON or its subsidiaries, during the last two years prior to the date of bid submission.
- d. The bidder (any partners of JV, in case JV is permitted in the tender) is in Corporate Insolvency Resolution Process (CIRP)/ liquidation/ Winding up/ CDR/SDR/S4A/Flexible Structuring or any other restructuring scheme due to financial stress and is in default on any debt obligations on the bid due date. An undertaking of bidder (All partners of JV in case JV is permitted in the tender) (duly certified by the statutory auditor of the bidder with UDIN where the accounts are audited. In other cases the same may be certified by Chartered Accountant with UDIN) must be submitted along with the bid.

26.2 Declaration of non-performance or ban status or termination

Accordingly, tenderers are required to sign an Affidavit as per the enclosed pro-forma in Annexure-'IV', declaring their status of non-performance or debarment/ termination or Corporate Resolution Process/ liquidation/ Winding up/ CDR/SDR/S4A/ Flexible Structuring or any other restructuring scheme due to financial stress or in default on any debt obligations.

27. Tenderer to be fully responsible for the consequences of misrepresentation

- a. Any suppression of information and misrepresentation will render the tenderer ineligible for the tender along with the forfeiture of Earnest Money. The tenderer will also be liable for disqualification for future tenders of IRCON and its subsidiaries for a period of 2 years.
- b. If any suppression of information and misrepresentation is found after the award of Contract, the Contract may be terminated with forfeiture of EMD, PG and SD (if any). The Contractor will also be disqualified for future tenders of IRCON and its subsidiaries for a period of 2 years.

Annexure -'I'

DETAILS OF THE BIDDER

1. Name of the Bidder& authorized signatory :
 - 1.1 Registered Address of the bidder :
 - Land Line Telephone Number with STD Code :
 - FAX Number with STD Code :
 - Mobile Number :
 - Email address :
 - 1.2 Address for communication :
 - Land Line Telephone Number with STD Code :
 - FAX Number with STD Code :
 - e-mail Address :
2. Banker's Details for Payment through Electronic Clearing System (ECS):
- Name of bank :
- Address of bank :
- Account No. :
- Name of Account Holder :
- IFSC :
- Telephone No. of Bank with STD Code :
- e-mail Address :

Annexure -'II'
(Ref. Clause 24 of 'Instructions to Tenderers')

ASSESSMENT OF PERFORMANCE OF WORKING CONTRACTOR

S. No.	Description	Weightage		Remarks
		Assigned	Obtained	
1	Resource Management/ Financial Status			
1.1	Timely mobilization of manpower, as per the requirement of work and/or as suggested by Engineer in writing	5		
1.2	Timely mobilization of machinery, as per the requirement of work and/or as suggested by Engineer in writing	5		
2	Physical Progress /Project Execution Capability	75		
2.1	Target Vs Achieved review of the progress and adherence to milestones of the work as per above submitted & approved programme (may be judged as below, to be modified depending on availability of front/site or as indicated in Contract) A At 33% time: >20% B At 50% time: >40% C At 100% time: >98% D At 125% time: ≥100%			
3	Quality Assurance Capability			
3.1	Documentation of procedures, work instructions, check list and adherence to the requirements of ISO 9001	2		
3.2	Rectification of defects/non-conformity to quality standards within 7 days: (Nos. mentioned in writing/Rectified within 7 days of writing)	4		
3.3	Implementation of corrective and preventive measures to control non-conformities/ rejections	4		
4	Claims and Disputes			
4.1	Raising unnecessary claims and litigation (Shall be graded negative)	5		
	TOTAL:	100		

Annexure-'III'

(Ref. Clause 24 of 'Instructions to Tenderers')

ASSESSMENT OF PERFORMANCE OF WORKING CONSULTANT

S. No.	Description	Weightage		Remarks
		Assigned	Obtained	
1	Resource Management	15		
1.1	Mobilization time	5		Shall be immediate as per the submission
1.2	Deputation of qualified team leader -overall co-ordination	5		Person so nominated at the time of submission shall not be changed
1.3	Deputation of experienced staff for specific job/trade	5		Persons identified at the time of submission may not be changed
2	Quality Assurance	20		
2.1	Methodology of submission of drawing	5		There has to be a document stating the methodology of forwarding the drawing
2.2	Methodology to ensure that integrated drawings are issued and not in isolation	5		Working on the same platform and on the same corrected drawing
2.3	Formats for delivery stages of project	5		So as to segregate the drawings for info, tender and working drawings
2.4	Quality of submission – adequate detailing	5		Is there in-house cross-checking facility
3	Physical Progress	65		
3.1	Submission of detailed schedule of delivery with number of drawings to be submitted	5		This needs to be tweaked with construction programme
3.2	Adherence to Milestones for various submissions	10		Important to ensure smooth working
3.3	Capability of change management and incorporation of changes	10		
3.4	Timely response to the queries			Important for execution and is measure of seriousness about the project
A	During design stage	5		
B	During execution stage	5		
3.5	Quality and detailing of Report	20		Speaks about the effort and sincerity
3.6	Timely submission of the reports/details/ calculations etc.	10		Mandatory for timely execution of the project
	TOTAL:	100		

Annexure-'IV'

(Ref. Clause 1.3 of Instructions to Tenderers)

(Ref. Sub-clause 10.2, 10.4 and Clause 26 of ITT and Clause 5. of Essential Qualifying Criteria)

**FORMAT
AFFIDAVIT**

(On non-judicial stamp paper of Rs. 100/- duly notarized)

I/ We, the undersigned, do hereby solemnly affirm and declare that-

1. Neither our firm nor any of the members/ partners in any form/manner as an individual or the constituent partner in case of partnership firm/JV/MOU have been declared non-performer by Central/ State Government Department in India including authority controlled by them during the last two years prior to the date of bid submission.
2. As on date of our bid submission, neither our firm nor any of the members/ partners in any manner as an individual or the constituent partner in case of partnership firm/JV/MOU are debarred for tendering, blacklisted, suspended in Central/ State Government Department in India including authority controlled by them.
3. As on date of our bid submission, neither our firm nor any of the members/ partners in any form/manner as an individual or the constituent partner in case of partnership firm/JV/MOU are in Corporate Insolvency Resolution Process (CIRP)/ liquidation/ Winding up/ CDR/SDR/S4A/ Flexible Structuring or any other restructuring scheme due to financial stress and have not been in default on any debt obligations on the bid due date.
4. No contract agreement between IRCON or its subsidiaries and either our firm or any of the members/ partners in any form/manner as an individual or the constituent partner in case of partnership firm/JV/MOU have been terminated during the last two years prior to the date of our bid submission.
5. We have no objection to IRCON requesting to any bank, person, firm or body and any such agency furnishing pertinent information as deemed necessary or to verify this statement or regarding our competence and general reputation.
6. We understand that further qualifying information may be requested by IRCON and we agree to furnish any such information at the request of IRCON within the prescribed time.
7. We bind ourselves with all the stipulations of the Bidding Document including period of completion, provision of adequate equipment, personnel and other resources required for completion within the stipulated completion period and agree to augment any resources, if found necessary for timely completion of the project, as desired by the IRCON.
8. **Certification on submitted/ Attached Documents/ Credentials:**
 - 8.1 That the facts stated and documents enclosed by us in the Bid are true and correct and we have not concealed/ suppressed any facts/ record/ documents and/ or misrepresented the facts/ record/ documents.
 - 8.2 I/ We further declare and certify that I/ We have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
 - 8.3 I/ We also understand that my/ our offer will be evaluated based on the documents/ credentials submitted along with the offer and same shall be binding upon me/ us.
 - 8.4 I/ We declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and

documents, submitted by us.

- 8.5 I/ We understand that if the certificates regarding eligibility criteria submitted by us are found to be forged/ false or incorrect or any suppression of information and misrepresentation is noticed at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender EMD besides disqualification for future tenders of IRCON & its subsidiaries for a period of two years. Further, I/ We (insert name of the tenderer) ** and all my/ our constituents understand that my/ our offer shall be summarily rejected.
- 8.6 I/ We also understand that if the certificates submitted by us are found to be false/ forged or incorrect or any suppression of information and misrepresentation is noticed at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of EMD/ SD and Performance Guarantee besides any other action provided in the contract including disqualification for future tenders of IRCON & its subsidiaries for a period of two years.
9. We have read and understood all the provisions included in the Integrity Pact and undertake to abide by them, if applicable.
10. We have read and understood all the provisions included in the bid documents and undertake to abide by them.

11.1 Model Certificate for Tenders

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration with the Competent Authority) shall be attached.]"

11.2 Model Certificate for Tenders for Works involving possibility of sub-contracting

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration with the Competent Authority shall be attached.]"

11.3 Model Certificate by Bidder in cases of specified Transfer of Technology (ToT)

"I have read the clause regarding restrictions on procurement from a bidder having Transfer of Technology (ToT) arrangement. I certify that this bidder does not have any ToT arrangement requiring registration with competent authority"

OR

"I have read the clause regarding restrictions on procurement from a bidder having Transfer of Technology (ToT) arrangement. I certify that this bidder has valid registration to participate in this procurement." [where applicable evidence of valid registration with the competent authority shall be attached.]

12. The information furnished by us is true and correct and we understand the consequences,

TENDER FOR 25 KV AC OHE WORKS, EXTERNAL ELECTRIFICATION WORKS & SCADA WORKS OF CSPGCL SIDING
TAKING OFF FROM CERL

in case, any of the information furnished is not found to be true/ correctand /or any suppression/concealment of facts/record or misrepresentation of facts/record is noticed.

(Signed by the Authorized Representative of the Firm)

Name of the Authorized Representative.

Name of the Firm

Dated:

This Affidavit shall be signed by all the partners of Partnership firm and all the members of Joint Venture (JV)/ MOU (if participation of JV/ MOU is permitted in the tender).

ANNEXURE – IV(A)

PROFORMA FOR STATEMENT OF MINOR DEVIATIONS
(Refer Clause 6 & 7 of ITT)

The following are the particulars of minor deviations from the requirements of the Tender Document:

Sr. No	Clause	Deviations	Remarks (including justification)	Confirming that price of adjustment of each deviation/s is given in Annexure-IV(AA) of financial package (Yes/No)

Note :

1. The Tenderer shall indicate price adjustment against each deviation in Annexure-IV(AA) of BOQ. This price is the price which the tenderer shall reduce from his tender price if deviation(s) is/are accepted by the Employer.
2. Where there is no deviation, the statement should be returned duly signed with an endorsement indicating 'No Deviations'. In case, Performa of deviations is not submitted or submitted as blank, it will be construed that the tenderer has not proposed any deviations from tender documents.
3. If the tenderer proposes deviations in tender documents and/or any other terms and conditions of the tender, other than in this Annexure, it will have no effect.

Signature of authorized signatory on behalf of Tenderer

ANNEXURE – V

(Ref. Clause 3.0 of e-Procurement Notice& sub-clause 19.1 of ITT)

Essential Qualifying Criteria

1. The bidder should possess the experience of having successfully completed or substantially completed similar works during the last **7**-years (ending last day of the month previous to the one in which tenders are invited) which should be anyone of the following: -
 - i) Three similar works each costing not less than the amount equal to 30% of the estimated cost.
 - ii) Two similar works each costing not less than the amount equal to 40% of the estimated cost.
 - iii) One similar work costing not less than the amount equal to 60% of the estimated cost.
- Notes:

Similar Nature of works means:-

Railway Electrification OHE works (25 KV/2x25 KV, 50 Hz, Single Phase AC) involving Design, Supply, Erection, Testing & Commissioning works.

2. The average annual financial turnover during the last 3-years should be at least **30%** of the estimated cost.

Notes:

- a) The financial turnover shall mean Revenue from Operations of standalone Financial Statements of the Bidder.
 - b) Revenue from Operations shall be judged from Audited Balance Sheet, Profit & Loss A/c, relevant Notes to A/cs and Statutory Auditor Report/ relevant abstracts of Annual Reports covering above documents and the same shall be certified by statutory auditor with UDIN where the accounts are audited. In other cases, the same may be certified by Chartered Accountant with UDIN.
 - c) In case the financials of immediate prior Financial Year have not yet been audited till the time of submission of the tender, the bidder can submit an Affidavit to this effect stating that "the financial results of the immediate prior Financial Year has actually not been audited so far". In such cases, the financials of preceding three audited financial years will be taken into consideration for evaluating the Annual Financial Turnover of the bidder. In the absence of such an Affidavit, the benefit of considering three preceding years would not be given and the bid would be evaluated considering turnover for two preceding years only.
3. Net worth of the bidder should be at least **10%** of the estimated cost of the work. This will be judged from the audited Balance Sheet of the last financial year ending on a date not prior to 18 months from the date of invitation of the tender, but not earlier than a year immediate financial year.
 - 3.1 The bidder whose annual financial turnover do not exceed Rs 50 Lakhs should submit copy of applicable ITR under Income tax rules which is generated from Income tax portal and duly self- attested to judge their net worth and turnover.

- 3.2 In case of Companies "Net Worth" means the aggregate value of the paid up share capital and all reserves created out of the profits, securities premium account and debit or credit balance of profit and loss account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation.
- 3.3 In other cases, the "Net Worth" means the aggregate value of the capital accounts, owners' current account and all reserves (including credit balance of profit and loss account) created out of the profits, after deducting the aggregate value of the accumulated losses, drawing accounts, loan / advances to Sole Proprietor / Partners / Owners, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write back of depreciation and amalgamation.
4. The bidder should submit completion certificates in reference to S.No.1 (minimum 3 nos., 2 nos. or 1 no. as the case may be) above issued by Government Organizations/ Semi Government Organizations/ Public Sector Undertakings/ Autonomous bodies/ Municipal bodies/ Public Limited Company / Concessionaire Company/Private Company/ JV Company for having successfully completed similar works in the last 7 years. Certificates issued by such Public Limited Company / Concessionaire Company /Private Company/ JV Company must be supported by Tax Deducted at Source (TDS) Certificates (Form 16A/ 26AS) in evidence of the value of work executed. In case of supply contracts, Copies of GSTR-1/GSTR 3B to be submitted by the bidder as a proof of payment received for supply. Before implementation of GST where no TDS is deducted, relevant copies of purchase order and invoices along with bill wise details of payment received duly certified by Chartered Accountant should be submitted by the bidder in support of value of work executed.
- 4.1 It shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self-attested by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document.

NOTE:-

- i) Value/ Quantity of Key Construction activities of a successfully completed work done by a member in an earlier JV shall be reckoned only to the extent of the concerned member's share in that JV for the purpose of satisfying his/ her compliance to the above-mentioned technical eligibility criteria in the tender. A copy of the JV agreement submitted to client at the time of award of work or any subsequent change in the provision of original JV agreement as agreed by the client shall be submitted along with tender document, while claiming share of the experience in the previous JV.
- ii) Credentials if submitted in foreign currency shall be converted into Indian currency i.e., Indian Rupee as under:

The conversion rate of US Dollars into Rupees shall be the daily representative exchange rates published by the Reserve Bank of India/ Financial Benchmarks India Pvt. Ltd. for the relevant date. Where, relevant date shall be 1st day (i.e. 1st April) of the relevant year (financial year) in which work was completed. In case of any other currency, the same shall first be converted to US Dollars as on 1st day (i.e. 1st April) of the relevant year (financial year) in which work was completed and the amount so derived in US Dollars shall be converted into Rupees at the aforesaid rate. The conversion rate of such currencies shall be the daily representative exchange rates published by the International Monetary Fund for the relevant date.

5. **Bid Capacity– Not applicable**

6. The bidder shall sign the Affidavit as enclosed in Annexure-IV of "Instructions to Tenderers".

This Affidavit shall be signed by all the partners of Partnership firm and all the members of Joint Venture (JV)/ MOU (if participation of JV/ MOU is permitted in the tender).

7. If the bidder (any partners of JV, in case JV is permitted in the tender) is in Corporate Insolvency Resolution Process (CIRP)/ liquidation/ Winding up/ CDR/SDR/S4A/Flexible Structuring or any other restructuring scheme due to financial stress and is in default on any debt obligations on the bid due date. An undertaking of bidder (All partners of JV in case JV is permitted in the tender) (duly certified by the statutory auditor of the bidder with UDIN where the accounts are audited. In other cases the same may be certified by Chartered Accountant with UDIN) must be submitted along with the bid.
8. In case Joint Venture is permitted to participate in this tender in terms of clause 1.2.2 of ITT, then fulfillment of Essential Qualifying Criteria in case of Joint Venture shall be as under: **JV is not permitted for this tender hence not applicable.**

[Explanation for above Essential Qualifying Criteria No. 1 to 8:]

1. Substantially Completed Work means an ongoing work in which payment equal to or more than 90% of the present contract value (excluding the payment made for adjustment of Price variation (PVC), if any) has been made to the contractor in that ongoing contract and no proceedings of termination of contract on Contractor's default has been initiated. The credential certificate in this regard should have been issued not prior to 60 days of date of invitation of present tender.
2. In case of substantially completed work, the total gross amount already paid including the PVC amount (if paid), as mentioned in the certificate, shall be considered as the cost of substantially completed work.
3. If a provisional completion certificate is issued by the concerned organization, such work shall be considered for fulfillment of credentials. However, the value of work done shall be considered to the extent of actual amount paid by the client.
4. Deleted
5. In case a work is considered similar in nature for fulfillment of technical credentials, the overall cost of that work including Price Variation amount if any shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.
6. In case of newly formed partnership firm, the credentials of individual partners from previous propriety firm(s) or dissolved previous partnership firm(s) or split previous partnership firm(s), shall be considered only to the extent of their share in previous entity on the date of dissolution / split and their share in newly formed partnership firm. For example, a partner A had 30% share in previous entity and his share in present partnership firm is 20%. In the present tender under consideration, the credentials of partner A will be considered to the extent of 0.3×0.2 * value of the work done in the previous entity. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.
7. In case of existing partnership firm, if any one or more partners quit the partnership firm, the credentials of remaining partnership firm shall be re-worked out i.e., the quitting partner(s) shall take away his credentials to the extent of his share on the date of quitting the partnership firm(e.g. in a partnership firm of partners A, B & C having share 30%,

30% & 40% respectively and credentials of Rs 10 crore; in case partner C quits the firm, the credentials of this partnership firm shall remain as Rs.6crore). For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.

8. In case of existing partnership firm if any new partner(s) joins the firm without any modification in the name and PAN/TAN no. of the firm, the credentials of partnership firm shall get enhanced to the extent of credentials of newly added partner(s) on the same principles as mentioned in item 6 above. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deeds, dissolution/splitting deeds and proof of surrender of PAN No.(s) in case of dissolution of partnership firm etc.
9. Any partner in a partnership firm cannot use or claim his credentials in any other firm without leaving the partnership firm i.e., In a partnership firm of A&B partners, A or B partner cannot use credentials of partnership firm of A&B partners in any other partnership firm or propriety firm without leaving partnership firm of A&B partners.
10. In case a partner in a partnership firm is replaced due to succession as per succession law, the proportion of credentials of the previous partner will be passed on to the successor.
11. If the percentage share among partners of a partnership firm is changed, but the partners remain the same, the credentials of the firm before such modification in the share will continue to be considered for the firm as it is without any change in their value. Further, in case a partner of partnership firm retires without taking away any credentials from the firm, the credentials of partnership firm shall remain the same as it is without any change in their value.
12. In a partnership firm "AB" of A&B partners, in case A also works as propriety firm "P" or partner in some other partnership firm "AX", credentials of A in propriety firm "P" or in other partnership firm "AX" earned after the date of becoming a partner of the firm AB shall not be added in partnership firm AB.
13. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.
14. In case company A is merged with company B, then company B would get the credentials of company A also.

ANNEXURE – VI

(Ref. Clause 10 of Instructions to Tenderers)

INTEGRITY PACT

General

This Agreement (hereinafter called the Integrity Pact) is made on -----day of the month of-----
----- 202..., between Ircan International Limited (hereinafter called "IRCON"), a government
company under the Ministry of Railways, and M/s -----
(hereinafter called the "BIDDER")Description of Bidder.

The expressions "IRCON" and "BIDDER" shall mean and include their respective legal representatives,
successors in interest, and assigns and shall collectively be referred to as "the Parties" and
individually as "the Party".

WHEREAS IRCON intends to award, under laid down organizational procedures, contract(s) for
.....(Name of the Tender/ Work) (hereinafter referred to as the
'Contract').

WHEREAS IRCON necessarily requires full compliance with all relevant laws of the land, rules, and
regulations, economic use of resources, and fairness/ transparency in relations with its Bidder(s)
and/or Contractor(s).

WHEREAS In order to achieve these goals, IRCON has appointed Independent External Monitors
(IEMs), as detailed in Para 6 of this Pact, to monitor the entire tender process till the final completion
of the contract for compliance with the Integrity Pact by all the parties concerned for all works
covered in the Contract.

NOW, THEREFORE,

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 currency of the contract to be
entered into;

To Enable IRCON to obtain the desired works/ stores/ equipment at a competitive price in conformity
with defined specifications by avoiding high cost and distortionary impact of corruption on public
procurement, and

To Enable BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the
contract by providing assurance to them that IRCON will commit to prevent corruption, in any form,
by its officials by following transparent procedures.

**THE PARTIES HERETO HEREBY AGREE TO ENTER INTO THIS INTEGRITY PACT AND
AGREE AS FOLLOWS:**

1. Scope

The Integrity Pact, in respect of the said contract, would be operative from the stage of
invitation of bids till the final completion of the contract. Any violation of the same would
entail disqualification of the BIDDERS and exclusion from future business dealings as
specified in this Integrity Pact.

2. Commitments of IRCON

2.1 No official of IRCON, connected directly or indirectly with the contract, will demand, take a

promise for or accept, directly or through intermediaries, any bribe, any 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, or implementation process related to the contract.

- 2.2 IRCON will, during the entire tender process stage, treat all BIDDERS with equity and reason. It 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 other BIDDERS.
- 2.3 IRCON shall obtain bids from only those party/ parties who have been short-listed or pre-qualified or through a process of open advertisement/ web publishing or any combination thereof.
- 2.4 In case any misconduct on the part of any official(s) of IRCON is reported by the BIDDER to the Chairman & Managing Director of IRCON with full and verifiable facts and the same is prima facie found to be correct by the Chairman & Managing Director of IRCON, necessary disciplinary proceedings, or any other action as deemed fit, may be initiated by IRCON and such a person shall be removed from further dealings related to the subject contract process. In such situations of misconduct, while an enquiry may stand initiated or may be going on, the progress of bidding, execution, etc. under the contract shall not be stalled.

3. Commitments of BIDDERS

- 3.1 The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means, and illegal activities during any stage of bid including pre-contract, contract, or post-contract stage. In particular the BIDDER undertakes to abide by the measures given in the following paragraphs.
- 3.2 The BIDDER will not offer, directly or through intermediaries, any bribe, benefit, or any other advantage like commission, fees, brokerage or inducement to any official of IRCON, 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.
- 3.3 The BIDDER has not given, offered, or promised to give, directly or indirectly, any bribe or any benefit or other advantage like commission, fees, brokerage, or inducement to any official of IRCON or their family members or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract.
- 3.4 The BIDDER will disclose the name and address of its agents and representatives, if any, in India and/ or abroad.
- 3.5 The BIDDER will disclose the payments to be made by them to agents/ brokers or any other intermediary, in connection with this bid/ contract.
- 3.6 The BIDDER further confirms and declares to IRCON that the BIDDER has not engaged any individual or firm or company, whether Indian or foreign, to intercede, facilitate, or in any way to recommend to IRCON or any of its functionaries, whether officially or unofficially, 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.
- 3.7 The BIDDER will not collude with other parties interested in the contract to impair the competition, transparency, fairness, and progress of the bidding process, bid evaluation, contracting, and implementation of the contract.
- 3.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means, and illegal activities.

- 3.9 The BIDDER will not use for purposes of competition or personal gain, or pass on to others, any information provided by IRCON as part of the business relationship, regarding plans, technical proposals, and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate lest any such information is divulged.
- 3.10 The BIDDER commits to refrain from making any complaint, directly or through any other manner, without supporting it with full and verifiable facts. If the BIDDER submits frivolous or false complaint(s), it will be liable to attract sanctions as mentioned in Para 5 of this Pact.
- 3.11 The BIDDER will not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.12 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of IRCON, or alternatively, if any relative of an officer of IRCON has financial interest/ stake in the BIDDER's firm, the same will be disclosed by the BIDDER at the time of filing of tender.

The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956 or any amendment thereto (Annexure-A).

- 3.13 The BIDDER will not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of IRCON.
- 3.14 **All disclosures required under this Pact shall be included as Annexures/ Appendices thereto as an integral part of this Pact.**
- 3.15 If the BIDDER/ Contractor is a partnership or a consortium, this Pact will be signed by all partners or consortium members.

4. Previous Transgression

- 4.1 The BIDDER declares that no previous transgression has 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.
- 4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract and, if already awarded, can be liable to attract sanctions under this Pact.

5. Sanctions for Violations

- 5.1 Any breach of the provisions of this Pact by the BIDDER or anyone employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle IRCON to take all or any one of the following actions, wherever required:-
- 5.1.1 To disqualify the BIDDER in pre-award stage without assigning any reason and without any compensation to the BIDDER. However, the proceedings with other BIDDER(s) would continue.
- 5.1.2 To take such actions/ steps as per provisions made in the tender documents/ contract, if contract already signed, without giving any compensation to the BIDDER.
- 5.1.3 To debar the BIDDER from participating in future bidding processes as per IRCON's policy on "Suspension/ Banning of Business Dealings" with Agencies" (Annexure-B).
- 5.1.4 To forfeit, either fully or partially, the Earnest Money Deposit (in pre-contract stage) and/ or Security Deposit/ Performance Bond (after the contract is signed), without assigning any reason therefor.

- 5.2 IRCON will also be entitled to take all or any of the actions mentioned under this Para 5 in the event of commission by the BIDDER, or anyone employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860, or Prevention of Corruption Act, 1988, or any other statute enacted for prevention of corruption.
- 5.3 The decision of IRCON to the effect that a breach of any provision of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER.
- 5.4 The BIDDER shall be liable to pay compensation for any loss or damage to IRCON in the event of any action under this Para 5 and IRCON shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.

6. Independent External Monitors (IEMs)

- 6.1 IRCON has appointed Independent External Monitors (hereinafter referred to as IEMs) for this Pact in consultation with the Central Vigilance Commission Names and Addresses of the IEMs are given below:
- 6.1.1 Name: Shri Bimal Julka, IAS(Retd),
Address: D-419, Defence Colony
New Delhi – 110024
Email: iem.reference@ircon.org
- 6.1.2 Name: Shri Madhusudan Prasad, IAS(Retd)
Address: M-11, Green Park Main
New Delhi – 110016,
Email: iem.reference@ircon.org
- 6.1.3 Name: Lt. Gen Harsha Gupta
PVSM, UYSM, AVSM, YSM, VSM (Retd)
Address: Apartment No A-113
India Bulls Enigma,
Dwarka Expressway, Sector-110,
Gurugram(Haryana)-122017
Email: iem.reference@ircon.org
- 6.2 The task of IEMs shall be to review independently and objectively whether, and to what extent, the Parties comply with the obligations under this Pact.
- 6.3 The IEMs shall not be subject to instructions by the representatives of the Parties and perform their functions neutrally and independently.
- 6.4 Both the Parties accept that the IEMs would have a right to access, without restriction, to all Project documentation of IRCON and the BIDDER upon request and demonstration of a valid interest by the IEMs. The same is also applicable to sub-contractors of the BIDDER. The IEMs shall be under contractual obligation to treat the information and documents of all the parties with confidentiality.
- 6.5 In case of non-compliance of the provisions of the Integrity Pact, any complaint/ non-compliance can be sent by an aggrieved party, giving specific details of non-compliance with supporting documents, to the designated Nodal Officer of IRCON appointed by the CMD. The Nodal Officer, after verification of the complaint, shall refer the complaint/ non-compliance so received by him to the aforesaid IEM(s). Alternatively, as soon as the IEM notices a violation of this Pact, or has reason to believe that a violation has occurred, or had received a complaint, he will so inform the CMD of IRCON in the first instance.
- 6.6 The IEMs would then examine all complaints, other than anonymous/ pseudonymous complaints, received by them and give their written report to the CMD of IRCON within 6 weeks from the date of reference or intimation to him by IRCON/ BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

7. **Law and Place of Jurisdiction**

This Pact shall be applicable to all tenders invited and finalized in India. This Agreement is subject to Indian Law and the place and jurisdiction for resolving any issue shall be New Delhi.

8. **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 the extant law in force relating to any civil or criminal proceedings.

9. **Validity**

9.1 The validity of this Integrity Pact shall be from the date of its signing and extend up to 5 years or the complete execution of the contract to the satisfaction of both IRCON and the BIDDER including Defect Liability/ Warranty period, whichever is later. In case BIDDER(s) is (are) unsuccessful, this Integrity Pact shall cease to be valid on the expiry of two months from the date of award of the contract.

9.2 Should any provision of this Pact turn out to be invalid, the remaining parts of this Pact shall remain unaffected which shall be honoured and implemented by the Parties in its intent and spirit.

10. The Parties hereby sign this Integrity Pact at -----on-----

(Full name & Registered Office address)

For and on Behalf of

Ircon International Limited

For and on Behalf of

BIDDER (Full name of Bidder & regd.
address)

[This Pact shall be signed by all the partners of Partnership firm and all the members of Joint Venture (JV)/ MOU (if participation of JV/ MOU is permitted in the tender).]

Name of the Authorized Officer.

Designation

Name of the Authorized Officer

Designation

(SEAL)

(SEAL)

Witness

Witness

1. _____

1. _____

2. _____

2. _____

Annexure-A

LIST OF RELATIVES

Section 2(77) of the Companies Act, 2013
[Effective from 1st April, 2014]

"Relative", with reference to any person, means anyone who is related to another, if –
(i) they are members of a Hindu Undivided Family;
(ii) they are husband and wife; or
(iii) one person is related to the other in such manner as may be prescribed;

List of Relatives in terms of Section 2 (77) [as prescribed under Rule 4 of Companies (Specification of Definitions Details) Rules, 2014]

A person shall be deemed to be the relative of another, if he or she is related to another in the following manner, namely:-

1. Father:
Provided that the term "Father" includes step-father.
2. Mother:
Provided that the term "Mother" includes the step-mother.
3. Son:
Provided that the term "Son" includes the step-son.
4. Son's wife.
5. Daughter.
6. Daughter's husband.
7. Brother:
Provided that the term "Brother" includes the step-brother;
8. Sister:
Provided that the term "Sister" includes the step-sister.

Annexure-B

**Procedure for Suspension/Banning of Business Dealings
with agencies in IRCON**

(Issue No.:01 Date: 10.06.2013)
(Revision:01 Date: 19.10.2022)

IRCON INTERNATIONAL LIMITED
(A Govt. of India Undertaking)
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NEW DELHI-110017

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CIN: L45203DL1976GOI008171

PROCEDURE FOR SUSPENSION/ BANNING OF BUSINESS DEALINGS

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(1) Introduction

- 1.1 IRCON is a specialized construction organization covering the entire spectrum of construction activities and service in the infrastructure sector, especially Railways. The primary objective of IRCON is timely and efficient execution of projects assigned to it and at the same time ensuring the quality thereof. As a commercial organization IRCON is expected to adopt ethics of highest standards and a very high degree of integrity, commitment and sincerity towards the work undertaken. Accordingly, it is not in the interest of IRCON to deal with such Agencies who commit deception, fraud or other misconduct in the execution of contracts awarded/ orders issued to them. Appropriate action needs to be taken against them in accordance with the procedure prescribed herein.
- 1.2 This procedure shall be applicable for effecting suspension/ banning of business dealings with Agencies working for IRCON. It is incumbent upon IRCON to ensure compliance with the laws and principles of natural justice for banning the business dealings with any Agency. After issue of the Ban order for dealings in IRCON the Management may consider whether or not to refer the matter to the Indian Railways to consider imposition of similar ban by Indian Railways.
- 1.3 Since banning of business dealings involves severe consequences for the Agency concerned, it is essential that an adequate opportunity is provided to the Agency to present its case and any explanation, if tendered, is properly considered. If necessary, a personal hearing may be given to the Agency, before passing an order of banning based on the facts and circumstances of the case on record.

(2) Scope

- 2.1 The procedure for (i) Suspension and (ii) Banning of Business Dealings with Agencies, is laid down in these guidelines.
- 2.2 It is clarified that these guidelines do not cover the process for declaring an Agency as "Non Performer" for which instructions have been issued separately.
- 2.3 The suspension/ banning shall be with prospective effect, i.e., it will affect future business dealings only.
- 2.4 These guidelines shall apply to all the Projects/ Regional Offices of IRCON.

(3) Definitions

- 3.1 In these Guidelines, unless the context otherwise requires:

- i) 'Agency' means a 'Bidder/ Contractor/ Supplier/ Consultant'
- ii) 'Competent Authority' and 'Appellate Authority' shall mean the following:
 - a) 'Competent Authority' shall be the concerned Director of IRCON and
 - b) 'Appellate Authority' shall be CMD, IRCON

Note: 'Competent Authority' and 'Appellate Authority' shall not be the same person.

- iii) 'Investigating Agency' shall include Central Vigilance Commission (CVC), the Vigilance Departments of IRCON/ Ministry of Railways, Central Bureau of Investigation, or any Central/ State Government Department having powers to investigate into the propriety of working of the Agency for IRCON.

- iv) Other Terms used in this Circular shall have the same meaning as assigned to them in Clause 1102 of Chapter-XI of Vigilance Manual of Indian Railways.

(4) Grounds on which Suspension/ Banning of Business Dealings can be initiated:

- 4.1 For security considerations, including suspected disloyalty of the Agency to the State or IRCON, as the case warrants;
- 4.2 If any Director/ Owner/ Proprietor or partner of the Agency, is convicted by a Court of Law for an offence involving moral turpitude in relation to its business dealings with IRCON, any Government Department/ Ministry or any other Public Sector Enterprise.
- 4.3 If there is strong justification for believing that any Director, Proprietor, Partner, owner of the Agency has been guilty of malpractices, such as bribery, corruption, fraud, substitution of tenders, interpolations, etc.
- 4.4 If the Agency engages a public servant dismissed/ removed from service on account of corruption or employs a person convicted for an offence involving corruption, moral turpitude or abetment of such offence; in a position where he could corrupt government servants.
- 4.5 If the Agency has resorted to corrupt, fraudulent malpractices including misrepresentation of facts;
- 4.6 If the Agency uses intimidation/ threats or brings outside pressure on the Company (IRCON) or/ on its officials in acceptance of Tender or performance of the job under the contract;
- 4.7 Based on the findings of the investigation report of the Investigating Department against the Agency that it has resorted to mala-fide/ unlawful acts or improper conduct on its part in matters relating to IRCON, any Government Ministry/ Department or any other PSU;
- 4.8 If the Agency has submitted a false or wrong Affidavit along with its bid with regard to the credentials of the firm or misrepresented/ manipulated the facts in regard to or in connection with any bid submitted to IRCON.
- 4.9 Established litigant nature of the Agency to derive undue or benefit.
- 4.10 If the Agency misuses the premises or facilities of the IRCON, forcefully occupies or damages the IRCON's properties including land, water, resources, forests/ trees or tampers with documents/ records etc.
- 4.11 If the business dealings with the agency have been banned by the Ministry of Railways.
- (Note: The above grounds are illustrative only and not exhaustive. The Competent Authority may decide to suspend/ ban business dealings for any other reasonable cause and sufficient reason)

(5) Initiation of Suspension/ Banning:

5.1 Suspension of Business dealing

- 5.1.1 Action for suspension may be initiated by the concerned Coordinating Officer/IRCON on receipt of a report from the Project Head/ Functional Head/ Investigating Department and if it is considered that allegations are of a serious nature, which may warrant banning of business dealings with the Agency. The report should also bring out whether pending banning of business proceedings it would be in the interest of IRCON to enter into fresh business dealings with the Agency or order immediate suspension of further

business dealings with the Agency. The Coordinating Officer shall submit his report to the Competent Authority.

- 5.1.2 As far as possible, the existing contract(s) with the Agency may be continued unless the Competent Authority, having regard to the circumstances of the case decides otherwise in the interest of IRCON.
- 5.1.3 If the Competent Authority, after consideration of the matter, including the recommendations of the Investigating Department/ report of the Coordinating Officer, decides that it would not be in the interest of IRCON to enter into business dealings with the Agency pending investigations, he may order suspension of business dealings with the Agency.
- 5.1.4 The Investigating Department may be advised to complete their investigations and submit a final report within a period of three months.
- 5.1.5 The order of suspension of business dealings would not remain effective for a period beyond three months from the date of the issue of the suspension order unless show cause notice for banning of business is issued to the Agency within this period. However, if the final investigation report is not received within this period, the Competent Authority may extend the period of suspension by another three months, during which period the show cause notice must be issued. Once the show cause notice is issued the suspension order will continue till decision by Competent Authority.
- 5.1.6 In case of suspension the Agency must be informed immediately of the suspension order with brief charges under investigation. It is not necessary to enter into correspondence with or offer explanations to the Agency at this stage.
- 5.1.7 The order of suspension can be issued without giving any show cause notice or personal hearing to the Agency. However, the suspension cannot be continued for an indefinite period, unless a show-cause notice for banning of business is issued within 6 (six) months, the period of suspension will either be extended or the suspension shall be revoked.

5.2 Banning of Business Dealings

- 5.2.1 A decision to ban business dealings with any Agency shall normally apply throughout IRCON and its subsidiaries.

5.2.2 An Investigating committee not below the CGM level nominated by Competent Authority shall look into the charge(s) against the agency. The functions of the committee shall, inter-alia include:

- a) To study the report of the Project Head/ Functional Head/ Investigation agency and decide if a prima-facie case for banning exists, if not, send back the case to the Competent Authority.
- b) To recommend for issue of show-cause notice to the Agency by the competent authority as per clause 5.2.3.
- c) To examine the reply to show-cause notice and call the Agency for personal hearing, if required.
- d) To submit final recommendations to the Competent Authority for banning or otherwise.

- 5.2.3 On receipt of the report of the Investigating Committee if the Competent Authority is prima-facie of the view that action for banning of business dealings with the Agency is called for, a show-cause notice may be issued to the Agency after approval by the Competent Authority.
- 5.2.4 The show cause notice, duly approved by the Competent Authority, may be issued by Regd. A.D./ Speed Post by concerned Coordinating Officer in charge of the project along with a statement containing the imputation of misconduct or malpractice and the Agency should be asked to submit its written explanation or statement in defence within 30 days of the date of notice. If no reply is received, a decision may be taken ex-parte by the Investigating Committee based on facts and evidence on record.
- 5.2.5 If the Agency requests for inspection of any relevant document mentioned in the show cause notice in possession of IRCON, the facility for inspection of such documents may be provided.
- 5.2.6 After considering the reply of the Agency and other circumstances and the recommendation of the investigating committee, a final decision shall be taken by the Competent Authority, if considered necessary after giving an opportunity for personal hearing to the Agency. The Competent Authority may then consider and pass an appropriate speaking order:
- a) exonerating the Agency, if the charges are not established;
 - b) banning the business dealings with the Agency along with the period for which the ban would be operative, if the charges are proved.
 - c) whether or not to refer the matter to the Indian Railways to consider imposition of similar ban by Indian Railways.
- 5.2.7 The order for banning of business dealings by all units of IRCON shall be applicable to the Agency including its allied firms as defined in Para 1102 of IR Vigilance Manual.
- 5.2.8 Decision of Competent Authority will be intimated to the concerned Project Head/ Coordinating Officer, who will convey the same to the delinquent Agency and its allied firms and circulate it to the corporate office and all Project Head / Functional Head/ Project Coordinator for applying these orders uniformly in IRCON. The reasons may not be disclosed in such communications. However, the fact that the representation has been considered should invariably be mentioned in the communication.
- 5.2.9 The validity of the banning order shall be for a specified time period, on expiry of which, the banning order shall cease to operate, unless extended further by competent authority.

(6) Appeal against the Decision of the Competent Authority:

- 6.1 The Agency may file an appeal against the order of the Competent Authority for suspension continuing beyond six months or order of banning business dealings with the Agency. The appeal shall lie with the Appellate Authority. Such an appeal shall be preferred within one month from the date of receipt of the order banning of business dealings or order of continuance of suspension order beyond six months.
- 6.2 Appellate Authority shall consider the appeal and pass an appropriate order which shall be communicated to the Agency as well as the Competent Authority.

If the decision of the Competent Authority is modified by the Appellate Authority the same will be intimated by concerned Project Head/ Project Coordinator to the delinquent agency and its allied firm and circulate it with advice to all Project Heads and Corporate Office of IRCON.

ANNEXURE – VII

CHECK LIST for list of documents duly page numbered, signed, stamped by authorized signatory of the Bidder to be scanned, uploaded (in PDF/ JPG format such that file size is not more than 5 MB) with the e-tender and submitted online not later than the prescribed date and time for e-bid submission:

(A) Documents in Original to be submitted in tender box at the address mentioned in the Key Information Table (KIT) Para 1.1 of e-Procurement Notice.

- (i) Earnest Money Deposit in the form of Pay Order/DD/FDR/BG/Insurance Surety Bond as referred in clause no. 9.0 of 'Instructions to Tenderers'. However, in case of e-BG issued on NeSL platform, the original BG is not required to be submitted in the tender box.

(B) Documents to be uploaded:

1. Forwarding Letter of the bidder
2. Form of Bid duly filled signed and stamped
3. Details of similar works completed/substantially completed in last seven years (Format - 1) along with their Completion Certificate.
4. Revenue from Operations for the last three years with supporting documents (Format - 2).
5. Programme for deployment of man power (Format - 3).
6. Programme for deployment of Plant & Machinery on the project (Format - 4).
7. Maximum Value of construction works executed and payment received in any of the three financial years (Format - 5)
8. Existing Commitment and ongoing construction works (Format - 6)
9. Attested copies of the constitution of its firm such as Partnership Deed, Registration Certificate, MOU/ Joint Venture Agreement, Memorandum and Articles of Association, etc.
10. GSTIN
11. ISO certificates (if any).
12. Schedule of start and completion of work in the form of Bar Chart.
13. Methodology for execution of works.
14. Proof of transaction towards payment of Cost of Tender Document/ Earnest Money through NEFT or RTGS and copy of Earnest Money Deposit of requisite amount in the prescribed form.
15. **Power of Attorney** duly attested by Notary Public in favour of the person signing the e-bidding documents digitally as well as manually.
16. Bankers details (name of bank and branch) along with bidders own bank details (Account No., Name of Account Holder, NEFT/RTGS details) as per Format given in Annexure-I).
17. Affidavit (as per Format given in Annexure-IV)
18. Scanned copy of EMD in prescribed form.

19. **Integrity Pact** (as per Format given in Annexure-VI)
20. Any other details sought through ITT, NIT and tender conditions.

Note :

- i) **Hard copy of uploaded documents listed at (B) above, in original must be presented to IRCON, if requested so, either during the process of finalization or after finalization of the tender.**
- ii) **Financial bid submitted by any bidder in physical form shall not be considered and the same will be left un-opened.**

FORMAT-1 (Ref. Sr. No. 3. of Annexure-VII to Instructions to Tenderers) DETAILS OF SIMILAR WORKS COMPLETED/SUBSTANTIALLY COMPLETED IN LAST SEVEN YEARS											
S. No.	Description of the Work	Name and address of the Employer	Contract No. and date	Date of award of work	Stipulated date of completion	Date of actual completion	Value of completed work (In Lacs of `)	Reasons for delays, if any	Penalty, if any, imposed for delay	Any other relevant information	Remarks
1											
2											
3											
4											
5											
6											

Note:

1. In case of Joint Venture (if Joint Venture is permitted in the tender), the information is to be furnished by all the members.

FORMAT-2*(Ref. Sr. No. 4. of Annexure-VII to Instructions to Tenderers)*

REVENUE FROM OPERATIONS FOR THE LAST THREE YEARS

S. No.	YEAR	Revenue from Operations (In lacs of Rs)	Remarks
1			
2			
3			

Note:

1. In case of Joint Venture (if Joint Venture is permitted in the tender), the information is to be furnished by all the members.
2. The above statement shall be certified by statutory auditor with UDIN where the accounts are audited. In other cases, the same may be certified by Chartered Accountant with UDIN.
3. The financial turnover shall mean Revenue from Operations of standalone Financial Statements of the Bidder.
4. Revenue from Operations shall be judged from Audited Balance Sheet, Profit & Loss A/c, relevant Notes to A/cs and Statutory Auditor Report/ relevant abstracts of Annual Reports covering above documents and the same shall be certified by statutory auditor with UDIN where the accounts are audited. In other cases, the same may be certified by Chartered Accountant with UDIN.
5. In case the financials of immediate prior Financial Year have not yet been audited till the time of submission of the tender, the bidder can submit an Affidavit to this effect stating that "the financial results of the immediate prior Financial Year has actually not been audited so far". In such cases, the financials of preceding three audited financial years will be taken into consideration for evaluating the Annual Financial Turnover of the bidder. In the absence of such an Affidavit, the benefit of considering three preceding years would not be given and the bid would be evaluated considering turnover for two preceding years only.

FORMAT-3 <i>(Ref. Sr. No. 5. of Annexure-VII to Instructions to Tenderers)</i> PROGRAMME FOR DEPLOYMENT OF MAN POWER					
S. No.	Name	Qualification	Designation	Total Experience (in years)	Programme for Deployment
1					
2					
3					

FORMAT-4
(Ref. Sr. No. 6. of Annexure-VII to ITT)

PROGRAMME FOR DEPLOYMENT OF PLANT AND MACHINERY PROPOSED TO BE ENGAGED ON THE PROJECT

S. No.	Description	Make	Model & Year of manufacture	Capacity	Condition	Nos. proposed to be deployed	Programme of Deployment	Remarks
1								
2								
3								
4								

FORMAT- 5 <i>(Ref. Sr. No. 7. of Annexure-VII to Instructions to Tenderers)</i> MAXIMUM VALUE OF CONSTRUCTION WORKS EXECUTED AND PAYMENT RECEIVED IN ANY OF THE PREVIOUS THREE FINANCIAL YEARS OR CURRENT FINANCIAL YEAR (UP TO DATE OF INVITING TENDER)		
S. No.	MAXIMUM VALUE OF CONSTRUCTION WORKS EXECUTED AND PAYMENT RECEIVED IN ANY OF THE PREVIOUS THREE FINANCIAL YEARS OR CURRENT FINANCIAL YEAR (UP TO DATE OF INVITING TENDER) (In lacs of Rs)	Remarks
1		

Note:

1. In case of Joint Venture (if Joint Venture is permitted in the tender), the information is to be furnished by all the members.
2. The above statement should be duly verified by statutory auditor with UDIN where the accounts are audited. In other cases by Chartered accountant with UDIN.

Existing commitments and on-going construction works:

FORMAT-6

(Ref. Sr. No.8. of Annexure-VII to ITT)

Description of Work	Place & State	Contract No & Date	Name & Address of Employer	Value of Contract (` in Lakhs)	Stipulated period of completion	Value of works remaining to be completed (` in Lakhs) *	Anticipated Date of completion
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

Note:

1. In case of Joint Venture (if Joint Venture is permitted in the tender), the information is to be furnished by all the members.
2. The above statement should be duly verified by statutory auditor with UDIN where the accounts are audited. In other cases by Chartered accountant with UDIN.

SECTION - IV

Appendix to Tender

APPENDIX TO TENDER (ATT)

<u>DESCRIPTION</u>	Reference Clause
<u>Following materials shall be supplied by the Engineer to the Contractor free of cost:-</u>	(As per relevant clause of Special Conditions of Contract & as mentioned in Section-XII)
<u>Following Plant & Machinery shall be issued by the Engineer to the Contractor on hire basis:-</u>	NIL
<u>The operators for running / operating following Plant & Machinery shall be provided by the Engineer:- Hire charges shall be worked out accordingly.</u>	NIL
<u>For Price Variation Clause:</u>	(As per relevant clause of Special Conditions of Contract)

SECTION - V

Special Conditions of Contract

SPECIAL CONDITIONS OF CONTRACT

(Table of Clauses)

Clause No.	Description
1.0	Order of priority of Contract Documents
2.0	General Information
3.0	Scope of Work
4.0	General Instruction to Tenderers
5.0	Special requirements of the contracts (Vehicle and Site office)
6.0	Time, Milestone achievement and LD
7.0	Drawing to be supplied by Engineer
8.0	Technical Specification
9.0	Climatic Condition/Operating Environment
10.0	Land & Water Supply
11.0	Power Supply
12.0	Approval from Local/Statutory Bodies
13.0	Interfacing Between Other Contractors
14.0	Handing over of site/Start of work
15.0	Deployment of Engineers and Manpower
16.0	Implementation of Quality Management System
17.0	Co-ordination Meeting
18.0	Barricading & Protection of Works
19.0	Site Order Register
20.0	Correctness of Work and Materials
21.0	Contractor's responsibility for Discrepancy
22.0	Supply of Materials Clause No 34.0 & 56.0 of GCC
23.0	Inspection of Materials
24.0	Packaging and Dispatch
25.0	Test Certificates
26.0	Materials and Workmanship
27.0	Storage and Consumption of Materials at Site
28.0	Record of Materials
29.0	Taxes/Duties in Works Contract (GCC Cl 56.0, 57.0, 62.0 & 64.0)
30.0	Default of Contractor
31.0	Performance Security and Retention money
32.0	Contract Agreement (GCC Cl 12.5)
33.0	Work Safety
34.0	Security at Site
35.0	Insurance
36.0	Form of Insurance Requirement
37.0	Electrical Contractor's License
38.0	Labor Laws
39.0	Procedure for payment of Bill
40.0	Recovery from the contractor
41.0	Price Adjustment/Variation
42.0	Handing over of Site and land for Temporary sheds etc
43.0	Handing over and Defect Liability/Maintenance period
44.0	Work during defect liability period
45.0	Completion period
46.0	Mobilization Advance
47.0	Vitiation in contract
48.0	Training of purchaser's staff
49.0	Updation of Labour data on Indian Railways Shramik Kalyan Portal by Contractor

The Conditions of the Contract shall be IRCON's General Conditions of Contract Feb **2021 version dt 16.02.2021** with Updated up to Correction Slip No.4, Dated:06.07.2023 (herein after called as the General Conditions) as modified and added to by the following Special Conditions of Contract which shall be read and construed with the General Conditions as if they were incorporated therewith.

Insofar as any of the conditions of Special Conditions of Contract conflict or be inconsistent with any of the General Conditions, the Special Conditions shall prevail.

SPECIAL CONDITIONS OF CONTRACT

1 ORDER OF PRIORITY OF CONTRACT DOCUMENTS:

Where there is any conflict between the various documents in the contract, the following order of priority shall be followed i.e. a document appearing earlier shall override the document appearing subsequently:

- 1) Agreement
- 2) Letter of Acceptance of Tender
- 3) Notice Inviting Tender
- 4) Instructions to the Tenderers
- 5) Appendix to Tender
- 6) Form of Bid
- 7) Special Conditions of the Contract
- 8) General Conditions of Contract
- 9) Particular Technical Specifications
- 10) General Technical Specifications
- 11) Relevant codes and Standards
- 12) Drawings
- 13) Bill of Quantities

1.0 Definitions

"Client/Owner" means the Department, Organization, Individual, Firm, Company, J.V. or Consortium who awarded the work to Ircon International Limited for execution/Project Management Consultancy (PMC) of the project of which the works is a part, and shall include its heirs, executors, legal representatives etc.

2.0 GENERAL INFORMATION

2.1 The Memorandum of Understanding (MoU) has been signed between Chhattisgarh State Power Generation Company Limited (CSPGCL) & IRCON International Limited for developing & construction of Railway Siding along with Railway Station & allied works within the leasehold area of CSPGCL in Mand-Raigarh Coalfields in Dist. Raigarh, Chhattisgarh for connectivity to New Rail Corridor of Chhattisgarh East Railway Limited (CERL).

2.2 IRCON intends to engage an experienced and resourceful agency who can carry out the works of OHE, Switching Post, External Electrification and SCADA works for the Establishment of Private Railway Siding of CSPGCL - taking off from CERL Line for Transportation of Coal from GP-III Coal Block by developing a crossing station near Milupara, between Gharghoda– Gare Pelma Section (Ch. Km 22.456 to Km 24.868) from Gharghoda/CSB) at Gare Pelma-III (5 MTY) Mines, Raigarh Area of CSPGCL. This private siding to be developed under Gati Shakti Multi Modal Cargo Terminal (GCT) model.2.4

2.3 Position of Land Acquisition / work front availability:

2.3.1 This is a new BG line project where 100% of land is available to start the work. Civil work is under progress. Formation shall be made available progressively for OHE work. Contractor must deploy resources like manpower, material, machineries etc. accordingly. However, the work shall be planned as per the availability of front and planning shall be done so as to complete all the work within the completion period

2.3.2 If any stretch of land/ formation is not handed over within 06 months of date of start, time extension proportionate to the stretch and held up work will be granted on client's account. No other compensation for delay will be admissible. Further action may be in accordance with the relevant clause of SCC.

2.3.3 The contractor should also note that within forest area, construction work is allowed to be done only in day time (6AM-6PM). Establishment of Labour camp is not allowed in forest land.

3.0 SCOPE OF WORK

3.1 General Scope of Work

In general, the brief scope of work in this part of tender mainly covers the construction and commissioning of approx. 6 TKM of conventional 25 KV OHE Traction System works, Switching Post works, External Electrification Works and SCADA works for the Establishment of Private Railway Siding of CSPGCL - taking off from CERL Line for Transportation of Coal from GP-III Coal Block by developing a crossing station near Milupara, between Gharghoda– Gare Pelma Section (Ch. Km 22.456 to Km 24.868 from Gharghoda/CSB) at Gare Pelma-III (5 MTY) Mines, Raigarh Area of CSPGCL.

In general, the detailed scope of work is described hereunder, which is only indicative in nature and shall be deemed to be inclusive of all the items to be executed for its completion in full or in part as per the Standard Specifications and Drawings: -

1. To identify and clarify the actual location/ site of execution of work in consultation with concerned authority.
2. Survey and marking of site of work, through-out the period of execution of work, for preparation of initial Construction drawings certified as "Good for construction" and/or "As erected drawings and any other drawings required for successful execution of the work. The site should be carefully surveyed and examined for checking the dimensions/ levels and discrepancy, if any, should be sorted out in consultation with the representative of the Employer. **Markings for mast foundation & anchor locations will be required to be carried out using track center line coordinates with the help of Total station equipment to be arranged by contractor where Railway tracks are not available.** Level of foundation shall also be maintained as per standard norms.
3. The contractor shall submit his proposed land utilization plans for execution of the work.
4. It is to be clearly understood that all original designs and drawings shall be based on a thorough study. General designs and dimensions shall be such that the Contractor is satisfied about the suitability of the designs for the purpose. The Purchaser's approval will be based on these considerations and notwithstanding the Purchaser's acceptance; the ultimate responsibility for the correct design and execution of the work shall rest with the Contractor in terms of the conditions of Contract.
5. Supply and/ or Erection of materials/ equipments/ items as per standard specifications and/ or drawings.
6. Testing of the construction materials before & during the execution of work.
7. The contractor, at its own cost, shall organize and execute shifting of any ballast stack for purpose of casting of foundation(s), if required for faster completion of project.
8. Successful handing over of the completed works to the client or any concerned nominated authority to its satisfaction and to comply/ rectify any deficiencies noticed at time of handing over.
9. The contractor shall clear the site from all the dismantled or balance materials etc., after completion of the work. He shall deposit any of the scrap materials to the stores of the Concerned authority and arrange a handing-over certificate in this regard.
10. All safety precaution at site will have to be ensured and implemented by the contractor. Safety bands, Ribbons and other gadgets for Construction site & workmen shall be maintained as per scheme approved by the engineer. He shall organize announcement on public address system in the public areas, wherever required.
11. If required, for any Power Line crossing modification work, the contractor will co-ordinate and obtain prior approval and/or shut down from concerned public utility company / electricity authority for any related work like utility shifting by the utility authority. The local shut down management will be organized by the contractor. Contractor will deploy sufficient manpower to complete the work in the shutdown period and arrange for timely cancellation of shutdown.
12. Photography and videography before, during and after execution of work for record only.
13. Review all the available reports, drawings, and information, site details already available and to consider the same while planning & executing the work.
14. The contractor shall submit a detailed construction delivery program for completion of overall Work along with schedule of proposed resources deployment within 28 days from issue of LOA. Any tentative milestone plan given in the tender document may also be referred.
15. The contractor shall carry out construction of all components of work based upon the rules, Regulations and various applicable Indian standards, approved drawings, design & approved methodology, following the codal provisions and requirements etc. for all safe & sound completion of the Work by providing his own Manpower, Machineries and Materials etc. The work shall be carried out in terms of specifications of latest editions (and up-to-date correction/ amendment/ errata) of RDSO/ CORE/ Railway or as directed by the Engineer/ employer.

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16. To organize, conduct & maintain required & proper quality control test and records for day-to-day work on regular basis. The contractor shall ensure that the work is executed conforming to the approved design, drawings and specifications. For execution of the Work, the contractor has to follow the quality Assurance, Safety, Health & Environment guidelines. The Engineers to be deployed by the Contractor shall work under the direction of the Engineer-in-charge. They shall be bound to carry out all duties related with the work assigned by the Engineer-in-charge or his representative. All facilities & equipment required for proper construction & quality control during execution of entire work, have to be provided.
17. The scope of work also includes shifting of any materials (at locations not easily approachable or otherwise) required for execution of the work on motor/ push trolley or by any other suitable means. The scope of work also includes transportation, head loading of materials to the place of work, labour cost, cost of erection of structures/ fabrication/ equipments, laying of cables, ferruling, cable termination & connection, supervision of erection, energy cost, Tools & Tackles cost, and testing & commissioning charges including test apparatus, hiring of M&P/T&P etc. whichever is required, but has not been mentioned.
18. Contractor shall have to collect the IRCON's supplied materials/ equipment's from designated stores of IRCON, if any. Nothing shall be paid extra on account of transportation of materials from stores to the site of work, except as provided in the BOQ. Contractor shall submit Indemnity bond for Engineers supply material. Moreover, an Indemnity bond shall be given by the contractor for the materials supplied by them also which are kept in their custody.
19. For SED checking and inspection of OHE, Tower wagon shall be provided by the employer, if available. All operation costs except for the cost of operator shall be borne by the contractor. However, non-availability of the Tower wagon shall not form any ground for non-execution of OHE work. In such cases all the work shall be done in ladder trolley.
20. The site conditions need to be taken care of in as much as those existing work operations should not be allowed to suffer except what is jointly decided in consultation with the representative of Employer.
21. Contractor shall also make arrangement at their own cost, for meeting at site, inspection of work site by various IRCON's/Railway officials from project office/Corporate office etc during their visit. Various progress charts, bar charts, site photographs, photograph of completed work etc and desired information shall be displayed properly during their visit. Monitoring of progress shall be done through whatsapp group. Contractor shall be required to post daily planning and progress and at the end of every month cumulative progress shall be submitted by the contractor.

Note: The actual location / site of work may be altered (in full or in part) by the Engineer-in-charge as per requirement of work and project requirement.

For executing workw, the contractor shall maintain and / or hire (as per requirement of OHE/SSP/TSS works) the following tentative Machinery, Tools &Plants: -

Tata 407 or similar for material transportation	2 no.
Crane	1 No. with minimum 3 nos. lifting belts/as per site requirement
Crowbar (Pinch point & normal), Shovel. Phawra, Ghamela/Tasla/Hand Tamper,	As per site requirement
Mini compactor for leveling excavated pits for foundation	1 No.
Tools for cable/Conductor laying	Discharge road / Brass chain for Earthing purpose, Wiring Trolley, come along clamps, pulling grip, fork wrench, strapping tools, wedge tool, swivel, etc.
Testing kit consisting of	Caution tapes – 500 m, earth tester – 1 nos., Megger 5kV/2.5kV – 2 nos., multimeter-1 No, Oil BDV testing kit, Measuring tape 50m, 5m – 2 nos., etc.
Other safety items like	Safety shoes, hand gloves, safety belt, helmet, fluorescent jackets, rain coats, traffic diversion cones, night working arrangement DG set, illuminating LED lights, etc.
Arrangements for	Ladder Trolley, power block working, night working.
Civil survey equipment viz. total station	Total station complete with accessories required for site survey and OHE location marking

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Other T&P in required quantity as per site condition	based on coordinates. Auto level instruments. Total station, Tirfor 3/1.5 T Cap, Pull lift 3/1.5 T Cap, Come along clamp, Chain Pulley Block, "D" Shackle, Tripod, Derrick, Mandrill (50cm dia.), Ladder Extension Type (20' x 36') , Ladder trolley P/F type, Drum lifting jacks, Gas cutter, welding plant, Grinder, Power Hacksaw, Dropper making jig & Fixture, Bonding Jig, Manila/PP rope, Spanners, Hammers 1.5 Lbs., Hammers 3.0 Lbs, Discharge rod, DO operating rod, Rail Jumper, Hydraulic type insulator testing jig, cube test machine for compressive strength Cantilever fabrication, Load testing,
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Note : The above list is illustrative and not exhaustive.

4.0 GENERAL INSTRUCTIONS TO TENDERERS

Bidders are required to go through the RDSO/ CORE/ IS Technical specifications. Details for supply and erection of material are described in the technical specifications and bidders are required to execute the work of construction and commissioning of 25 KV OHE Traction System works, Switching Stn works, External General Electrification & SCADA Works etc. strictly as per the technical specifications, approved design and drawings and as per instructions given by engineer in charge. They should work strictly as per safety norms specified broadly in the specifications and in the tender papers and shall keep the following instructions in mind: -

1. Contractor is requested to submit the detailed planning for deployment of the machineries and plant required for casting of foundations, mast erection, erection of steel and equipment's, SPS erection, cantilever erection, wiring, dropper, adjustments, SED checking, Tower wagon checking, earthing arrangements, cabling / trenching works, TSS equipment supply/ erection. Contractor shall prepare any other documents as desired by the Site-Engineer (such as EIG papers, Quality Assurance Plan, Operation and Maintenance manuals of equipment's, daily position etc.) for purpose of monitoring progress and quality of field activities during execution of work at site.
2. The works are to be executed as per requirement of Employer's Project Quality Manual and project Procedure Manual ISO 9001-2008. All records and formats are to be strictly maintained as per provisions made therein.
3. Contractors are advised to deploy the experienced engineers, supervisors, fitters and other skilled technicians/ staff/ supporting staff/ ancillary staff for executing the contract.
4. Contractors shall submit well in advance method statements for executing the work and obtain approval from IRCON/ Client for each activity before starting of the same at site.
5. Contractors are required to make their own arrangements for obtaining the traffic blocks and power blocks (if required). 100% extra payment will be made for erection work under Power Block.
6. Contractors should ensure that the completion period as specified in this tender is the essence of this contract and each activity should be completed within the time approved in the planning schedule and in the method statement.
7. Overhead Line Equipment Structures located in places, where the public has easy access, should be provided with anti-climbing devices.
8. Contractor shall also provide suitable barriers to protect the overhead line structure from damage by road vehicles at vulnerable and risky locations.
9. A suitable size protective bridge screening shall be installed at all bridges spanning across above the 25 KV line. Any additional safety screening deemed required shall also be installed. All bridge screens shall be bonded to the Traction earthing system.

5.0 SPECIAL REQUIREMENTS OF THE CONTRACT:

(a) Inspection Vehicle –

The contractor shall be responsible to provide minimum **One (01 no.) number** of Good Conditioned Inspection Vehicle (**Make INNOVA vehicle model must not be older than model year 2024**) within one month of issue of LOA. The vehicle shall be deputed and plied as per requirement of the engineers.

The contractor shall also bear all costs for running of each vehicle including fuel etc. up to 4000 kms per month on an average i.e. short running in month may be carried forward in subsequent months. No

separate payment shall be admissible for it, in this contract. The vehicles shall be plied for a period of **15x1 = 15 vehicle months or till date of completion of the project whichever is earlier**. In case of positive variation in contract beyond 5% of OCV, period of deployment of vehicle will be increase proportionately. However, no change will be applicable for such negative variation

If contractor fails to arrange the vehicles as described above, then IRCON/Engineer In- charge shall hire the vehicle from any external agency and an equal amount of hired vehicle per month shall be deducted from the dues of the contractor for the period of non-provision the vehicle.

(b) Site Office

The contractor shall provide furnished site offices of min 100 sq Mtr at suitable location to Engineer of client/ Employer for sitting and performing office duties with PC, Laser printer cum scanner and shall maintain in working condition all time, almirah for record keeping etc. The office shall be provided complete with all necessary facilities such as water, sanitation, sewage, power supply, security, tools and plants, one peon etc for the complete contract period in his premises at workshop/ stores/ site. Cost of same will be inclusive under tendered cost.

6.0 TIME IS THE ESSENCE OF CONTRACT:

The work has to be executed in a time bound manner and within the stipulated time period as per the contract on a war footing as per approved construction programme. A planning should be submitted for all the activities in a BAR CHART / primavera so as to ensure completion of the work within the scheduled completion period as per NIT. Any modification required in the programme shall be done without any change in the quoted rates. The contractor shall ensure progress as per approved programme. The progress of work vis-à-vis approved programme will be reviewed weekly or at such other intervals, as decided by the Engineer in charge. If at any time it is found that actual progress of work is lagging behind the approved programme, the contractor shall promptly prepare revised programme and submit for approval showing modification, including making good the short falls, as would be necessary, ensuring completion of the work within the prescribed time limit as per contract. The contractor shall ensure execution of the works as per the approved revised program without any reservations.

Milestone achievement & Liquidated Damages

In order to ensure progress during execution of the work, the contractor will be expected to achieve the tentative milestone targets ahead of dates mentioned in the agreed BAR CHART/ Primavera. Failure to accomplish the milestone targets within allocated time frame, save for reasons accepted as valid by the Engineer-in-charge (such as site not clear, not attributable to contractor, no approach to site of work, revised milestone, late handing over of site, non-availability of materials in market etc), shall create and constitute ground for failure on the part of contractor for maintaining progress of the work as per agreed programme sufficient enough to recover liquidated damage as per GCC if deemed so.

Desired Tentative Milestones (OHE/PSI/General Electrification works)

Desired Tentative Milestones (OHE/PSI works)

S.N.	Description of work	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th
	OHE & SSP Works								
1	Supply of Design and Drawings	20	40	40					
2	Foundation work of section/ station			20	20	30	30		
3	Supply of materials			10	10	20	30	30	
4	SWS Work					20	40	40	

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5	Mast erection				20	40	40		
6	Wiring & droppering*							50	50
7	EIG sanction energization & commissioning								100
8	External Electrification Works (General Electrical Works)	5	5	15	15	15	15	15	15
9	SCADA Works		5	5	10	10	10	30	30

General Electrical Works & SCADA Works shall also be planned accordingly to complete within the completion Period.

It may be noted that Wiring & droppering will be required to be completed within one month of engine rolling in the section concerned. All associated work shall also be completed simultaneously.

As erected drawings to be submitted along with EIG papers for the part being energized. SP/SSP and TSS works, as the case may be, shall be executed side by side along with OHE work as per the front availability.

Note –

1. 'Date of Start' (DOS) is the date of issue of LOA. First mile stone will be reckoned at the end of calendar month. Progress of work will be monitored on a proportionate basis for part of the month after the DOS.
2. The liquidated damages (including all kind of penalties) to be recovered as per GCC para 49.8.

7.0 DRAWINGS TO BE SUPPLIED BY ENGINEER:

The Engineer shall supply any available drawings to the contractor at the time of award of works and successful bidder shall design the system and submit the detailed drawings to employer for necessary approvals to meet the desired milestone. The contractor shall carry out the work in accordance with the said drawings or any modification thereof as decided by the Engineer. In case, there is some discrepancy in the drawings or some drawings/ details have not been made available to the Contractor, the contractor shall inform the Engineer in advance with minimum notice period of 10 days.

The drawings will be studied in totality. Discrepancy, if any, should be brought to the knowledge of the IRCON/ Consultants, for any clarification/ rectification.

Any design calculation in connection with preparation of drawings or otherwise, as desired by the Client/ Employer shall be promptly provided by the contractor.

In addition, the following "Quality Assurance Certificate" shall be incorporated and clearly mentioned in all the drawings submitted by the contractor -

"The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance of contract provision(s) as well as guidelines and specifications of statutory authorities (Railway/ SEB) in respect of design, analysis and drawing shall rest with the contractor."

8.0 TECHNICAL SPECIFICATION:

All works shall be carried out under full conformity to Technical Specification of RDSO/ CORE/ Railway (or any statutory authority or owner or client as per the case or as directed by the Engineer-in-charge) or as per the Standards & guidelines of the Tender documents of SCC and as approved by client.

If substantially changed or new applicable specifications, technical standards or regulations come into force after the Base Date, the Contractor shall submit proposals for compliance to the Employer's Representative. In the event that the Employer's Representative determines that such proposals constitute a variation, he shall then initiate a Variation in accordance with tender document.

9.0 CLIMATIC CONDITIONS/ OPERATING ENVIRONMENT:

All works under the scope of this tender shall be carried out under full conformity to climatic conditions/ operating environment and general requirements as per technical specification.

10.0 LAND & WATER SUPPLY

Land needed for sitting temporary labour camps, temporary site offices and temporary Workshop/ stores etc. at work site shall be arranged by Contractor/s at his/their own cost. The Contractor shall be responsible for making reliable arrangements for suitable water supply at his own cost for his men and construction purpose.

11.0 POWER SUPPLY

Any electric supply required at the site of works for whatsoever purpose shall have to be arranged by the Contractor/s. The Contractor shall make his own arrangements for electric power supply/ installation of diesel generating sets etc. as required for the work at his own cost and the rates quoted shall include the cost of providing such electric supply arrangements required for the works and offices /accommodations etc. All measures according to environmental requirements and related noise and smell reduction are to be considered at Contractor's cost.

12.0 APPROVAL FROM LOCAL/ STATUTORY BODIES:

During execution of work, the Contractor shall Liaise/ facilitate & assist Employer/ Engineer in obtaining the necessary sanctions/ approvals from local bodies for timely shifting of the utilities etc. for expeditious completion of the work & with no additional cost to Employer.

13.0 INTERFACE BETWEEN OTHER CONTRACTORS:

Contractor will be responsible to interface with the other contractors. All activities are supposed to be carried out in parallel. Contractor should assess and plan his requirement and deployment of resources accordingly.

In the event of default on the part of the contractor or slow progress as per agreed program, Employer and Client may without prejudice to the other rights, withdraw part of work as it feels necessary and carry out the same at the risk and cost of the contractor either departmentally or by appointing any other agency for which the contractor shall have no claim on this account. Decision taken by the Engineer in charge in this regard shall be final and binding on the contractor.

The works are to be executed as per requirement of Employer's Project Quality Manual/ Project Quality assurance plan, Employer's Safety Health & Environment Plan and project Procedure Manual ISO 9001-2008. All records and formats are to be strictly maintained as per provisions made therein.

14.0 HANDING OVER OF THE SITE/ START OF WORK

The site shall be made available by the Engineer either in parts or full. No claim whatsoever for not giving the site on award of works and for giving the site in parts shall be tenable except for the purpose of extension of time, wherever justified. Site for execution of works shall normally be made available as soon as the work is awarded. In case, it is not possible for the Engineer to make the entire site available due to any reason, the site shall be made available by the Engineer gradually in parts. The Contractor shall have to adjust his work program accordingly. However, no compensation claims shall be applicable on this account.

15.0 DEPLOYMENT OF ENGINEERS & MANPOWER:

The Contractor shall provide and keep on the works, during the execution of the works, their on roll efficient and competent Engineers/ Supervisors to ensure that the work is executed strictly as per provisions of the Contract. It shall be the obligation on the part of the Contractor to depute technical/ experienced staff at site within a period of 1 month from date of issue of LOA, as mentioned in this clause as per site requirement.

In case the contractor fails to deploy sufficient man-power as described above, the engineer shall be entitled to recover the following amount from the dues of the contractor:

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1	Non-deployment of Project Manager	Rs.60,000/- per month or part thereof
2	Non-deployment of SHE Officer/ Surveyor/Store Keeper/Site supervisor	Rs.25,000/- per month or part thereof

Staff requirement for OHE/TSS work

S.N.	Personnel	Minimum Qualification	Minimum Required	Total Experience for each person (in years)
1	Project Manager	B.Tech/BE/ Diploma	1	B.E. (Elect) with 5 years' experience or Diploma (Elect.) with 10 years' experience in Overhead Equipment (OHE) works (with Min 2 years as Project Manager).
2	Surveyor	Diploma	1	Preferably 5 years' experience, must have knowledge of using Total station equipment.
3	Safety, Health & Environment (SHE) Supervisor	Any	1	Competent & 3 years' experience as safety Supervisor.
4	Store Keeper	Any	1	5 years' experience and must have knowledge of proper accountal of stores, and records
5	Site supervisor	ITI	1	ITI with 3 years' experience in Railway electrification

Apart from above, experienced technical staff for testing and other works shall be deployed by the Contractor whenever and wherever required. In addition, sufficient manpower (Testing engineer, skilled technicians, helpers and other ancillary/ supporting staff for stores, cleaning, watchman etc.) shall be deployed at site as per site requirement during the execution of work.

Moreover, one retired Railway official (JE or SSE/OHE) shall be deployed at project office for day-to-day liasioning with Railway for better co-ordination and to maintain field progress. Also, one helper staff shall be deployed at each site office/project office shall also be used as dak runner from field to project office/vice versa.

The cost of such deployment shall be borne by the contractor. The technical staff shall be got approved in writing from the Engineer in charge (Whose approval may be withdrawn any time) for supervision of works and to receive direction from Engineer for the work on behalf of the contractor. The supervisory staff of the contractor will not be changed without approval of the Engineer in charge.

The cost will be deemed to be inclusive of cost of deployment of above referred manpower on contractor's roll. Non- deployment of manpower will attract recoveries as mentioned above.

The decision of the Engineer as to the above requirement of minimum number of Engineers and technical staff for proper execution of the work and the amount to be deducted on this account shall be final and binding on the contractor.

The decision of the Engineer as to the period for which the required technical staff was not employed by the contractor and as to reasonableness of the amount to be deducted on this account shall be final and binding on the contractor. And, under such circumstances, the Engineer reserves the right to engage the Technical Staff, as required and deploy them on site and the cost of the same shall be recovered from the Contractor's payments in addition to the recoveries as mentioned above.

16.0 IMPLEMENTATION OF QUALITY MANAGEMENT SYSTEM:

The Contractor shall follow and implement Quality Management System as per IS/ISO-9001-2008. The Contractor shall execute the work following the safety policy of IRCON which shall include providing safety equipment, safety shoes, helmets to all workers, erecting of safety barricades and displaying safety posters and instructions about awareness for safety.

The Contractor shall arrange timely calibration of all his measuring and testing equipment at his own cost from reputed laboratory and supply of calibration certificates to the Engineer. The Contractor shall ensure maintenance and overhauling of all his plant and machinery to satisfy the requirements of IS/ISO-9001-2008.

The Contractor shall arrange to provide test certificates issued by manufacturers for materials supplied by him or arrange to test the materials at his own cost in a reputed laboratory and supply test certificates to the Engineer.

The Contractor shall implement full process control by issue of work instructions and check lists and maintaining latest drawings, specifications and codes.

17.0 CO-ORDINATION MEETING:

The Contractor shall be required to attend Co-ordination meetings with the Engineer, the consultant and the other contractors during the period of contract as instructed by the Engineer. All costs incidental to such interaction shall be borne by the Contractor.

18.0 BARRICADING & PROTECTION OF WORKS:

The works are to be protected with help of barricading or otherwise as necessary or asked by the engineer in charge for up keep of environmental conditions safe. Protection is required for all hazardous works. The cost of such provisions shall be deemed to be included in the cost and nothing extra shall be paid for the same.

19.0 SITE ORDER REGISTER:

The contractor shall promptly sign the order given therein by the Engineer or his representative or his superior officers and comply with them. The compliance shall be reported by the contractor to the Engineer in reasonable time to enable Engineer / his representative to check the same.

20.0 CORRECTNESS OF WORK AND MATERIALS

- (a) The contractor shall be solely responsible for the correctness of the positions; levels and dimensions of the works according to approved drawings, notwithstanding that the purchaser or his men may have assisted him in setting out the same.
- (b) If any dimension figured upon a drawing differs from that obtained by scaling the drawings the figures dimension should be normally taken as correct unless it is prima facie a mistake. But all such cases shall be brought to the notice of the purchaser's Engineers and the discrepancy set right before execution.

21.0 CONTRACTOR'S RESPONSIBILITY FOR DISCREPANCY

- (a) **All designs and drawings submitted by the contractor shall be based on** a thorough study and shall be such that the contractor is satisfied about their suitability. The purchaser's approval will be based on these considerations. Notwithstanding approval communicated by the purchaser during the progress of the contract for designs and drawings prototype samples of components, materials, and equipment after inspection of materials, after erection and adjustments to installations, the ultimate responsibility for correct design and execution of work shall rest with the contract unless the purchaser insists on adoption of his own designs inspite of the contractor not being agreeable to it.
- (b) The contractor shall be responsible for and shall bear, and pay the costs for any alteration or works arising from any discrepancies, errors or omissions in the designs and drawings supplied by him, whether such designs and drawings have been approved by the purchaser or not.

22.0 SUPPLY OF MATERIALS (Ref.: G.C.C. Clause '34.0' and '56.0')

Contractor shall make his own arrangements at his cost for all materials required for execution, completion and maintenance of all items of work included in his scope of work to the complete satisfaction of the Engineer. Engineer shall not supply any materials nor shall assist for procurement of any materials required for execution, completion and maintenance of works except supply of materials as per annexure –XI of section XI. Contractor shall submit Indemnity bond for safe custody of Engineer's materials till handing over of completed works involving Engineer's materials.

Notwithstanding the above, it is general condition that the Contractors shall return to the Purchaser all material which have been supplied to him by the Purchaser, but not utilized on works. Should the contractor be unable to do so, the Purchaser shall be entitled to recover the cost of such material as per IRCON guide lines.

23.0 INSPECTION OF MATERIALS:

The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall cover all such Inspections/ Tests and Quality Control checks and measures at appropriate stages of execution of Contract, as specified in Technical Specifications and/or under the Contract and/or any document referred to therein. The Engineer shall be entitled to audit any aspect of the system.

- 23.1 EMPLOYER or his duly authorized representative shall have at all reasonable times, the access to the manufacturer's premises and shall have the power at all reasonable times to inspect and examine the materials and workmanship during manufacturing stage.
- 23.2 Details of all procedures and compliance documents shall be submitted to the Engineer for information before each execution stage is commenced.
- 23.3 Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.
- 23.4 EMPLOYER or his duly authorized representative shall have at all reasonable times access to the Contractor's premises or Works, sites and shall have the power at all reasonable times to examine, inspect and call for Tests of the materials and workmanship during the execution, manufacture and assembly in the Contractor's premises or works, site. The Cost of all the above said Tests and any other Tests shall be borne by the Contractor.
- 23.5 The Contractor on being requested by EMPLOYER or its duly authorized representatives shall present sufficient documentary evidence that the materials used for the Works will meet the specification requirements. With respect to materials used for the Works, the Contractor shall produce requisite Test certification as specified in the Contract. Such Test shall be carried out free of Cost to the Employer and should the Contractor himself be not in a position to carry out the Test, he shall arrange to get these Tests done by Government approved Test house and the Cost for such Tests shall be to Contractor's account.
- 23.6 EMPLOYER or his duly authorized representatives shall have the right to be present at all Tests carried out and arranged by the Contractor, if called for. In case the material offered for inspection is not found ready when the inspection party reaches to the works of the manufacturer, the cost incurred by IRCON on this account will become payable by the manufacturer on demand by IRCON within 30 days.
- 23.7 In case IRCON intends to waive the inspection, the firm shall submit the work test certificates for the supply items from the laboratories of manufacturers or independent test houses and obtain approval of the Engineer in charge before their dispatch.
- 23.8 No material shall be dispatched without inspection as per approved quality assurance plan (QAP) wherever applicable and unless waived by the Employer. Inspection may be carried out by Employer's authorized representative/ IRCON. An inspection call shall be given at least fifteen (15) days in advance, by the Contractor to RITES/ authorized representative of IRCON along with requisite inspection fee/ charges as applicable, for carrying out inspection at manufacturer's / supplier's premises. All costs / expenses incurred in carrying out inspection and tests at manufacturer's / supplier's premises shall be borne and paid by the Contractor. All inspection facilities, gadgets, instruments, testing equipment, utilities and man-power, etc. for carrying out inspection at manufacturer's/ supplier's premises shall be provided by the Contractor at no extra cost to the Employer.
- 23.9 Detailed dispatch instruction shall be issued by the Engineer of contract for the quantities authorized for dispatch, who however reserves the right to amend the dispatch instructions at any time before the actual dispatch of the material. It may be noted that no material is to be dispatched without satisfactory testing inspections clearance by the representative of Engineer of IRCON.
- 23.10 When the Tests have been satisfactorily completed at the Contractor's or sub- Contractor's works, the Engineer shall forth with, issue a Certificate to that effect. If a final Certificate cannot be issued, a

preliminary or Provisional Certificate shall be issued. If the Tests were not witnessed by the Engineer or his representative, the Certificate shall be issued on receipt and scrutiny of the Test report from the Contractor, after the receipt of the Test report by the Engineer. No structure/ plant/ facility shall be assembled or painted with primer coat or dispatched before such Certificates have been issued. The satisfactory completion of these Tests or the issue of the Certificates shall not bind the Engineer to accept the plant/ equipment/ material. Further, at the time of erection if the engineer is not satisfied with the quality of plant/ equipment/ material, he may ask for further tests to be performed before taking final decision regarding its acceptability.

- 23.11 Purchaser reserves the right to reject any equipment if during the tests at work or at site, if the best values achieved do not comply with the respective standard/specification and exceed the tolerable limits.
- 23.12 Contractor shall replace such rejected equipment's, complying with the guarantee value as promptly as possible and at no extra cost to the purchaser, purchaser reserve the right to take any rejected equipment in to the service until the Contractor supplies the new equipment. Rejection to any equipment will not be held as valid reason for delay in timely completion of the work.
- 23.13 Notwithstanding, the inspection carried out by the representative(s) of IRCON, in case any short/ defective supply of material is detected by the consignee, the manufacturer shall be liable to make good such shortage/ rectify the defects. The consignment also is subjected to joint inspection by IRCON in case of any dispute regarding quality and/or quantity of the material supplied.
- 23.14 The inspection of various supply items shall be carried out by the agencies as specified in specifications. The prices quoted also include RITE/RDSO representative inspection and testing charges unless otherwise specified in the bill of quantities or Technical Specifications. In case of change of inspection from RDSO/RITES to consignee, 1% of the cost of the material inclusive of GST will be deducted by employer/purchaser/Railways as inspection charges per inspection (Stage/Final). Moreover, to and fro journey cost as per IRCON's entitlement or better shall be borne by the contractor in case of consignee inspection. However, in case inspection is waived off and only site inspection is allowed by the Engineer In charge, 1% of the cost of the material inclusive of GST will be deducted by employer.

24.0 PACKAGING AND DISPATCH:

Prices should be inclusive of all packing and forwarding charges. These shall not be paid extra. The dispatch of materials shall be accompanied by delivery challan, inspection report, test certificates, O & M Manuals and a copy of dispatch instructions.

All equipment/material shall be suitably packed for transport cartage to site and outdoor storage during transit. The contractor shall be responsible for any damage to the equipment during transit due to improper and inadequate packing. The case containing fragile or material easily prone to damage shall be very carefully packed and marked with appropriate caution symbol i.e. "FRAGILE", "HANDLE WITH CARE USE NO HOOK" etc. The contents of each package shall bear/packing list. Packing shall provide complete protection from moisture termites and mechanical shocks etc. Wherever necessary, proper arrangement of attaching slings for lifting shall be provided. All packages shall be clearly marked with gross weight sign showing UP and DOWN side of boxes content of each packages, order No. and date, name of plane/equipment of which the material in package from part and any handling and unpacking instruction considered necessary. Any material found short inside the packing case shall be supplied by the manufacturer without any extra cost. Manufacturer shall ascertain, prior to shipment from concerned authorities, the transport limitation, like within and maximum allowable package size of transportation. All packing case and packing material shall become the property of the Purchaser.

All demurrage and wharf age or other charges payable due to non-implementation of any of the above instruction shall be to the contractor's account.

25.0 TEST CERTIFICATES:

The contractor shall submit the test certificates of material as per sampling procedure mentioned in the relevant standard. The testing shall be carried out at the authorized labs or institutions or at manufacturers test labs. IRCON reserves the right to get the above tests from any Govt. approved labs or institutions, as and when required at the contractors' cost.

26.0 MATERIALS AND WORKMANSHIP:

The tenderer will procure all the equipment/ items from the manufacturers as mentioned in the technical specifications or RDSO Approved/ CORE Approved/ SECR Approved sources. If in any case such approved sources are not available, then those equipment/ items will be got approved from IRCON by the contractor before procurement by submitting relevant details.

27.0 STORAGE AND CONSUMPTION OF MATERIALS AT SITE:-

The Contractor shall maintain the minimum site establishment throughout the currency of the contract. The Engineer shall not be responsible for providing any storage accommodation for the materials arranged by the contractor. For materials being provided or arranged by the Engineer, the contractor shall make his own arrangement at his cost for storage of same.

For proper co-ordination and timely completion of the works, the Contractor shall construct a suitable furnished office at one of the sites with basic facilities such as telephone, fax, photocopier, computer with internet facilities, regular electric and water supply including drinking water, sufficient means for transportation etc. and shall have camp offices at each of the remaining sites.

Cement in bags shall be stacked by the contractor in store constructed by him with weather proof roofs, suitable floors and walls to ensure quality during stacking & Stocking as approved by the Engineer. Contractor shall construct suitable Godowns at site of work for storing other materials ensuring safety against damage by sun, rain, dampness, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose at his own cost.

Materials brought to the site by the Contractor shall be deemed to be the property of the Engineer and will be under the control of the Engineer. Contractor shall not remove any of these materials from the site without the prior written permission of the Engineer. However necessary security of these materials shall be made available by contractor at their own cost.

28.0 RECORD OF MATERIALS.

- i) The Contractor shall produce on demand, to the Engineer, original receipts/ vouchers/ invoices in respect of the supplies. The Contractor shall ensure that the materials brought to the site are in sealed containers/ packing bearing manufacturers marking.
- ii) The above obligations are without prejudice to the other obligations of the Contractor.

29.0 TAXES /DUTIES IN WORKS CONTRACT (Ref.: G.C.C. Clause '56.0','57.0', '62.0' and '64.0')

- 29.1 The Contractor shall get registered with the concerned Goods and Services Tax Department of the relevant state(s) of the project and submit a copy of the same to the Employer/ Engineer. He shall be responsible for payment of GST, filing of Goods and Services Tax returns and assessments, as necessary as per prevalent Laws, Rules and Regulations and shall also furnish necessary certificates to Employer/Engineer from time to time. (Refer clause 56.0 (V) of GCC).
- 29.2 The rates quoted by the tenderer shall be full and final including all taxes etc.(Being Railway construction work the GST rate @18% is applicable).
- 29.3 Applicable TDS like, GST TDS & Income Tax TDS etc. shall be deducted at source and necessary certificates will be issued.
- 29.4 Wherever certain exemptions/benefits are available on custom duty the contractor shall consider the same while quoting his rates. For instance, materials/Plant and Machinery etc. used for execution of the projects financed by international organizations enjoy exemption from custom duty under Foreign Trade Policy as Deemed Export on fulfilling the conditions as per Govt. notifications. Similarly, the contractor shall ensure that whenever any benefits are available under any other law, these shall be considered while quoting the rates.
- 29.5 IRCON will not issue any "E-way bill" to the contractor.
- 29.6 Any change of rates of statutory taxes/duties of the state/Central Governments of levy of any new type of statutory taxes/duties or substitution of existing taxes/duties after the last date of submission of tender shall be borne by IRCON. Increase or decrease in the liability on this account will be dealt accordingly. Increase in liability shall be reimbursed as per actual on submission of computation of increased liability statement with documentary evidences in the form of challan by the contractors/suppliers to IRCON's satisfaction. Similarly, in case of reduction of taxes/duties by either Central or state Govts. Or due to introduction of new tax or substitution or existing tax the benefits of reduction in liability shall be passed on to IRCON immediately commencing from the first periodical return falls due. Computation of decrease in liability shall be submitted by contractors/suppliers/service providers, examined and agreed by IRCON. For case of implementation of above, contractors/suppliers/service providers shall be required to submit summary of price schedule in attached format with quoted price. All the change in rule and consequent payments should be supported by documentary evidences.

- 29.7 The contractor has to comply to pay GST within due date as per GST act & rules for proper availing of Input credit by IRCON. In case of default in compliance by contractor, necessary action/penalty shall be imposed.

30.0 DEFAULT OF CONTRACTOR

In the event of default on the part of the contractor or slow progress as per agreed program, Employer and Client may without prejudice to the other rights, withdraw part of work as it feels necessary and carry out the same at the risk and cost of the contractor either departmentally or by appointing any other agency for which the contractor shall have no claim on this account. Decision taken by the Engineer in charge in this regard shall be final and binding on the contractor.

31.0 PERFORMANCE SECURITY & RETENTION MONEY (Ref.: GCC Clause 8.0):

31.1 Performance Security:

Refer Clause 8.1 of General conditions of contract (GCC).

31.2 Retention Money:

Refer Clause 8.2 of General conditions of contract (GCC).

31.3 Release of Performance Security:

Refer Clause 8.3 of General conditions of contract (GCC).

31.4 Release of Retention Money:

Refer Clause 8.4 of General conditions of contract (GCC).

32.0 CONTRACT AGREEMENT (Ref. GCC Clause 12.5):

The successful bidder shall be required to execute a Contract Agreement with IRCON as per ANNEXURE-I of GCC within 28 days of issue of Letter of Acceptance (LOA). Failure to execute the Contract Agreement within stipulated time may invite encashment of EMD.

33.0 WORK SAFETY:

The work is required to be executed near the live line or after taking power shut down. The contractor shall comply with all safety rules & regulations of IRCON or any other statutory body while working near the live line or on shut down.

34.0 SECURITY AT SITE:

Unless otherwise stated elsewhere in the tender document, the Contractor shall be responsible for keeping unauthorized persons off the Site, and Authorized persons shall be limited to the employees of the Contractor, employees of IRCON and Representative.

The Contractor shall have total responsibility for the safety and security of all Plant/ machinery, Equipment and Materials delivered to the Site, including goods which are stored, loose, semi-assembled and/ or erected, from the time of delivery to the Site until the date of taking over by the Employer, as certified by the Taking-Over Certificate issued by the Employer's Representative. The Contractor shall make suitable security arrangements to ensure the protection of all Plant/ machinery, Equipment and Materials from theft, fire, pilferage and any other damages or loss. All Plant/ machinery, Equipment and Materials provided by the Contractor shall enter and leave the Site only with the written authorization of the Employer's Representative in the prescribed manner.

The Contractor shall also have total responsibility for the safety and security of all plant/ machinery, equipment and materials which are salvaged during his work for rehabilitation, replacement, reconstruction and/ or upgrading existing facilities and/ or reconstructing existing power lines from the time such plant/ machinery, equipment and materials are removed from service until the Employer accepts the said materials, as evidenced by written certification from the Employer's Representative.

35.0 INSURANCE

35.1 It shall be obligatory for the Contractor to obtain an insurance cover in the joint name of the following-

1. Chhattisgarh State Power Generation Company Limited;
2. The President of India represented by Chief Traffic Planning Manager, South East Central Railway;
3. IRCON INTERNATIONAL LIMITED; and
4. The Contractor to whom this work is awarded.

The insurance shall be obtained at his own cost, before commencing the works, from a reputed company, for the following requirements:

- a) Contractor's All Risk (CAR) Policy/Erection All Risk Policy,
- b) Liability for death of or injury to any person or loss of or damage to any property (other than the work) arising out of the performance of the Contract.
- c) Construction Plant, Machinery and Equipment brought to site by the Contractor.
- d) Any other insurance cover as may be required by the law of the land.

Other terms and Conditions are as per **Clause no. 9.0** of General Conditions of contract.

35.2 All insurance policies entered into by the contractor under the contract, shall stipulate that the proceeds of all claims shall be payable to the Engineer (IRCON International Ltd.) The Engineer shall reimburse such claims to the contractor when the contractual obligations are completed by him.

35.3 Copy of the insurance policy shall be submitted by the contractor to the Employer. The add-on covers, extensions, exclusions, access, deductibles, etc. mentioned in the policy should also be taken into consideration by the contractor. Any additional insurance cover or risk which is not covered under Insurance Policy and/or exclusion, excess, deductibles etc. under the said policy shall be on contractor's account and should be taken into consideration by the contractor in their prices. IRCON shall not be responsible for any compensation to the contractor.

35.4 The Contractor at his own cost shall also obtain any additional insurance cover as per the requirements of the Contract.

35.5 All insurance covers referred to in the Contract shall be effected with an Indian Insurance Company incorporated and registered in India. The Contractor shall provide evidence to the Employer/Engineer before commencement of work at site that the insurance covers required under the contract have been effected and shall within 60 days of the commencement date, provide the insurance policies to the Employer/Engineer. The Contractor shall, whenever, called upon, produce to the Engineer or his representative the evidence of payment of premiums paid by him to ensure that the policies indeed continue to be in force.

The Contractor at his own cost shall also obtain any additional insurance cover as per the requirements of the Contract.

35.6 The Employer/Engineer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or his sub-contractor or petty contractor. The Contractor shall indemnify and keep indemnified the Employer/Engineer against all such damages and compensation for which the Contractor is liable.

35.7 The Insurance Policies of the Contractor shall remain in force throughout the period of execution of the works and till the expiry of the defect liability period except for any specific insurance covers necessary for shorter period.

35.8 If the Contractor fails to effect or keep in force or provide adequate cover as acceptable to the Engineer in the insurance policies mentioned above, then in such cases, the Engineer may effect and keep in force any such insurance or further insurance on behalf of the Contractor. The recovery shall be made at the rate of 1.5 times the premium/premiums paid by the Engineer in this regard from the payment due to the Contractor or from the Contractor's Performance Security. However, the Contractor shall not be absolved from his responsibility and/or liability in this regard.

36.0 FORM OF INSURANCE REQUIREMENTS

Deleted.

37.0 ELECTRICAL CONTRACTOR'S LICENSE

The Bidder should possess a valid Electrical Contractor's license issued by any state or central government agency and copy of the same may be submitted with the offer.

38.0 LABOUR LAWS:

The Contractor shall comply with all the relevant labour laws applying to his employees, and shall duly pay and afford to them all their legal rights. The Contractor shall require all such employees to obey all applicable laws and regulations concerning safety at work. Employer/Client may ask to submit/inspect any of related and required documents.

39.0 PROCEDURE FOR PAYMENT OF BILL

Prices quoted and accepted by the Purchaser are deemed to cover all such factors and circumstances as stated in the financial bid Document. The quoted and accepted prices in the Bill of Quantities/ Schedule of Rates form the basis for passing of bills for the completed or partly completed works. Following points/ norms/ guidelines shall be kept in mind during passing of bills: -

1. Bill Payments of the completed works shall normally be made on a monthly basis, based on the prices included in the BOQ. The payable amount shall be derived based upon the executed quantities of the Schedule of Work.
2. No extra payment shall be made to the contractor for repetition of works due to bad workmanship, poor planning and defective material and theft/ pilferage etc.
3. The contractor shall initiate the procedure of billing by submission of relevant invoices. All invoices shall be submitted along-with original supporting documents or certified true copies of supporting documents, as acceptable to the Engineer according to the terms and conditions of the contract. Where copies of the original documents are required in support of several invoices, true certified copies of the original documents may be forwarded to the Engineer, with his consent.
4. Invoices shall be submitted only on the basis of agreed principles and prices.
5. The quantities and measurement of works completed should be approved by the Engineer prior to the submission of invoices. For this purpose, the schedule of quantities and measurement submitted by the contractor for approval of the Engineer may be only up to the extent of work completed except in the case of payments on Provisional Acceptance.

6. Payment Terms-

6.1 Payment of bills for Supply of Materials:

- (i) 100% Payments of Bills shall be made (after withholding the amount as per Cl. 6.3 below) only after safe receipt of materials at nominated Site/ Stores/ Depot duly accepted & Accountal after due deductions including withholding of amount as per payment clause and on submission of:
 - a) Relevant documents (such as Challans, Test reports/ Inspection certificate granted by the authorized agency/ Purchaser's representative as per SCC Clause 23.0).
 - b) Quality assurance documents.
 - c) Certificate of receipt of materials at contractor's depots duly accepted by the engineer as per requirement & submission of Indemnity bond)
 - d) Bill & Tax Invoices.
- (ii) However, at every point of time from the receipt of material till handing over, the safety and security of all materials will rest with the contractor at their own cost. In this regard, the contractor will take necessary safeguard for proper storage and protection against loss/ damage/ deterioration.

6.2 Payment of bills for erection works:

100% Payment of erection works will be done (after withholding the amount as per Cl. 6.3 below) after the successful completion of the erection works and after due deductions including withholding of amount as per payment clause and certification by the IRCON engineer in each RA bill.

6.3 Withholding of amount: A bank guarantee equal to 15% of the Contract Value, shall be submitted by the contractor prior to submission of 1st RA bill. Non-submission of above Bank Guarantee will affect in

withholding of 15% of RA bill amount from every RA bill/Advance bill for releasing of payment. However, at any point of time the contractor may submit bank guarantee equal to 15% of contract value as above and the withhold amount on this account will be released. The above BG will be required to be valid till commissioning. This Bank guarantee or the amount withhold in this account as the case may be shall be released on commissioning

Balance amount if any as per actual shall be released at the time of final bill and after submission of "As built drawings" duly accepted/approved by IRCON's Engineer

6.3 Other deductions –

- (i) As referred at 6.3 above.
- (ii) Deduction of Retention Money as per GCC clause 8.2. Retention Money will be released as per GCC clause 8.4.
- (iii) For the items wherever Royalty payment is applicable, amount will be withheld as per regulation and same shall be released only after submission of royalty clearance certificate.

6.5 All payments to the contractor shall be made through Electronic Clearing System (ECS) and shall be directly credited to his bank account.

6.6 Payment shall be released subject to following condition/ situation: -

- i) Ircon International is executing the work as per the requirement of and at the cost of the client, CSPGCL.
- ii) Payment to the contractor will be released only after receipt of the billed amount from the client M/s CSPGCL. However, attempt will be made to release such payment generally not later than 56 days after acceptance by the nominated representative of Employer, of the measurements as submitted by the contractor.
- iii) In case of delay in making payment to the contractor beyond average 56 days, the engineer will suitably adjust the target date of completion of the affected activity. No other claim whatsoever will be entertained on this account.

40.0 RECOVERIES FROM THE CONTRACTOR

Recoveries, if any, due from the Contractor shall ordinarily be made in form of deductions from the Bills payable to the Contractor, on account of any or more of the following reasons: -

- 1. Recoveries for materials supplied and/or services, if any, rendered by the Purchaser to the Contractor,
- 2. Any other refunds, covering the value of supply and erection in the progress,
- 3. Any penalties levied on the contractor by the Employer during execution of the contract,
- 4. Hiring Charges of any M&P and/or T&P arranged by the Purchaser, etc.

In addition, where-ever the law makes it statutory for the Purchaser to deduct any amount towards **Tax and/ or Income Tax, GST etc;** the same shall be deducted and remitted to the concerned authority by the Purchaser from the on-account bills of the Contractor.

41.0 PRICE ADJUSTMENT/ VARIATION

- 1. Price adjustment shall be applicable for tenders of value more than **Rs. 2 Crore.**
- 2. The Base Month for 'Price Variation Clause' shall be taken as the one month prior to due date of submission of the tender unless otherwise stated elsewhere. The quarter for applicability of PVC shall commence from the month following the Base month. The Price Variation shall be based on the average Price Index of the quarter under consideration.
- 3. To the extent that full compensation for any rise or fall in costs to the Contractor is not covered by the provisions of this clause, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingencies of such other rise or fall of costs.
- 4. **Calculation of price variation shall be done as mentioned hereunder:**

TENDER FOR 25 KV AC OHE WORKS, EXTERNAL ELECTRIFICATION WORKS & SCADA WORKS OF CSPGCL SIDING
TAKING OFF FROM CERL

1. To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this clause, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingencies of such other or fall of costs.
2. Materials supplied free of cost by the Purchaser to the contractors shall fall outside the purview of Price Variation Clause. If, in any case, accepted offer includes some specific payment to be made to consultants or some materials supplied by Purchaser free or at fixed rate, such payments shall be excluded from the gross value of the work for the purpose of Payment/ recovery of Price Variation.
3. Rates accepted shall stand good till the completion of work and no additional individual claim shall be admissible on account of fluctuations in market rates, increase in taxes/ any other levies/ tolls etc. except that payment/ recovery for overall market situation shall be made as per Price Variation Clause given hereunder.
4. Adjustment for variation in prices of material, labour, fuel, explosives, detonators, steel, concreting, ferrous, non-ferrous, insulators, zinc and cement shall be determined in the manner prescribed.
5. Components of various items in a contract on which variation in prices be admissible, shall be Material, Labour, fuel, Explosives, Detonators, Steel, Cement, Concreting, Ferrous, Non-ferrous, Insulator, Zinc, Erection etc, However, for fixed components, no price variation shall be admissible.
6. The Amount of variation in price in several components (labour, material etc.) shall be worked out by the following formulae for Railway Electrification Works:

Mc	=	$[0.4136x(C-Co)/Co]x85$
Mf	=	$[0.94x(Sf-Sfo)/Sfo + 0.06x(Z-Zo)/Zo] x 85$
Mnf	=	$[(Cu-Cuo)/Cuo] x85$
Min	=	$[(In-Ino)/Ino] x 85$
MB	=	$[Mq-Mb)/Mb]X85$
IL	=	$[(I-Io)/Io]x85$

Where,

Mc	Percentage variation on the net amount of material Bill in Concreting.
C	WPI of Economic Advisor for manufacture of " Ordinary Portland Cement " for the month which is six months prior to date of casting of foundation.
Co	WPI of Economic Advisor for manufacture of " Ordinary Portland Cement " for the month which is one month prior to date of submission of tender.
Mf	Percentage variation on the net amount of material Bill in Steel.
Sf	IEEMA price index for Steel Blooms (size 150mmx150mm) for the months which is two months prior to date of inspection of materials.
Sfo	IEEMA price index for Steel Blooms (size 150mmx150mm) for the month which is one month prior to date of submission of tender.
Z	IEEMA price index for Zinc for the months which is two months prior to date of inspection of materials.
Zo	IEEMA price index for Zinc which is one month prior to date of submission of tender.
Mnf	Percentage variation on the net amount of material Bill in Copper.
Cu	IEEMA price index for Copper wire rods which is two months prior to date of inspection of materials.
Cuo	IEEMA price index for Copper wire rods which is one month prior to date of submission of tender.
Min	Percentage variation on the net amount of material Bill of in Insulator.
In	WPI of Economic advisor price index for " Insulator " which is two months prior to date of inspection of materials.
Ino	WPI of Economic advisor price index for " Insulator " for the months which is one month prior to date of submission of tender.
MB	Percentage variation on the net amount of material Bill in General Electrical supply Items
Mq	Average of WPI of Economic Advisor for All Commodities for 3 months of the quarter under consideration.
Mb	WPI of Economic Advisor for All Commodities for base month.
IL	Percentage variation on the net amount of erection Bill
I _o	Consumer Price Index Number for Industrial Workers - All India – Published by Labour Bureau (Government of India) for the base period which is one month prior to date of

	submission of tender.
I	Consumer Price Index Number for Industrial Workers - All India – Published by Labour Bureau (Government of India) for the average price index of the 3 months of the quarter under consideration.

5. Price variation clause shall be applicable for following items which are covered in separate BOQ only :

- i) Galvanized steel and SPS
- ii) Contact, catenary, jumper & dropper wire covered in separate BOQ
- iii) All types of insulators (stay, bracket & post) covered in separate BOQ item
- iv) All types of concrete and foundation
- v) All General Electrical Supply Item (Supply Items)
- vi) All erection work (amount of erection bill)

6. Price adjustment during extended period of Contract:

The price adjustment as provided hereinabove shall be applicable upto the stipulated date of completion of work including the extended period of completion, for the reason not attributable to the contractor.

However, in case extension of time is granted to the contractor for the reasons attributable to the contractor, the price adjustment for the said period of extension shall be done as below:

- 6 (a) In case the indices increase above the indices applicable to the last month of original completion period or the extended period not attributable to the contractor's account, as the case may be, the price adjustment shall be limited to the amount payable as per the Indices applicable to the last month of the original completion period or the extended period not attributable to the contractor's account, as the case may be.
- 6 (b) In case the indices fall below the indices applicable to the last month of original completion period or the extended period not attributable to the contractor's account, as the case may be, then the lower Indices shall be adopted for the price adjustment for the period of extension granted to the contractor for the reasons attributable to the contractor.

7. Separate bill for price adjustment amount to be raised on quarterly basis.

42.0 HANDING OVER OF THE SITE AND LAND FOR TEMPORARY SHEDS ETC.

- a) The site for execution of works shall be made available as soon as the work is awarded.
- b) The Contractor shall make arrangements for the land for putting up his temporary sheds, Stores, Office, Labor Hutments etc. at his own cost, unless otherwise indicated in the BOQ.
- c) The Contractor shall give to Railways/ Local Electricity Authority and other civil/state authorities, all such notices as may be required by the law and obtain all the requisite permission/ license for temporary structure; enclosures etc. and pay all the fees, taxes and charges, which may be liable on this account. He shall be liable and make good any damage to the adjoining premises whether public or private and provide and maintain necessary security / safety and lighting arrangements, as required.

43.0 HANDING OVER AND DEFECT LIABILITY/ MAINTENANCE PERIOD:

After completion of works the energized/commissioned Section/Yard/Switching Station shall be handed over to Employer/Client by the Contractor for maintenance. However, work shall be treated as completed only after EIG sanction and fitness given by Railway for OHE/PSI Works.

Completed Work/Part of the work will be taken over/deemed to be taken over on the fulfillment of following condition (whichever is earlier)-

- 1. Within 15 days of SED Checking (Wherever applicable) and energization (After EIG sanction).**
- or

2. Within 07 days of Electric Loco Trial.

Defect liability period shall be 12 months from the date of commissioning of work or its part, as the case may be. Work or its part shall be treated as commissioned only after EIG approval and energization (wherever required). During this period the contractor shall keep available an experienced Engineer and necessary equipment to attend to any defect in installation resulting from defective erection and/or defect in the equipment supplied by the contractor. The Contractor shall guarantee that the Plant/ machinery, Equipment, Materials and associated works carried out under the Contract will be free from defects in materials, workmanship and manufacturer's defects. The Contractor shall ensure satisfactory performance during the entire Guarantee Period, and shall repair or replace any Plant/ machinery or Equipment free of cost which is found to be defective. The defect liability cum maintenance period will commence from the date of handing over to the client. The process of handing over shall be as under: -

"One month in advance of the stipulated date of completion, joint inspection shall be carried out jointly by the representatives of the contractor and the Employer / Client. All the defects, deficiencies shall be noted and a time bound programme to be made for rectifying/ making good all the defects and deficiencies. The contractor shall remove at his own cost all the surplus materials, debris, labour hutments, scrap wood/ cardboard etc of the boxes/ packings of materials received and clean the entire building and surrounding before handing over. If it is felt that the contractor is not responding to rectify the defects urgently and the Client is suffering in using the structural assets due to default of the contractor, Employer shall be entitled to get the defects rectified at the risk and cost of the contractor on expiry of 24 hours of notice issued to the contractor."

During the defect liability period, the Contractor's liability shall be limited to repair or replacement of any defective part in the Plant/ machinery, Equipment or Materials provided under the Contract arising from faulty design, materials, workmanship and/ or manufacturer's defects not being in accordance with the Contract or failure by the Contractor to comply with any of his other obligations under the contract. All costs for the repair/ replacement of defective parts, dismantling, re-erection, supply, transportation, etc., shall be to the account of the Contractor. During the Defects Liability Period, the Contractor shall provide free of cost, competent and skilled personnel and maintain adequate stock of spares so as to promptly fulfill his obligations during the Defects Liability Period.

If any defect appears or damage occurs, the Employer or the Employer's Representative shall promptly notify the Contractor in writing. Every time a notice of Defect is given, and Defects Correction Period for the notified Defect begins, the Contractor will be required to correct the notified Defect within the time prescribed (14 days).

Contractor shall ensure restoration/ rectification/ replacement, within prescribed time, to the satisfaction of IRCON. The engineer, in case of the delay as deems fit shall be empowered to carry out the repairing at the risk and cost of the contractor. The "Defect Liability Period "in respect of that part or subsystem or components of that part shall start from the date such replacement, renewal or repair has been completed to the satisfaction of the engineer.

The contractor shall pass-on all the guarantee(s)/ warrantee(s) of the equipment's/ plants/ Machinery/ Materials etc. as given by the manufacturers, to the purchaser/ employer. The period of Guarantee/ Warrantee shall however will not affect the closure of the contract after defect liability period.

Failure to Remedy Defects:

If the Contractor fails to remedy any defect in the Plant/ machinery, Materials, design or workmanship or if the Contractor fails to complete any Works or part of the Works as deemed necessary by the Employer within a reasonable time after being notified by the Employer's Representative, the Employer or the Employer's Representative may fix a date on or by which to remedy the defect or damage or to execute part of the works to the satisfaction of the Employer's Representative, and give the Contractor reasonable notice of such date.

If the Contractor fails to remedy the defect or damage or to complete the required Works by such date the Employer may (at his sole discretion):

- i) carry out the work himself or by others, in a reasonable manner and at the Contractor's risk and cost; the costs properly incurred by the Employer in remedying the defect or damage or in executing part of the works shall be recoverable from the Contractor by the Employer and will be

calculated based on the direct cost of any labor, equipment, materials, superintendence and other services provided by the Employer for carrying out such work, as certified by the Employer's Representative, plus an administration fee of 10% (ten percent) of the direct costs to cover overheads and other indirect costs; or

- ii) require the Employer's Representative to determine and certify a reasonable reduction in the Contract Price; or
- iii) if the defect or damage is such that the Employer has been deprived of substantially the whole of the benefit of the Works or parts of the Works, terminate the Contract in respect of such parts of the Works as cannot be put to the intended use; the Employer shall then be entitled to recover all sums paid for such parts of the Works together with the cost of dismantling the same, clearing the Site and returning Plant/ machinery and Materials to the Contractor.

44.0 WORKS DURING DEFECT LIABILITY PERIOD

The Contractor shall maintain, rectify and make good at his own cost any defect/ deficiencies, which may develop in the work or as notified by the Engineer during Defect Liability Period from the certified date of completion as specified in the Appendix to Tender. However, maintenance during Defect Liability Period shall not include day to day upkeep, cleaning, custody and security of the work. Any defect arising due to defective construction/ material/ workmanship in any structure(s) during the period(s) specified above and due to causes enumerated above, the contractor shall rectify the same at no extra cost. In case of failure of the Contractor to do so within a fortnight from the date of notice given by Client/ Engineer, the same shall get rectified at the risk and cost of the Contractor.

45.0 COMPLETION PERIOD

The work is required to be executed and completed in a phased manner within the completion period as mentioned in the Key Information Table (**KIT**). The work has to be executed in co-ordination with other agencies working on or near the project. In case of any delay in the completion period, the extension of the same shall be dealt as per clause 49.0 of General Conditions of Contract.

46.0 MOBILIZATION ADVANCE

Not Applicable

47.0 VITIATION IN CONTRACT

The contract shall not be vitiated by any inadvertent error of any kind in the surveys, information, specification drawing or schedule of quantities. The aspect of vitiation of tender with respect to variation in quantities should be checked and avoided. However, during execution of work if variation of quantities against item of work becomes inevitable and such variation cause vitiation of the contract, the amount of vitiation will be deducted from the contractor's bill.

48.0 TRAINING OF PURCHASER'S STAFF

The contractor shall train, free of charge, in a manner mutually agreed between the purchaser and contractor, such staff of the purchaser as may be deputed by him.

49.0 UPDATION OF LABOUR DATA ON INDIAN RAILWAYS SHRAMIK KALYAN PORTAL BY CONTRACTOR.

49.1 **Contractor shall abide by the provisions of Payment of Wages Act & Minimum Wages Act** in terms of clause no, 40.0: "Wages of Labour" of IRCON's General Condition of Contract. In order to ensure the same, an application has been developed and hosted on website 'www.shramikkalyan.indianrailways.gov.in'. Contractor shall register his firm/company etc. and upload requisite details of labour and their payment in this portal. These details shall be available in public domain. The Registration/updation of Portal shall be done as under.

- a) Contractor shall apply for onetime registration of his company/firm etc. in the Shramikkalyan portal with requisite details subsequent to issue of Letter of Acceptance. Engineer shall approve the Contractor's registration on the portal within 7 days of receipt of such request.

- b) Contractor once approved by the Engineer, can create password with login ID (PAN No.) for subsequent use of portal for all LOAs issued in his favour.
 - c) The contractor once registered on the portal, shall provide details of his Letter of Acceptance (LoA) / Contract Agreements on shramikkalyan portal within 15 days of issue of the LoA for approval of the concerned Engineer. Engineer shall update (if required) and approve the details of LoA filled by contractor within 7 days of receipt of such request.
 - d) After approval of LOA by the Engineer, Contractor shall fill the salient details of contract labours engaged in the contract and ensure updating of each wage payment to them on shramikkalyan portal on monthly basis.
 - e) it shall be mandatory upon the contractor to ensure correct and prompt uploading of all salient details of engaged contractual labour & payments made thereof after each wage period.
- 49.2 While processing payment of any 'On Account bill' or 'Final bill' or release of 'Advances' of 'Performance Guarantee/Security deposit'. Contractor shall submit a certificate to the Engineer or Engineer's representative that "I have uploaded the correct details of contract labours engaged in connection with this contract payments made to them during the wage period in Railway's Shramikkalyan portal at 'www.shramikkalyan.indianrailways.gov.in'till_____ Month, _____ Year."

ANNEXURE-VIII

(Ref. Sub-clause 4.1 iii) of Special Conditions of Contract)

(to be executed on a non-judicial stamp paper of ` 100/- only)

BANK GUARANTEE FOR ADVANCE PAYMENT

To

IRCON INTERNATIONAL LIMITED,

[Acting through (Tender Inviting Authority) & Address] Designation & Address

_____ *[name of Contract]*

Gentlemen:

In accordance with the provisions of the Conditions of contract, Sub-Clause ____ ("Advance Payment") of the above-mentioned contract, _____ *[name and address of the Contractor]* (hereinafter called "the Contractor") shall deposit with _____ *[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ *[amount of Guarantee]*, _____ *[amount in words]*.

We, the _____ *[name of bank]*, as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to IRCON INTERNATIONAL LIMITED on their first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding _____ *[amount of Guarantee]*, _____ *[amount in words]*.

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed there under or of any of the Contract documents which may be made between IRCON INTERNATIONAL LIMITED and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

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This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract upto _____ (until IRCON INTERNATIONAL LIMITED receives/recovers full repayment of advance along with interest accrued thereon from the Contractor).

We, the _____ Bank further agree that this guarantee shall be invokable at our place of business at New Delhi/NCR/Project HQ (Indicate detail address of branch with Code No.)*. The branch at New Delhi/NCR/Bilaspur (Chhattisgarh) is being advised accordingly.

This Bank Guarantee shall be operative only if it is accompanied by a separate advice sent by _____ (Name of Issuing Bank, with address) on _____ (Name of Employer's Bank, with address) IFS Code _____ through Structured Financial Messaging System (SFMS) and authenticated by the Employer's Bank.

Yours truly,

SIGNATURE AND SEAL OF THE GUARANTOR

Name of Bank: _____
Address: _____
Date: _____

*The Bank should indicate detailed address of New Delhi/NCR/Bilaspur(Chhattisgarh) branch along with its Code No.

ANNEXURE-IX

(Ref. Sub-clause 9.1 c) of Instructions to Tenderers)

(to be executed on a non-judicial stamp paper of Rs.100/- only)

BANK GUARANTEE FOR EARNEST MONEY DEPOSIT

(Tender Notice No. and date)

Ref: (Bank Guarantee No. and Date)

To

IRCON INTERNATIONAL LIMITED,

[Acting through _____(Tender Inviting Authority)Designation& Address]

WHEREAS, _____ [name of Bidder] (hereinafter called "the Bidder") intends to submit his bid dated _____ (date) for _____ [name of work] (hereinafter called "the Bid").

AND WHEREAS it has been stipulated by you in the Bid Document that the Bidder shall furnish you a Bank Guarantee by a scheduled bank for the sum specified therein as Earnest Money Deposit as a precondition of submission of the Bid;

AND WHEREAS we have agreed to give the Bidder such a Bank Guarantee as required;

NOW THEREFORE we hereby affirm that;

1. KNOW ALL PEOPLE by these presents that We _____ [name of bank] of _____ (name of country) having our registered office at _____ (hereinafter called "the Bank") are bound unto IRCON INTERNATIONAL LIMITED (hereinafter called "the Employer") in the sum of ` _____ * [amount of Guarantee], _____ [amount in words] for which payment well and truly to be made to IRCON INTERNATIONAL LIMITED. The Bank binds itself, its successors and assigns by these presents with the Common Seal of the Bank this _____ day of _____ 20__ and undertake and agree to pay unconditionally, without any demur or protest, at once to the Employer up to the above amount upon receipt of their first written demand, without IRCON INTERNATIONAL LIMITED having to substantiate their demand.
2. We, the _____ [name of bank], and our branch at _____ (Indicate detail address of branch with Code No.), undertake to pay to IRCON INTERNATIONAL LIMITED up to the above amount upon receipt of their first written demand, without IRCON INTERNATIONAL LIMITED having to substantiate their demand, PROVIDED THAT in their demand IRCON INTERNATIONAL LIMITED will note that the amount claimed by them is due to them owing to the occurrence of one or any of the conditions, provided in the Bid documents as precondition for encashment of the Earnest Money Deposit, specifying the occurred condition or conditions.
3. This guarantee will remain valid and in full effect upto and including the date _____ **. Any demand in respect of this Guarantee should reach the Bank not later than the above date.
4. This Bank Guarantee shall be operative only if it is accompanied by a separate advice sent by _____ (Name of Issuing Bank, with address) on _____ (Name of Employer's Bank, with address) IFS Code _____ through Structured Financial Messaging System (SFMS) and authenticated by the Employer's Bank.

DATE _____ SIGNATURE OF THE BANK _____

SEAL _____

WITNESS _____

[Signature, name and address]

- *. The Bank should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as mentioned in the Tender Notice named on top.
- ** . Date to be filled in keeping a margin of minimum 180 days after the last date for submission of Bids as stated in the "Notice Inviting Tenders" or as executed by IRCON INTERNATIONAL LIMITED (through corrigenda).

ANNEXURE- IXA

Insurance Surety Bond for Earnest Money Deposit/Bid Security

Name of the issuer of surety bond:

To
IRCON INTERNATIONAL LIMITED
Acting through.... (Tender Inviting Authority, Designation and Address),
.....
Date:.....

Surety Bond No: .
Amount of Bond: .

Issue Date: .
Expiry Date: .

WHEREAS, M/s XXXXXX (hereinafter called "The Bidder") intends to submit his bid for the work of "xxxxxxx" under invitation of Bid notice No. XXXXXX Dated XXXXXX (hereinafter called "The Bid")

AND

WHEREAS, it has been stipulated by IRCON INTERNATIONAL LIMITED acting through _____ (Name, Designation and Address of the Tender Inviting Authority) (hereinafter called "The IRCON") in the Bid Document that the Bidder shall furnish to the IRCON surety bond for the sum of ₹XXXXXXX (Rupees XXXXXX Only) as Earnest Money Deposit/Bid Security as a precondition of submission of the bid

WHEREAS, we, _____, (Name of insurance company) hereinafter called "The Surety", acting through [Name, Designation and Address of the authorised person of the Surety], have, at the request of **M/S.XXXX** bidder, agreed to give Bond for Earnest Money Deposit/Bid Security as hereinafter contained:

1. KNOW ALL MEN by these present that I/We, the undersigned [Insert name(s) of authorized representative of the Surety], being fully authorized to sign and incur obligations for and on behalf of the Surety, confirm that the Surety, hereby, unconditionally and irrevocably bond to pay the IRCON the full amount in the sum of ₹XXXXXXX(Rupees XXXXXXXXXX Only) as above stated.
2. The Surety undertakes to immediately pay on presentation of demand by the IRCON any amount up to and including aforementioned full amount without any demur, reservation, recourse, contest or protest. Any such demand made by the IRCON on the Surety shall be final, conclusive and binding, absolute and unequivocal notwithstanding any disputes raised/pending before any Court, tribunal, arbitration or any authority or any threatened litigation by the Bidder or the Surety.
3. On payment of any amount less than aforementioned full amount, as per demand of the IRCON, the Bond shall remain valid for the balance amount i.e. the aforementioned full amount less the payment made to the IRCON.
4. The Surety shall pay the amount as demanded immediately on presentation of the demand by IRCON without any reference to the Bidder and without the IRCON being required to prove or to show grounds or give reasons for its demand or the amount demanded.
5. The Surety Bond shall be unconditional and irrevocable.
6. The Bond hereinbefore shall not be affected by any change in the constitution of the Surety or in the constitution of the Bidder/IRCON or winding up of the Bidder/IRCON or the Surety or any absorption, merger or amalgamation of the Bidder/IRCON or the Surety with any other party or entity.
7. The Surety agrees that no change, addition, modifications to the terms of the Bid Documents or to any documents, which have been or may be made between the IRCON and the Bidder, will in any way release the surety from the liability and obligation under this Bond; and the Surety, hereby, waives any requirement for notice of any such change, addition or modification to the Surety.
8. This Bond is valid and effective from the date of its issue, which is [insert date of issue]. The Bond and our obligations under it will expire on XXXX (Expiry Date, a date 180 days after the last date for submission of Bids as stated in the Notice Inviting Bids/Tenders or as extended by the IRCON through

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corrigendums /addendums to the bid documents). All demands for payment under the Bond must be received by us on or before that date.

9. The Surety agrees that the IRCON's right to demand payment of aforementioned full amount in one instance or demand payments in parts totalling up to the aforementioned full amount in several instances will be valid until either the aforementioned full amount is paid to the IRCON or the Bond is released by IRCON before the Expiry date.
10. The Surety agrees that its obligation to pay any amount demanded by the IRCON before the expiry of this Bond will continue until the amount demanded has been paid in full.
11. The expressions Surety, Bidder and IRCON hereinbefore used shall include their respective successors, administrators and assigns.
12. The Surety hereby undertakes not to revoke the Bond during its currency, except with the previous consent in writing of the IRCON. This Bond is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758 except that the supporting statement under Article 15(a) is hereby excluded.
13. We, the Surety, further agree that the IRCON shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfilment and compliance with the terms and conditions contained in the Bidding Documents including, inter alia, the failure of the Bidder to keep its Bid open during the Bid validity period set forth in the said Documents, and the decision of the IRCON that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the IRCON and the Bidder or any dispute pending before any Court, tribunal, arbitrator or any other authority or by the discharge of the Bidder for any reason whatsoever.
14. The IRCON shall have the fullest liberty without affecting in any way the liability of the surety under this surety bond from time to time to vary any of the terms and conditions contained in the said bidding documents or to extend time for submission of the bids or the bid validity period or the period for conveying acceptance of Letter of Award by the Bidder or the period for fulfilment and compliance with all or any of the terms and conditions contained in the said bidding documents by the said bidder or to postpone for any time and from time to time any of the powers exercisable by it against the said bidder and either to enforce or forbear from enforcing any of the terms and conditions contained in the said bidding documents or the securities available to the IRCON, and the Surety shall not be released from its liability under these presents by any exercise by the IRCON of the liberty with reference to the matters aforesaid or by reason of time being given to the said Bidder or any other forbearance, act or omission on the part of the IRCON or any indulgence by the IRCON to the said Bidder.
15. The Bond shall be in addition to and without prejudice to any other security Bond (s) of the Bidder in favour of the IRCON available with the IRCON. The Surety, under this Bond, shall be deemed as Principal Debtor of the IRCON.
16. This Surety Bond shall also be operable at our , branch at New Delhi, from whom, confirmation regarding the issue of this Surety Bond or extension/renewal thereof shall be made available on demand. In the contingency of this Surety Bond being invoked and payment hereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.
17. Any notice by way of request, demand or otherwise hereunder may be sent by post (courier or registered post) or by authorized e-mail addressed to the Surety at its above referred branches, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the IRCON that the envelope was so posted shall be conclusive.

Dated the day of 20--

Place.....

Surety's Seal and authorized signature(s)
[Name in Block letters] .
[Designation with Code No.]

.....

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[P/Attorney] No.

Witness

1.

2.

[Note: All italicized texts are for guidance on how to prepare this Insurance Surety Bond
and shall be deleted from the final document.]

ANNEXURE-X

(Ref. Sub-clause 62.2 of GCC)

ONLY A SAMPLE

(to be executed on a non-judicial stamp paper of Rs.100/-)

INDEMNITY BOND

THIS INDEMNITY BOND is made this ____ day of _____ (Month) 20____ BY _____ (Agency name with detail address and registration, if any) (hereinafter called the "Contractor" Or the "Indemnifier" which expression shall include its successors and permitted assignees) IN FAVOUR of IRCON International Limited, C-4, District Centre Saket, New Delhi - 110017 And its Work/Project _____ (Name of Work in detail) (Hereinafter referred as "IRCON" Or the "Indemnity Holder" which expression shall include its successors and assignees).

WHEREAS IROCN has awarded the work for _____ (hereinafter referred as the "Work") to the Contractor vide Letter of Award/Acceptance No. _____ Dated _____ (hereinafter referred as the "LOA").

AND Whereas subsequent to issuance of LOA both the parties, IROCN and the Contractor has entered into a contract agreement on _____ (hereinafter referred as the "Agreement").

AND Whereas in terms of conditions of the Agreement IRCON is required to pay cost of the materials to be used in the execution of the Work (Non-perishable) as per Clause ____ of _____ to the Contractor.

AND Whereas IRCON is willing to release an amount of _____ (in Figures and Words) towards materials advance as the cost of materials, on the Indemnifier furnishing to IRCON an Indemnity Bond for a like sum for a period valid upto _____.

AND Whereas the Indemnifier has agreed to execute an Indemnity Bond for an amount of _____ (in Figures and Words).

NOW Therefore the above-named Indemnifier does solemnly affirm and declare as follows:

- 1.0 That the above mentioned materials advance of _____ (in Figures and Words) will be adjusted against progressive bill(s) in terms of conditions of the Agreement by the Indemnity Holder.
- 2.0 That the Indemnifier shall not raise any objection of whatsoever nature and shall refund the whole or part of such advance so received by the Indemnifier as claimed by the Indemnity Holder within the _____ days of the claim being made.
- 3.0 That the Indemnifier will be released from obligation under the Indemnity Bond after the claimed amount is paid or the materials advance is adjusted by the Indemnity Holder in full from the running bill(s) as per conditions of the Agreement.
- 4.0 That the Indemnity Bond shall remain in force until _____. However, in case the advance is not fully adjusted as aforesaid, notwithstanding what is stated hereinabove, the Indemnity Bond shall continue to be in force until the whole amount is adjusted in full in subsequent _____ month. This Indemnity Bond shall expire and become ineffectual after the entire advance is recovered by the Indemnity Holder as per conditions of the Agreement.

It is untaken and declared that the Indemnifier has the power and authority for execution of this Indemnity Bond for the value of _____ (in Figure and Words) towards materials advance as provided under Clause ____ of the _____ of the Agreement.

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IN WITNESS WHEREOF the Indemnifier has signed and has delivered this Indemnity Bond to the Indemnity Holder on the day, month and year first herein above written.

DEPONENT

**For & Behalf of
(Agency name)**

(Authorized signatory)

WITNESS

1. _____ (Signatory, Name & Address)

2. _____ (Signatory, Name &Address)

SECTION -VI

SAFETY, HEALTH AND ENVIRONMENT MANAGEMENT SYSTEM (Sub-Contracts) ATTACHMENT FOR CLAUSE 44.2 OF GCC [Uploaded Separately]

SECTION -VII

General Conditions of Contract (GCC) [Uploaded Separately]

General Conditions of Contract (GCC)

- 1 Additional definitions mentioned in these tender documents elsewhere will be followed for GCC Feb 2021 version dt 16.02.2021 (Updated up to Correction Slip No.4, Dated: 06.07.2023)
- 2 In case of any ambiguity in any definition, the decision of IRCON regarding the interpretation shall be final and binding.
- 3 Wherever there is conflict in any condition between General Conditions of Contract (GCC) and Special conditions of Contract (SCC) mentioned in the bid documents, the conditions mentioned the Special conditions of Contract will prevail. However, Engineer's decision in this connection shall be final and binding.

SECTION -VIII

CERTIFICATE OF FAMILIARISATION & UNDERTAKING

CERTIFICATE OF FAMILIARISATION

- A.** I/We hereby solemnly declare that I/We have visited the site/place of work and have familiarized myself/ourselves of the working conditions there in all respects and in particular, the following:
- a) Topography of the Area.
 - b) Soil conditions at the site of work.
 - c) Sources & availability of Construction material.
 - d) Borrow areas of earth.
 - e) Rates for construction materials.
 - f) Availability of local labour, both skilled and unskilled and the prevailing labour rates.
 - g) Availability of water & electricity.
 - h) The existing roads and access to the site of work.
 - i) Availability of space for putting labour camps. Offices, stores, godown, sheds, engineering yards etc.
 - j) Climatic condition and availability of working days.
 - k) Prevailing all taxes, duties etc.
- B.** I/We have kept myself/ourselves fully informed of the provisions of this bid document comprising Instructions to the Tenderers, General Conditions of the Contract, Special Conditions of Contracts and Special Technical Specifications/ Conditions of contract apart from information conveyed to me/us through various other provisions in this bid document.
- C.** I/We have quoted my / our rates as 'Percentage above / below / at par ' and quoted against blank items by rates in figure and words, with total cost as per Schedule of Items Rates and Bill of Quantities (BOQ), in FINANCIAL BID taking into account all the factors given above.

(Signature of Bidder/s)

Date: _____

Place: _____

ANNEXURE-XII

UNDERTAKING

I/We hereby give an undertaking that the work "DESIGN, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 25 KV, 50 HZ, SINGLE PHASE, OHE TRACTION SYSTEM, EXTERNAL ELECTRIFICATION & SCADA WORKS FOR THE ESTABLISHMENT OF PRIVATE RAILWAY SIDING OF CSPGCL TAKING OFF FROM CERL LINE FOR TRANSPORTATION OF COAL FROM GP-III COAL BLOCK BY DEVELOPING A CROSSING STATION NEAR MILUPARA, BETWEEN GHARGHODA- GARE PELMA SECTION (CH. KM 22.456 TO KM 24.868 FROM GHARGHODA/CSB) AT GARE PELMA-III (5 MTY) MINES, RAIGARH AREA OF CSPGCL" will conform to the Indian Railway/RDSO specification/drawings (to the latest amendment).

Signature of Tenderer/s: -

Date: -

Section – IX

FINANCIAL BID

(Uploaded in Excel Sheet for Quoting Rate Online Only)

GENERAL NOTES ON THE BILL OF QUANTITIES (BOQ / SCHEDULES)

This clause shall be read in conjunction with the clause for the measurements given in Bill of Quantities.

1. The Bill of Quantities shall be read in conjunction with the Instructions to Tenderers, Conditions of Contract, General Conditions, Special Conditions of Contract, Works Requirement (Technical Specifications, and Drawings) and other documents forming part of the bid documents.
2. The rates entered in the accepted Bill of Quantities (BOQ) of the Contract are intended to provide for works duly and properly completed in accordance with the general and special (if any) conditions of the contract and the specifications and drawing together with such enlargements, extensions, diminutions, reductions, alterations or additions as may be ordered in terms of these conditions and without prejudice to the generality thereof and shall be deemed to include and cover superintendence and labour, supply, including full freight, of materials, stores, patterns, profiles, moulds, fittings, centering, scaffolding, shoring props, timber, machinery, barracks, tackle, roads, pegs, posts, tools and all apparatus and plant required on the works, the erection, maintenance and removal of all temporary works, all watching, lighting, bailing, pumping and draining, all prevention of or compensation for trespass, all barriers and arrangements for the safety to the public or of employees during the execution of works, all sanitary and medical arrangements for labour camps as may be prescribed by the employer/engineer, the setting of all work and of the construction, repair and upkeep of all centre lines, benchmarks and level pegs thereon, site clearance, all fees, duties, royalties, rent and compensation to owners for surface damage or taxes and impositions payable to local authorities in respect of land, structures and all material supplied for the work or other duties or expenses for which the contractor may become liable or may be put to under any provision of law for the purpose of or in connection with the execution of the contract, and all such other incidental charges or contingencies as may have been specially provided for in the specifications.
3. The rates to be quoted online (in excel sheet as 'Financial Bid') shall be for the complete scope of work as described in the tender document. Any item of work included in the scope of work may not be exclusively described in Bill of Quantities. The rates to be quoted in the "Financial Bid" shall also take care of all such items of work. No additional amount except for the accepted rates in the Bill of Quantities shall be payable for completing the total scope of work.
4. The rates and prices in the priced Bill of Quantities shall, except as otherwise provided under the Contract, include all construction equipment, plant, labour, supervision, materials, erection, maintenance, insurance, profit, royalty, octroi, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract.
5. General directions and descriptions of items are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Contract document shall be made before quoting rates in the 'Financial Bid'.
6. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
7. Rates shall be entered by the bidders in figures in e-bid online format only. The system will further convert into words.
8. The rates & amount shall be quoted entirely in Indian Rupees (INR) only.
9. If bidders omit any of the Schedules / Items, the tender shall be summarily rejected.

TENDER FOR 25 KV AC OHE WORKS, EXTERNAL ELECTRIFICATION WORKS & SCADA WORKS OF CSPGCL SIDING
TAKING OFF FROM CERL

10. In case of any dispute with reference to above paras, decision of IRCON shall be binding to the Contractor/Supplier.

11. This Summary of Quantities/ Bill form and BOQ in PDF are here only for viewing for bidders.

NOTE: This Annexure IV(AA) is to be attached only with Financial Bid.

Name of Work :.....

ANNEXURE IV(AA) PROFORMA FOR STATEMENT OF MINOR DEVIATIONS (Refer Clause 6. and 7. of ITT)			
Name of tenderer/firm:			
The following are the particulars of minor deviations from the requirements of the Tender Document:			
Sr. No	Clause	Deviations	Price adjustment for each deviation/s
Note: 1. The Tenderer shall indicate price adjustment against each deviation in Annexure IV(AA) of BOQ. This price is the price which the tenderer shall reduce from this tender price if deviation(s) is/are accepted by the Employer. 2. Where there is no deviation, please indicate 'No Deviations'. In case, Performa of deviations is left as blank, it will be construed that the tenderer has not proposed any deviations from tender documents. 3. If the tenderer proposes deviations in tender documents, and/or any other terms and conditions of the tender, other than in this Annexure, it will have no effect. 4. All deviations have been listed and priced in the financial proposal and deviations not priced will be treated as null and void and stand withdrawn.			

SECTION - X

BILL OF QUANTITIES
(BOQ)
(For reference Only)

Estimate Summary

NAME OF WORK: "DESIGN, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 25 KV, 50 HZ, SINGLE PHASE, OHE TRACTION SYSTEM, EXTERNAL ELECTRIFICATION & SCADA WORKS FOR THE ESTABLISHMENT OF PRIVATE RAILWAY SIDING OF CSPGCL TAKING OFF FROM CERL LINE FOR TRANSPORTATION OF COAL FROM GP-III COAL BLOCK BY DEVELOPING A CROSSING STATION NEAR MILUPARA, BETWEEN GHARGHODA– GARE PELMA SECTION (CH. KM 22.456 TO KM 24.868 FROM GHARGHODA/CSB) AT GARE PELMA-III (5 MTY) MINES, RAIGARH AREA OF CSPGCL".

S. N.	Description	Total Amount (incl. GST) Rs.
1	OHE Traction System, EXTERNAL ELECTRIFICATION & SCADA WORKS of CSPGCL siding in between Gharghoda – Gare Pelma Section.	Rs. 8,03,13,416.50
2	GST@18% on above	Rs. 1,44,56,415.00
	Total Estimated cost inclusive of GST @18%	Rs. 9,47,69,831.50

BILL OF QUANTITIES

BOQ FOR "DESIGN, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 25 KV, 50 HZ, SINGLE PHASE, OHE TRACTION SYSTEM, EXTERNAL ELECTRIFICATION & SCADA WORKS FOR THE ESTABLISHMENT OF PRIVATE RAILWAY SIDING OF CSPGCL TAKING OFF FROM CERL LINE FOR TRANSPORTATION OF COAL FROM GP-III COAL BLOCK BY DEVELOPING A CROSSING STATION NEAR MILUPARA, BETWEEN GHARGHODA– GARE PELMA SECTION (CH. KM 22.456 TO KM 24.868 FROM GHARGHODA/CSB) AT GARE PELMA-III (5 MTY) MINES, RAIGARH AREA OF CSPGCL".

<i>S.N.</i>	<i>BOQ Item</i>	<i>Description</i>	<i>Unit</i>	<i>Qty Supply/Erection</i>	<i>Supply Rate</i>	<i>Erection Rate</i>	<i>Total Supply Amount</i>	<i>Total Erection Amount</i>	<i>Total</i>
	A	OHE General							
1	OHE-1	Preparation of drawings as well of site survey and submission of desired drawings for 25 kV Overhead Equipment, Switching Stations, Sectioning diagram, Power supply diagram, Schematic diagram of Switching Stations, Traction working rule diagram and Instructions etc. required for commissioning including preparation and submission of EIG documents.							
2	OHE-1 (a)	Submission of all Initial drawings/ Good for construction drawings for OHE.	TKM	6.0	1,218	17,662	7,308	1,05,972	1,13,280
3	OHE-1 (b)	Submission of all As Erected drawings for OHE.	TKM	6.0	522	7,741	3,132	46,446	49,578
4	OHE-1 (c)	Submission of all Initial drawings/ Good for construction switching posts drawings.	Job	1	0	21,988	0	21,988	21,988

TENDER FOR 25 KV AC OHE WORKS, EXTERNAL ELECTRIFICATION WORKS & SCADA WORKS OF CSPGCL SIDING TAKING OFF FROM CERL

5	OHE-1 (d)	Submission of all As Erected switching post drawings.	Job	1	0	9,424	0	9,424	9,424
6	OHE-1 (e)	Provision of OHE section diagram board at stations/Cabin.	No.	3	0	7,684	0	23,052	23,052
7	OHE-1 (f)	Preparation/Modification and submission of Station work rule (Appendix G) complete with SWR drawing	No.	3	0	9,944	0	29,832	29,832
8	OHE-2	Supply and Erection of Span wire (130 sq.mm) including mounting arrangements with 9-Ton insulators:.	Mtr	500	777	71	3,88,500	35,500	4,24,000
9	OHE-3	Supply and Erection of materials for Termination of single conductor of overhead equipment or a terminating wire with 9-Ton insulators:	Each	5	10,383	1,047	51,915	5,235	57,150
10	OHE-4	Supply and Erection of materials for suspension and Termination of all aluminum 25 kV feeder conductor single (spider) including feeder wire with 9-Ton porcelain insulators:	Mtr	500	516	229	2,58,000	1,14,500	3,72,500
11	OHE-5	Supply and Erection of material for Termination of copper cross feeder with gantries including cross feeder wire with 9-Ton porcelain insulators:	Set	3	43,983	1,225	1,31,949	3,675	1,35,624
12	OHE-6	Supply and erection of terminal boards in control cubicles for SP/SSP	No.	1	10,583	523	10,583	523	11,106

TENDER FOR 25 KV AC OHE WORKS, EXTERNAL ELECTRIFICATION WORKS & SCADA WORKS OF CSPGCL SIDING TAKING OFF FROM CERL

13	OHE-7	Supply and Erection of iron clad 240 V AC or 110 V D.C. board with fuse box in control cubicles,	Set	2	7,015	239	14,030	478	14,508
14	OHE-8	Supply and Erection of Lead Acid 40 AH 110 V Battery Bank with battery Charger	Set	1	2,51,754	9,828	2,51,754	9,828	2,61,582
15	OHE-9 (a)	Supply, Erection, Oil Filtration, Testing and Commissioning of 25 kV/240 Volt, 10 kVA, LT supply transformer with 25 kV D. O. fuse switch, anticlimbing device, insulator, copper jumper and earth electrode etc:	Set	1	1,91,201	13,477	1,91,201	13,477	2,04,678
16	OHE-9 (b)	Supply, Erection, Oil Filtration, Testing and Commissioning of 25 kV/240 Volt, 25 kVA, LT supply transformer with 25 kV D. O. fuse switch, anticlimbing device, insulator , copper jumper and earth electrode etc:	Set	1	2,48,672	13,477	2,48,672	13,477	2,62,149
17	OHE-10	Modification to existing OHE i.e. Transfer of equipment from one mast or support to another, provision of additional bracket assembly/ assemblies on a mast or support, re-adjustment of a head-span, dismantling of Overhead Equipment, dismantling of feeder	Mtr	300	0	44	0	13,200	13,200
18	OHE-11	Manning of switching station i.e. SP/SSP/TSS/ Ant-Theft Transformer location	month X location	12	44,676	0	5,36,112	0	5,36,112
19	OHE-12	Electrification of switching station building as per	Each	1	0	42,059	0	42,059	42,059

		specification							
20	OHE-13	Supply & Erection of Earthing arrangement at switching station i. e. earth electrodes, earth bus, 50x6 mm MS flat, 8 SWG GI wire etc. to achieve IR value for energisation of 1x25 kV SWS	job	1	18,425	9,614	18,425	9,614	28,039
21	OHE-14	Excavation of Earth to the specified depth below the ground level and to bury 13 meters long rail (or suitable length mast) alongwith supply of rails/ masts & all accessories	each	1	39,176	2,384	39,176	2,384	41,560
22	OHE-15	Loading/ Unloading and transportation of all type of steel structures, portals, TTC, copper/ aluminium conductores and SPS etc. other than contractor material.	MTKM	1000	0	74	0	74,000	74,000
		Sub Total of (A)					21,50,757	5,74,664	27,25,421
	B	Building Works							
23	OHE-16	Construction of Switching Station building, RCC work, plastering, brick masonry, retaining wall, filling, compacting and leveling work etc. and supply and erection of name board of switching station.	Each	1	5,48,176	0	5,48,176	0	5,48,176
24	OHE-17	Supply and spreading of gravel/ ballast in the switch yard.	Cum	15	1,143	9	17,145	135	17,280
25	OHE-18	Earth work involved in filling of earth in any excavated or low lying area (including compaction)	Cum	100	575	0	57,500	0	57,500

26	OHE-19	Providing and laying pitching with stone boulders weighing not less than 35 kg each with the voids filled with cement sand mortar 1:4 on slopes around OHE foundations & at switching post banks.	Cum	400	0	2,461	0	9,84,400	9,84,400
		Sub Total of (B)					6,22,821	9,84,535	16,07,356
	C	Other OHE Items							
27	OHE-20	Supply and Erection of material for termination of double Overhead Equipment conductor with insulators:	Each	30	15,027	1,440	4,50,810	43,200	4,94,010
28	OHE-21	Supply and erection of section insulator assembly with insulators and associated fittings & fasteners for OHE with Bar Insulator	Each	12	96,475	6,964	11,57,700	83,568	12,41,268
29	OHE-22	Supply and Erection of 25 kV, S.P manual isolator 2000 A with insulator & with/ without earth contact assembly:	Each	8	99,476	7,205	7,95,808	57,640	8,53,448
30	OHE-23	Supply and Erection of 25 kV double pole manual isolator 2000 A with insulator & with/without earth contact assembly	Each	5	1,54,644	7,890	7,73,220	39,450	8,12,670
31	OHE-24	Supply and Erection of suitable length of contact wire in the span under any over line structure; complete with supply and erection of end fittings, jumpers, PG clamps etc (however payment of contact wire shall be made under different BOQ item meant for it)	Each	3	2,783	3,714	8,349	11,142	19,491
32	OHE-25	Supply and erection of large copper jumper (160 sqmm) (Excluding jumper wire) between aluminium bus/ OHE and cross feeder with all associated fittings	Each	1	11,146	526	11,146	526	11,672

		and materials required for same.							
33	OHE-26	Supply and Erection of solid copper bus bar 18 mm dia (For Isolators at TTC/Portal locations etc)	MT	0.100	18,13,000	90,650	1,81,300	9,065	1,90,365
34	OHE-27	Supply and Erection of all types of connectors/ splice/Tee coneector etc for aluminium bus bar/ conductor required for commissioning of switching stations with fasteners.	Each	20	6,104	92	1,22,080	1,840	1,23,920
35	OHE-28	Supply and Erection of safety items i.e. Fire extinguishers, set of fire bucket with stand and first aid box, key box with suitable key chain, locks and other misc items required for commissioning of Switching Stations.	Set	1	16,219	2,949	16,219	2,949	19,168
36	OHE-29	Supply and Erection of 25 kV AC OHE danger board / danger board for height gauge, public / staff caution board, Shock treatment charts at station buildings & SP/SSP etc. required for commissioning of OHE/SWSs.	Each	50	0	1,560	0	78,000	78,000
37	OHE-30	Supply and erection of 25 kV 1600/2000 A single pole vacuum Interruptor as per RDSO spec TI/SPC/PSI/LVCBIN/0120 with A&C slip No1 or latest	Each	1	3,76,930	9,154	3,76,930	9,154	3,86,084
39	OHE-31	Supply erection testing & commissioning of 25 kV 2000 A single pole vacuum Circuit breaker as per RDSO spec TI/SPC/PSI/LVCBIN/0121 with A&C slip No1 or latest.	Each	1	3,77,250	5,025	3,77,250	5,025	3,82,275

TENDER FOR 25 KV AC OHE WORKS, EXTERNAL ELECTRIFICATION WORKS & SCADA WORKS OF CSPGCL SIDING TAKING OFF FROM CERL

40	OHE-32	Supply, Erection, testing & commissioning of Control and Relay Panel for One CB as per RDSO spec. No. TI/PSI/PROTCT/6071 (for one CB).	Each	1	21,62,810	76,064	21,62,810	76,064	22,38,874
38	OHE-33	Supply and erection of 25 kV Potential Trasformer Type-I or Type-II	Each	3	83,438	796	2,50,314	2,388	2,52,702
45	OHE-34	Supply & erection of 25 kV Current Transformer (1500-750/5A)	Each	1	68,505	662	68,505	662	69,167
41	OHE-35	Supply and erection of 42 kV Lightning Arrestor complete with its disconnector assembly.	Each	3	55,940	2,203	1,67,820	6,609	1,74,429
42	OHE-36	Supply and installation of cables for all SWS.	Mtr	250	226	19	56,500	4,750	61,250
43	OHE-37	Supply and erection of Aluminium Jumper with Fastners and fittings	Each	4	2,523	293	10,092	1,172	11,264
44	OHE-38	Supply and erection of Aluminium Bus Bar 50 mm dia	Mtr	50	456	51	22,800	2,550	25,350
		Sub Total of (C)					70,09,653	4,35,754	74,45,407
	D	Insulators							
46	OHE-39	Supply of stay arm Porcelain insulator (CD-1050 mm)	Each	180	3,343	0	6,01,740	0	6,01,740
47	OHE-40	Supply of bracket Porcelain insulator (CD-1050 mm)	Each	180	3,302	0	5,94,360	0	5,94,360
48	OHE-41	Supply & Erection of 25 kV Support insulator with Fittings and Fasteners	Each	32	3,609	143	1,15,488	4,576	1,20,064
		Sub Total of (D)					13,11,588	4,576	13,16,164
	E	OHE Non Ferrous							

49	OHE-42	Supply and Erection of anti-creep wire using catenary wire (with supply of insulators, anticreep wire shall be paid separately).	Each	5	7,150	4,046	35,750	20,230	55,980
50	OHE-43	Supply and Erection of Over Head Equipment i.e. contact & catenary wire (excluding cost of supply of contact, catenary, dropper & Jumper wires), jumper wire, dropper wire, contact / catenary clips, fasteners and all other material required at turn out/ overlaps / diamond crossing. Final checking of OHE and adjustment, inspection to be done by Tower Wagon for commissioning of conventional OHE.	TKM	6	0	64,106	0	3,84,636	3,84,636
62	OHE-44	Supply of contact wire (HDGCC 107 Sq.mm) and dropper wire	MT	8.00	18,35,200	0	1,46,81,600	0	1,46,81,600
63	OHE-45	Supply of cadmium copper catenary wire (65 Sq. mm) and copper jumper wire	MT	6.00	18,27,760	0	1,09,66,560	0	1,09,66,560
64	OHE-46	Supply and erection of Copper Strips for equipment earthing	Mtr	10	1,524	177	15,240	1,770	17,010
65	OHE-47	Erection of all type of copper jumpers (other than G, ATJ, F jumpers which are covered in OHE erection schedule). Jumper wires will be supplied in separate BOQ schedule)	Each	30	0	526	0	15,780	15,780
		Sub Total of (E)					2,56,99,150	4,22,416	2,61,21,566
	F	Concreting work							

66	OHE-48	Supply and erection of Concrete for Foundation and Plinth, in all types of soil/soft rock	CUM	546	4,531	1,806	24,73,926	9,86,076	34,60,002
67	OHE-49	Supply and erection of Concrete for Foundation and Plinth in extra hard rock requiring use of rock breaker including breaking of exsisting foundation and recast	CUM	40	4,931	4,943	1,97,240	1,97,720	3,94,960
78	OHE-50	Supply and erection of Concrete for Foundation and Plinth for Reinforced Concrete.	CUM	30	0	8,315	0	2,49,450	2,49,450
		Sub Total of (F)					26,71,166	14,33,246	41,04,412
	G	OHE Ferrous Items							
79	OHE-51	Supply and Erection of a guy rod assembly:	Each	30	10,831	775	3,24,930	23,250	3,48,180
80	OHE-52	Supply and Erection of protective screen on FOBs/ ROBs:	Each	6	31,822	0	1,90,932	0	1,90,932
81	OHE-53	Supply and Erection of bracket assembly without insulators as per OHE plan:	Each	168	19,950	1,319	33,51,600	2,21,592	35,73,192
82	OHE-54	Supply and Erection of regulating equipment (3 pulley type) with counter weight assembly for conventional OHE	Each	17	95,484	3,145	16,23,228	53,465	16,76,693
83	OHE-55	Supply and erection of a structure bond/ Longotudinal bond/ Transverse and Special bond	TKM	6	25,170	8,818	1,51,020	52,908	2,03,928
84	OHE-56	Supply and erection of Single earth electrode 3 mtr with connection to nearest traction rail/structure	Each	10	2,340	959	23,400	9,590	32,990

85	OHE-57	Supply and erection of all types of galvanized steel structures, small parts steel etc.	MT	73	1,11,600	7,454	81,46,800	5,44,142	86,90,942
86	OHE-58	Supply and erection of fencing panels, Uprights, Gate and anti climbing device for SWS	Mtr	50	3,649	119	1,82,450	5,950	1,88,400
87	OHE-59	Supply and erection of M-27 x 500 mm Hilty AM 8.8 rod and core cutting of 32 mm dia into 400 mm depth and grouting with Hilty RE-500	Each	2	0	14,640	0	29,280	29,280
88	OHE-60	Supply and erection of M-16 x 300mm Hilty V anchor and core cutting of 20 mm dia into 200mm depth and grouting with Hilty RE-500	Each	2	0	6,765	0	13,530	13,530
89	OHE-61	Breaking and removal of concrete from already casted foundation with hand held rock breaker.	Cum	10	0	7,592	0	75,920	75,920
		Sub Total of (G)					1,39,94,360	10,29,627	1,50,23,987
	H	OHE Misc modification/dismantling Items							
90	OHE-62	OHE Miscellaneous Modification/dismantling of existing OHE as per individual rates mentioned below (Item 78(a) to 78(r))	LS						

91	OHE-62(a)	Slewing and reslewing of OHE	span	5	0	8,668	0	43,340	43,340
92	OHE-62 (b)	Splicing and extension of OHE	No.	2	4,105	5,715	8,210	11,430	19,640
93	OHE-62 (c)	Adjustment of existing OHE & TW checking	span	5	0	766	0	3,830	3,830
94	OHE-62 (d)	Dismantling of OHE	km	0.4	0	32,710	0	13,084	13,084
95	OHE-62 (e)	Dismantling of mast/ structure upright (by cutting)	Nos.	4	0	3,059	0	12,236	12,236
96	OHE-62 (f)	Dismantling of cantilever	Nos.	10	0	766	0	7,660	7,660
97	OHE-62 (g)	Dismantling of feeder / return conductor	mtr	200	0	84	0	16,800	16,800
98	OHE-62 (h)	Dismantling of section insulator	Nos.	1	0	3,467	0	3,467	3,467
99	OHE-62 (i)	Dismantling of SP/DP isolator	Nos.	2	0	2,526	0	5,052	5,052
100	OHE-62 (j)	Dismantling of portal boom pieces	Nos.	1	0	15,619	0	15,619	15,619
101	OHE-62 (k)	Dismantling of TTC boom	Nos.	1	0	5,674	0	5,674	5,674
102	OHE-62 (l)	Dismantling of Guy Rod	Nos.	2	0	777	0	1,554	1,554
103	OHE-62 (m)	Dismantling of Anti-creep	set	1	0	4,995	0	4,995	4,995
104	OHE-62 (n)	Dismantling of Regulating Equipment with counter weight assembly	Nos.	2	0	3,206	0	6,412	6,412
105	OHE-62 (o)	Dismantling of post insulator	Nos.	10	0	553	0	5,530	5,530
106	OHE-62 (p)	Dismantling of AT	Nos.	1	0	12,883	0	12,883	12,883
107	OHE-62 (q)	Dismantling of caution board	Nos.	2	0	93	0	186	186
108	OHE-62 (r)	Dismantling of SPS	MT	0.5	0	7,285	0	3,643	3,643

109	OHE-63	Execution(Erection/dismantling) under power block @100% extra of erection/dismantling rate	LS	0.0	0	0	0	2,00,000	2,00,000
110	OHE-64	Cost of EIG approval of OHE & switching stations	TKM	6	0	17,233	0	1,03,398	1,03,398
111	OHE-65	Inspection & Checking by Railway at various level	Spell	5.0	0	19,580	0	97,900	97,900
112	OHE-66	Rent of Tower Car charges for OHE checking (Span, Bracket, SI, Turnout & as required commissioning) for	Span	168	0	8,614	0	14,47,152	14,47,152
113	OHE-67	Watching and guarding of OHE along the track for 12 hrs each day on administrative reasons							
114	a	Person with arms	Per person/ Day	300	1,034	0	3,10,200	0	3,10,200
115	b	Person without arms	Per person/ Day	300	941	0	2,82,300	0	2,82,300
		Sub Total of (H)					6,00,710	20,21,845	26,22,555
	I	Misc. Electrical General Work							

116	GS-1	Supply, erection, testing and commissioning of 70-75 W LED street light fitting with luminaries, 220-240V AC 50Hz, CRI>70, IP-65, power factor >0.95 cool white, integral driver, lumen output 3500lm, confirming to IEC 60598 and IS 10322 and railway specification. Make Crompton Greaves, Phillips, Halonix, Havells etc.	Nos.	20	11,737	358	2,34,740	7,160	2,41,900
117	GS-2	Street Light LED/Flood light 240 W	Nos.	10	28,079	320	2,80,790	3,200	2,83,990
118	GS-3	Supply of bus-bar boxes with copper bars of 250A, 415V size of box 300x300x170 mm with all accessories.	Nos.	20	4,447	23	88,940	460	89,400
119	GS-4	LT Switch Board 125 Amp comprising of the items indicated as under: i) Incoming MCCB 125A, 4 pole, 35kA, fixed type (ICS=100% Icu) - 1 No. ii) Outgoing MCCB 63A, 25kA, fixed type (Ics=100% Icu) - 04 Nos. iii) Outgoing MCB 40A, 4 pole, 10 kA - 04 Nos. iv) Outgoing MCB 32A, double pole, 10kA - 06Nos. v) Sleeved/Epoxy coated copper bus-bas 250A in bus bar chamber vi) CT's indication lights.	Nos.	1	58,830	9,841	58,830	9,841	68,671
120	GS-5	Supply and erection of SP 06-32A MCB.	Nos.	30	107	11	3,210	330	3,540

121	GS-6	Supply, Installation, testing and commissioning of cubical type mast mounted, dust & vermin proof, LT control switch board of 14 SWG CRCA sheet comprising conforming to IS:8623 (latest version), complete with stud type incoming and outgoing terminals suitable for 70 sq mm cable & hinged door & panel lock etc. a) with TPN MCCB 63A, 35KA, Fixed type (Ics=100% Icu)- 1 nob) Copper busbars 200A (for 10 KVA AT)	Nos.	5	10,690	2,819	53,450	14,095	67,545
122	GS-7	Supply and erection of 32 mm dia GI Pipe - class "B" ISI marked with accessories including bends etc. for support of cable with erected pole/recessing in wall/floor/ passing earth strip or passing cable as required:	Mtr	30	181	33	5,430	990	6,420
123	GS-8	Supply and erection of 65 mm dia GI Pipe - class "B" ISI marked with accessories including bends etc. for support of cable with erected pole/recessing in wall/floor/ passing earth strip or passing cable as required:	Mtr	100	355	61	35,500	6,100	41,600
124	GS-9	Supply, erection, testing & commissioning of 5-10 KVA AT auto change-over type control and distribution panel for colour light signalling supply in 25KV AC traction system as per RDSO technical specifications No.TI/SPC/PSI/CLS/0023 including latest amendment.	Nos.	1	49,875	8,419	49,875	8,419	58,294

125	GS-10	Earthing with 3 meter long, 50 mm dia. G.I. pipe class "B" earth electrode, adding of charcoal or coke and salt, providing masonry enclosure and cover plate with lifting arrangement etc. including connections with 4mm GI wire from earth electrode to switch board/electrical equipment as required.	Job	30	2,009	337	60,270	10,110	70,380
126	GS-11	Supply & erection of maintenance free earthing system	Nos.	4	0	11,742	0	46,968	46,968
127	GS-12	Supply and Laying 25 mm x 6 mm G.I. Strip at not less than 0.50 meter below ground or in recess as required.	Mtr	140	45	9	6,300	1,260	7,560
128		Supply, laying 1.1 KV grade LT XLPE insulated armoured, aluminium conductor cable, making good the damages, end terminations with aluminium crimping socket/lugs, provision of cable route markers, testing and commissioning etc. as required as per Technical specifications:							
129	GS-13	2 core 16 sq. mm.	Mtr	1000	193	48	1,93,000	48,000	2,41,000
130	GS-14	2 core 25 sq. mm.	Mtr	1000	224	55	2,24,000	55,000	2,79,000
131	GS-15	2 core 70 sq. mm.	Mtr	1000	382	66	3,82,000	66,000	4,48,000
132	GS-16	4 core 16 sq. mm.	Mtr	8000	250	60	20,00,000	4,80,000	24,80,000
133	GS-17	4 core 35 sq. mm.	Mtr	2000	355	61	7,10,000	1,22,000	8,32,000
134	GS-18	4 core 70 sq. mm.	Mtr	500	565	95	2,82,500	47,500	3,30,000
135	GS-19	4 core 120 sq. mm.	Mtr	400	893	94	3,57,200	37,600	3,94,800
136	GS-20	Extra for provision of cable route marker	Nos.	100	233	12	23,300	1,200	24,500

137		Supply, erection, testing & Commissioning of Hot dipped galvanised, high mast system complete with all accessories, foundation, carriage arrangement suitable for 9 luminaries symmetrically arranged & control gear boxes and lighting of final etc., twin dome aviation obstruction lights, control panel, multicore flexible copper conductor cable, connection to earthing system, and fencing panel as per required.			0	0	0	0	0
138	GS-21	16 m high mast system with 9 nos. luminaries (2x100 W LED with lamps) symmetrically arranged. Make Crompton Greaves, Phillips, Halonix, Havells etc.	Job	14	6,88,845	72,549	96,43,830	10,15,686	1,06,59,516
139	GS-22	Supply and laying of 200 mm dia RCC hume pipe, ISI marked, NP-4 under the Railway track/road etc, digging of trench and back filling with excavated earth after laying of pipe and making good the damages as required.	Mtr	30	317	33	9,510	990	10,500
140	GS-23	Supply and laying of DWC/Split DWC pipe of size 200 mm outer dia and 175mm inner dia, ISI marked (either single piece of full round of two half round split pieces set) under the Railway track/road etc. digging of trench and back filling with excavated earth after laying of pipe and making good the damages as required.	Mtr	300	214	26	64,200	7,800	72,000

141	GS-24	Supply, installation, testing & commissioning of 5 HP Pump Set energy efficient submersible pump set complete with motor suitable to operate on 3 phase, 415V, 50Hz AC supply along with control panel (having dry run protection, single phasing protection), submersible cable of suitable rating etc complete for supplying water at suitable discharge and designed for 100 mt head or as per site requirement:	Job	2	51,065	5,380	1,02,130	10,760	1,12,890
142	GS-25	Co-ordination/liasoning and chasing with state utility company for availing new electrical connection/augmentation of sanctioned load at station, level crossing etc. including applying for load, collection of estimate for loads, modification of power line crossing, arranging payment from IRCON depositing payment of State Utility Company, arrangement release of load & other related works. payment to be made to SEB for new connection, load augmentation, modification of power line crossing etc. shall be made by IRCON or nominated agency	Each Location	1	0	6,337	0	6,337	6,337

143	GS-26	Design and preparation of working & completion drawings of all HT/LT electrical installation of the project section where work is carried out such as platform lighting. Internal electrification of staff quarters, level crossing, station building, officers, power line crossing, power supply distribution arrangements of stations/sub stations, electrification of sub-station building etc. & approval from the competent authority.	Job	1	0	1,30,607	0	1,30,607	1,30,607
144	GS-27	Provision of temporary lighting arrangement with 1x40watt F.L tube light fittings/CFL fitting/Flood light/Halogen fitting and pedestral/celling fans, desert coolers in temporary tents, buildings, goomtias, on tracks, in yard area including wiring, cabling, earthing etc. as directed by the Engineer and as per site requirement for pre/post/during non-interlocking period, including providing stand by DG set of suitable capacity and deployment of staff for operation of DG set as per site requirement.	Per day	15	0	18,026	0	2,70,390	2,70,390
145	GS-28	Extras for operation and maintenance of temporary wiring installations, replacement of consumables, supply of diesel oil, lub oil etc for operation of DG set etc.	Per day	15	0	3,578	0	53,670	53,670

146	GS-29	Supply, Installation, testing and commissioning of 15 W LED Solar Street Light with 6/7 m pole GI Completed with all accessories. As per RDSO specification RDSO/PE/SPEC/PS/0093-2008 (Rev.0) Amend-3	Nos.	2	33,715	2,576	67,430	5,152	72,582
		Sub Total of (I)					1,49,36,435	24,67,625	1,74,04,060
	J	SCADA Work Design,Supply,Erection,Testing & Commissioning of SCADA system along with associated works							
147	SCADA-1	Preparation of supply of Design & drawing for SCADA at RCC & SSP.	LS	1	0	3,75,773	0	3,75,773	3,75,773
148	SCADA-2	Modification, upgradation, testing & commissioning in existing standard SCADA software at RCC Equipments for configuration, integration/ hooking up of additional RTU's of Siding.	Nos.	1	0	2,22,950	0	2,22,950	2,22,950
149	SCADA-3	Supply, Erection, Testing & Commissioning of RTUs as per RDSO specification TI/RCC/SCADA/0134 for SSP.	Nos.	1	12,51,911	91,855	12,51,911	91,855	13,43,766
		Sub Total of (J)					12,51,911.00	6,90,578.00	19,42,489.00
		Total SOR Cost (A+B+C+D+E+F+G+H+I+J)					7,02,48,551.00	1,00,64,865.50	8,03,13,416.50
		GST @18%					1,26,44,739.00	18,11,676.00	1,44,56,415.00
		Total Cost including GST					8,28,93,290.00	1,18,76,541.50	9,47,69,831.50

	Note	1) Extra payment for any erection/Dismantling work done under power block shall be made @ 100% of the accepted rate of the erection work after justification from Engineer In-Charge for carrying out the erection work under power block. 2) Price variation is applicable for GI Steel structure, Contact wire, catenary wire, Insulator, concrete, Auto Transformers, General Electrical Items and all erection items only.
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Section- XI
Technical Specifications and
/ Explanatory Notes

**EXPLANATORY NOTES
FOR
25 KV AC OHE TRACTION SYSTEM/EXTERNAL
ELECTRIFICATION & SCADA WORKS**

EXPLANATORY NOTES FOR SCHEDULE-A to H

OVERHEAD EQUIPMENT

BOQ ITEM OHE-1 (OHE-1 a ,b, c, d, e & f)

PREPARATION OF DRAWINGS AS WELL OF SITE SURVEY AND SUBMISSION OF DESIRED DRAWINGS FOR OVERHEAD EQUIPMENT, SWITCHING STATIONS, SECTIONING DIAGRAM, POWER SUPPLY DIAGRAM, SCHEMATIC DIAGRAM OF SWITCHING STATIONS, TRACTION WORKING RULE DIAGRAM AND INSTRUCTIONS ETC. REQUIRED FOR COMMISSIONING INCLUDING PREPARATION AND SUBMISSION OF EIG DOCUMENTS

The price shall cover complete preparation and submission of overhead equipment plans indicating location of structures in stages, and preparation of all drawings and designs relevant to the tendered works and required to be finalized by the Contractor. The price shall include the following:

- (i) Preparation and submission of pegging plans (including survey, investigation of soil bearing pressure) overhead equipment, layout plans including stagger, location of cut-in-insulators, Sectioning Diagram etc, making minor modifications with the approval of the Employer/ Engineer to the layout of the structures and overhead equipment, if necessary. However, draft pegging plans shall be provided, if available with IRCON.
- (ii) The following "Quality Assurance Certificate" shall be incorporated and clearly mentioned in all the drawings submitted by the contractor -
"The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance of contract provision(s) as well as guidelines and specifications of statutory authorities (Railway/ SEB) in respect of design, analysis and drawing shall rest with the contractor."
- (iii) Any design calculation desired by client shall have to be provided by the contractor.
- (iv) Preparation and submission of cross section drawings and structure erection drawings for each structure location.
- (v) Choice of type and size of foundations to suit soil and loading conditions
- (vi) Preparation and submission of long section drawings of overhead equipment where such drawings are required including detailed study of over line structures such as foot over bridges, road over bridges etc. for maintaining the specified height of contact wire and requisite clearances.
- (vii) Preparation and submission of other designs and drawings including drawings of small parts steel work (other than those for which RDSO standard drawings are available) and detailed designs for LT. Supply Transformer stations, design of OHE structures for bridges etc.
- (viii) Supply of requisite no. of soft and hard copies of all drawings, including completion/ As Erected drawings for OHE.
- (ix) Preparation and submission of EIG papers and liaisoning with railway officials for EIG approval.
- (x) Preparation and Submission of requisite number of copies of Bonding Plan drawings.
- (xi) Design, preparation and submission of switching station drawings including survey, investigation of soil bearing pressure, preparation of cross section drawings, preparation of general arrangement drawings, detailed layout of equipment, bus-bar connections and insulators, layout of earthing system and earth connections, cable run layout, detailed designs and drawings for steel work and structural support, excluding the ones for which supply is made by the Employer/ Engineer, suitable concrete plinths for equipment and drawings for equipments, components, fitting and materials supplied by the Contractor. The price shall include supply of requisite number of copies of all drawings, including completion/ As Erected drawings.
- (xii) Preparation, supply and fixing of Sectioning/ Schematic/ TSWR diagram boards for stations/ Cabins/ SWS/ RCC and 25 Kv AC Traction Station Working Rule instructions etc.

Note for Payment: Release of payment will be as follows;

Payment against OHE-1(a & c) of this schedule will be made only after submission of initial (In principle/ Good for construction drawings) relevant drawings of OHE and switching posts. Similarly, payment against OHE-1(b & d)) will be made after submission of all completion/ As Erected drawings of OHE and switching posts. All relevant OHE and switching station drawing shall be submitted timely for its approval.

NOTES FOR MEASUREMENTS: *For the purpose of payment against this item, the length of track shall be measured as under :-*

1. **General:** *By the difference in the chainages of the length under consideration, as incorporated in the layout plans.*
2. **Turnouts:** *The track taking off shall be deemed as starting from the toe of the switch of the Turnout.*
3. **Cross-overs:** *The length of track shall be taken as the difference in the chainages of the toes of switch*

of the two turnouts constituting the crossover.

4. **Diamond crossing with or without slips:** *The two tracks crossing each other shall be measured independently as per note 1 above as though there were no crossing. No extra payment shall be provided for slip points.*
5. **Dead ends and tops of loops:** *The lengths for payment under this item shall be up to the chainage anchor mast of the terminating OHE.*
6. **Feeders and return feeders from grid sub-station to feeding station:** *This item will also be applicable independently in case of feeders/ return feeders/ conductors from grid substation overhead equipment feeding stations or in a case of feeders/ conductors running on independent structures (not supporting OHE) along or across tracks.
In such a case the length of line to be considered for purpose shall be measured by (a) the distance between the center of gantries of the grid sub-station and feeding stations in case of feeder / return feeders / conductors line from grid sub-station, or (b) by the distance between the center line of the two structures to which the feeders / return feeders / conductors are anchored in case of feeders running along the track if such feeder / return feeders / conductors are running completely on independent structures or (c) by the distance between the center of the two structures supporting the OHE on either side of the first and last independent structure or (d) in case of feeders / return feeder conductors running along the track supporting OHE.*

BOQ ITEM OHE-2

SUPPLY AND ERECTION OF SPAN WIRE (130 Sq. mm) INCLUDING ITS MOUNTING ARRANGEMENTS WITH 9 TON INSULATORS:

The price shall cover supply of all components including large span wire, head span wire, adjusters, terminal fittings and mast attachments required to attach a large span wire or a Head span wire or Cross span wire or Steady span wire or a Support span wire for supporting contact wire only, at both ends, to traction masts/ structures or special brackets, solid core insulators. The price shall cover erection of all components including mounting arrangements span wire and porcelain/ composite insulators (CD-1050mm) (as per requirement of railway) but excluding small part steel work if any.

BOQ ITEM OHE-3

SUPPLY AND ERECTION OF MATERIALS FOR TERMINATION OF SINGLE CONDUCTOR OF OVERHEAD EQUIPMENT OR A TERMINATING WIRE WITH 9-Ton INSULATORS:

The price shall cover supply of all material necessary for the termination of single conductor of overhead equipment or terminating wire on a traction mast of structure, including appropriate mast anchor fittings, clevis assembly, adjuster, anchor double straps, ending clamp for the catenary or contact wire or terminating wire and fittings including 9-tonne porcelain insulators (CD-1050mm). The price shall cover erection of all materials including 9-tonne insulator assembly and terminating wire, if any.

Note: In case of "V" type anchorage is adopted for terminating a single conductor such an arrangement would be counted as two, under this item for the purpose of payment.

BOQ ITEM OHE-4

SUPPLY AND ERECTION OF MATERIALS FOR TERMINATION OF ALL ALUMINUM 25 KV FEEDER (SPIDER) INCLUDING FEEDER WIRE AND 9-TONNE INSULATORS:

The price shall cover supply of all materials required for the termination of an all-aluminum 25 KV feeder (SPIDER), including appropriate mast anchor fittings, suspension clamp, adjuster, strain clamp and fittings including feeder wire and 9-tonne Porcelain insulators(CD-1050mm). The price shall cover erection of all materials including the 9-tonne insulator assembly.

BOQ ITEM OHE-5

SUPPLY AND ERECTION OF MATERIAL FOR TERMINATION OF COPPER CROSS FEEDER WITH GANTRIES INCLUDING CROSS FEEDER WIRE WITH 9-TONNE INSULATORS:

The price shall cover the supply of all materials required for termination of copper cross feeder wire (37/2.25 mm HDBC) including appropriate mast anchor fitting (3231), 18 mm single clevis (5040), 9-tonne adjuster (5020-2), feeder ending clamp (1130), double clevis (3010) and other components as necessary including feeder wire (37/2.25 mm HDBC) and 9- tonne composite/ porcelain (as required by railway) insulator assembly. The price shall also cover the erection of all these materials/ components including 9-tonne composite/ porcelain insulator and termination of

cross feeder at either ends. Fittings/ Components required for termination of one cross feeder at both ends constitute one set.

NOTES:

1. *Price of small parts steel work complete with bolts and nuts wherever required, will be paid for under separate item as applicable and shall not be included in this item.*

BOQ ITEM OHE-6

SUPPLY AND ERECTION OF A TERMINAL BOARDS IN CONTROL CUBICLES FOR SP/SSP:

The price shall cover supply and erection of a wall mounted terminal boards with six numbers of two way terminal blocks for connecting the cables from the outdoor equipment of a switching station, with local remote switches, push button ON-OFF switches etc. as per RDSO Drawing or as required by railway or as per site requirement.

BOQ ITEM OHE-7

SUPPLY AND ERECTION OF AN IRON CLAD 240V AC or 110V D.C. BOARD WITH FUSE BOX IN CONTROL CUBICLES:

The price shall cover supply and erection of a 15A, 240V, A.C. iron clad 4 way fuse box or a 15A, 110V DC iron clad two way fuse box on the wall inside the remote control cubicles. The fuse boxes shall be complete with four fuses and two fuse carriers' and bases respectively.

BOQ ITEM OHE-8

SUPPLY AND ERECTION OF LEAD ACID BATTERIES 40 AH WITH BATTERY CHARGERS:

The price shall cover supply and erection of 110V, 40AH, lead acid batteries with one no. of suitable battery chargers for 110V 40 AH lead acid battery complete with stand, accessories, tool boards connecting lead and plug for connection to 230V AC supply. The price for erection shall include installation and connecting up of the battery, mounting of the charger in position and connecting it up to 230V AC distribution board including the cost of connecting cables.

BOQ ITEM OHE-9(A) & (B)

SUPPLY, ERECTION, OIL FILTRATION, TESTING AND COMMISSIONING OF 25 KV/ 240 VOLT, 10/ 25 KVA, LT SUPPLY TRANSFORMER WITH 25 KV D. O. FUSE SWITCH, ANTI-CLIMBING DEVICE, INSULATOR, COPPER JUMPER AND EARTH ELECTRODES etc:

The price shall cover Supply of 25 KV/ 240 V, 10 KVA or 25 KVA LT supply transformer, at site, as per the RDSO's latest specification and erection of the same complete with terminal connectors on a mast or gantry. The price shall also be applicable for transformers mounted on steel pedestals at switching stations also. The price shall cover supply and erection of an enameled number plate of approved design. The price shall also cover oil filtration and pre-commissioning tests as approved by the Employers or Engineer. The contractor shall make his own arrangement for oil filtration equipments, as well as power supply required for the same. All necessary tools, equipments, instruments required for carrying out oil filtration/ checks/ tests/ commissioning shall be arranged by the contractor. The price shall also cover supply & erection of a DO fuse switch assembly complete with all mounting accessories, post/ pedestal insulator for DO fuse switch assembly.

The price shall also cover the supply and erection of anti-climbing device, consisting of galvanized steel fixtures mounted on the masts below the transformer.

The price shall also cover supply of conductor/ jumper wires and the supply of all components including parallel clamps, bi-metallic and Aluminum-copper Al-Cu strips wherever required. The price shall also cover the erection of complete jumper assembly including conductor/ jumper wire to be provided between the Over Head Equipment and L.T. Transformers, drop out switch assembly.

The price shall also cover supply and erection of an earthing station with earth electrode embedded into the ground by driving or otherwise complete with protective concrete box and lugs suitable for directly connecting two mild steel flats of minimum size 50 mm x 6 mm.

The price shall not include cost of supply and provision of structure bond connecting LT transformer with structure and then to rails which will be paid separately.

NOTE: Contractor at his own cost shall do the replenishment of the transformer oil on account of testing and leakages during the warranty period.

BOQ ITEM OHE-10

MODIFICATION TO EXISTING OHE I.E. TRANSFER OF EQUIPMENT FROM ONE MAST OR SUPPORT TO ANOTHER, PROVISION OF ADDITIONAL BRACKET ASSEMBLY/ ASSEMBLIES ON A MAST OR SUPPORT, RE-ADJUSTMENT OF A HEAD-SPAN, DISMANTLING OF OVERHEAD EQUIPMENT, DISMANTLING OF FEEDER:

The price shall cover transfer of overhead equipment to a bracket assembly on a new mast or support and dismantling of the existing erected bracket assembly from old mast or support, supply and provision of a multiple cantilever cross arm wherever required and erection of bracket assemblies on the multiple cantilever cross arm, and consequent adjustment to overhead equipment required such as re-spacing of droppers, leveling etc. The price shall not include supply and erection of an additional bracket assembly, which will be paid for under respective item/items.

The price shall also cover the re-adjustment of the head span polygon to enable the additional equipment/s to be suspended from the head span. Payment for the suspension of additional overhead equipment shall be paid for under respective item/items, as extra to this item. The price shall also cover the cost of dismantling of overhead equipment including terminations, tensioning devices, guy rod assemblies, suspension assemblies, super masts, feeder, return conductor, section insulator, an isolator, single or gang operated, including dismantling of connections to the overhead equipment, a pedestal/ pin insulator including dismantling of jumper connections, if any, temporary slewing or lowering of erected OHE adjusted and/or unadjusted to ground for special works and restoration and readjustment of the equipment after completion of special works and associated small parts steel work.

The price shall also cover the cost of splicing of terminated overhead equipment for extension and consequent adjustment of the affected equipment. The extended overhead equipment shall be deemed as starting from the centre line of the structure preceding the old terminating structure and the extended overhead equipment shall be paid for under respective item/items, as extra to this item.

The price under this item shall cover various modifications required to be carried out to the existing overhead equipment, under power block, on account of electrification of the section provided such modifications are not on account of non-compliance of specifications, approved drawings and instructions given by the Employer for the execution of the work from time to time, during the progress of the work.

All the prices are on a flat rate basis and cover only the important and most frequent type of modifications required to compensate the contractor for the work involved. No payments shall be admissible for other minor modifications, which may be necessary in the course of work. All work done shall be paid for at normal rates as per BOQ.

In all these cases, the dismantled equipment shall be handed over by the contractor to the Employer's Engineer at the Employer's go-down/ depot as required by Engineer. The cost of loading / unloading and transportation shall be paid for under respective item/items, as extra to this item. Where prices under this item are applicable, the contractor shall finalize the quantities of work jointly with the Engineer before taking the work in hand.

NOTES:

- 1 *In case modification / dismantling is carried out at particular location i.e. dismantling of an isolator, bracket assembly, pin/ post insulator, guy rod etc., for the purpose of payment half of the span on both ends will be considered.*
- 2 *All claims under this item have to be supported by the following certificate to be furnished by the contractor on the connected bill.*
 - a) *The modifications are not on account of non-compliance of specifications approved and instructions given by the Engineers for execution of works.*
 - b) *The quantities of work involved for modification have been finalized jointly with the Engineer-in-charge before taking the work in hand.*
 - c) *The dismantled materials shall be handed over to Engineer's/Railway's representative.*

BOQ ITEM OHE-11

MANNING OF SWITCHING STATION:

The prices shall cover the payment/ wages to the staff to be deployed at a switching station as directed by Employer's Engineer. Manning shall be done round the clock in three shifts of 8 hours. The staff, holding minimum ITI qualification, shall be deployed in each shift. They shall be fully conversant with operation of various equipments installed in the switching station. The staff shall be deployed after test and trial by Employer/ Engineer and on issue

of competency certificate. The staff deployed shall act in accordance with instructions / directions given by Traction Power Controller (TPC)/ representative of Employer. The staff shall not leave the working place (Switching station) in any case without permission of Employer's representative. The price shall cover conveyance charges to the staff for going and coming to the working place. The period of manning shall be decided by the Employer during the execution of contract and manning shall commence on receipt of intimation in writing from the Employer one month in advance.

BOQ ITEM OHE-12

ELECTRIFICATION OF SWITCHING STATION (SP/SSP) BUILDING AS PER SPECIFICATION:

The price shall cover all cost of labour/ erection and supply of materials required for the work. Wiring work shall be done in accordance with IE rules, IS-732 and specifications given in Part-II Chapter-VIII of the tender document. The price shall also cover the cost of testing and commissioning of the installations. The various activities involved in the work are as follows: -

- i) Fixing of mild steel/PVC conduits (ISI mark) on wall and drawing of wires for circuit and point wiring.
- ii) Provision of cast iron switch boxes of appropriate size concealed in wall at appropriate height with phenolic laminated (Hylum) sheet for fixing of switches, plugs etc.
- iii) Provision of main board and distribution boards and connection thereof.
- iv) Provision of light fittings, exhaust fan, outdoors luminaires complete with LED tubes and LED bulbs.
- v) Provision of earthing station and connection between earthing station to main board with the help of 8 SWG GI wires. Earthing work shall be done in accordance with IS: 3043/1987.
- vi) Materials such as light fittings, exhaust fan, switches, sockets, ceiling rose, socket outlets all shall be with ISI mark and shall be one of the make mentioned in technical specification.
- vii) Provision of switches, sockets outlets, ceiling roses on respective switch boards and points in appropriate numbers and connection thereof.
- viii) Provision of 45 watts LED street light luminaires/ fitting complete in all respect including lamp on the wall of the building.
- ix) After completion of wiring work necessary testing of wiring and earthing station shall be done and results submitted to the site-in-charge duly signed by representatives of both the contractor and purchaser.

BOQ ITEM OHE-13

SUPPLY & ERECTION OF EARTHING ARRANGEMENT AT SWITCHING STATION i.e. EARTH ELECTRODES, EARTH BUS, 8 SWG GI WIRE etc. TO ACHIEVE IR VALUE FOR ENERGISATION

The price shall cover supply and erection of a maintenance free earthing station for complete SP/SSP installation, as per RDSO Spec No. RDSO/8F/SPEC/PS/0109 (Rev. 0) 2008 or latest, with a single maintenance earth pipe embedded into the ground by driving or otherwise complete with protective concrete box and lugs suitable (if required) for directly connecting two mild steel flats of suitable size.

The price shall also cover supply of all materials including all mild steel flats required for providing earth bus. The price shall also cover erection of earth bus either buried at a depth of 300 mm below ground level painted with 02 coats of red oxide zinc chromate primer and 02 finishing coats of bitumen or fixed on wooden gutties on walls. It shall include connecting the earth bus to earth electrodes and to various floor-or-wall-mounted equipment's or structures to be earthed and also connections to non-track-circuited rails, wherever required. It shall also cover the cost of making recesses in concrete foundation blocks for floor or cubicles and covering them up. The connection of earth strips to each other shall be made either by riveting or by welding or as per latest instructions. The connection of earth strips to various equipment, structures or fencing post shall be made with G.I. bolts and nuts and spring washers/locknuts.

The price shall cover supply and erection of 8 SWG G.I. Wire used for earthing for remote control cubicles and fencing panels.

BOQ ITEM OHE-14

EXCAVATION OF EARTH TO THE SPECIFIED DEPTH BELOW GROUND LEVEL FOR BURYING 13 METERS LONG RAIL

The price under this item shall cover the cost of excavation of earth 13 meters in length and in suitable depth below ground level. The price shall also cover the cost of burying 13 meters long rail and connecting it with mat in SP/SSP as per latest RDSO drawing/SMI with all accessories/bonds etc. (Rail will be supplied by the contractor). The price shall also cover the cost of loading, unloading and transportation of rail and other materials to site of work.

BOQ ITEM OHE-15

LOADING/ UNLOADING AND TRANSPORTATION OF ALL TYPE OF STEEL STRUCTURES, PORTALS, TTC, COPPER/ALLUMINIUM CONDUCTORES AND SPS etc. OTHER THAN CONTRACTOR'S MATERIAL

The price shall cover loading/ unloading and transportation charges for all type of steel structures, portals, copper/ Aluminium conductors, SPS etc. into/ from BFR/ trailer/ truck over and above the requirement given by the Engineer for other than contractor's material for the completion of the present work.

BOQ ITEM OHE-16

CONSTRUCTION OF SWITCHING STATION BUILDING, RCC WORK, PLASTERING, BRICK MASONARY, RETAINING WALL, FILLING, COMPACTING AND LEVELLING WORK etc. & SUPPLY AND ERECTION OF NAME BOARD FOR SWITCHING STATION

The price shall cover the construction of Control room of SP/SSP building above plinth and will include labour/erection and material cost for the following works;

- i) RCC work in plinth, lintels, chajja, Roof slab.
- ii) Pre-cast RCC Slab, RCC jali.
- iii) Cement concrete in flooring and cable trench.
- iv) Brick masonry in walls.
- v) Plastering works.
- vi) Provision of Doors, Windows, Grills, rolling shutters, Water pipe line, Ventilators and painting thereof.
- vii) White washing and colour washing.
- viii) Acid proof or painting of floor and wall in battery room.
- ix) Antiweed treatment Spreading of stone metal.
- x) Provision of RCC pipe, retaining wall, earth filling, boulder pitching, etc.
- xi) Any other item of work required to complete the work which has not been mentioned/included above shall also be done by the contractor and nothing extra shall be paid for the same.

Construction of Switching station shall be done strictly as per RDSO's drawing No: ETI/C/0067 (Model-A) and Technical specification or latest.

The price shall cover the provision of all shuttering, frame works, arrangement of water, all tools and plants required for the work, consumable, materials etc.

The materials used for the work such as brick, sand, stone aggregates, steel for door frame, grill/ rolling shutters; RCC Pipe shall be of best quality in accordance with Railway's specification.

The price shall cover the cost of concreting required for foundation with 40 mm stone ballast rammed in layers of 15 mm thick in cement and sand ratio 1:3:6, RCC work for construction of column, brick work, retaining wall drainage etc required for building.

The price shall also cover the provision of opening on the wall of suitable size, for installation of exhaust fan in the battery room.

The price shall also cover the cost of supply and erection of name board for switching station. The price shall also include supply of necessary clamps, nuts, and bolts etc., required for the erection of the boards. Name boards shall be made in bi-lingual or Hindi/ English and vernacular language. The boards to be supplied shall be as per the standard size and standard specification of Railway's. The payment shall be on uniform basis.

BOQ ITEM OHE-17

SUPPLY AND SPREADING OF GRAVEL/ BALLAST IN THE SWITCH YARD:

The price shall be per cubic metre rate and shall cover supply and spreading of uniformly graded gravel/ ballast of size 20 mm as per IS:383-1970 in the outdoor switch yard/TSS after completing all the works and levelling the switch yard area, but before commissioning of the sub-station. The gravel/ ballast shall be of good quality and free from any dust and dirt. Prior approval of ballast shall be taken from the Employer for the gravel samples. The gravel/ ballast shall be spread out uniformly to a depth of minimum 10cm. over the area indicated by the Employer's Engineer. Before spreading the ballast, the contractor shall ensure atleast 10 cm of moorum soil/ sand spreading and compaction. Provision of ant-weeding compound shall also be ensured.

BOQ ITEM OHE-18

EARTH WORK IN EXCAVATION AND FILLING INCLUDING COMPACTION:

**TENDER FOR 25 KV AC OHE WORKS, EXTERNAL ELECTRIFICATION WORKS & SCADA WORKS OF CSPGCL SIDING
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Earthwork in filling in embankment, guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds if provided, platforms etc. With earth excavated from outside railway boundary entirely arranged by the contractor at his own cost as per RDSO's latest guidelines and specifications and special condition of contract including all leads, royalty, lifts, ascents, descents, crossing of nallahs or any other obstructions. The rates shall include all dressing of bank to final profile, demarcation and setting out of profile, site clearance, removing of shrubs, roots of vegetation growth, heavy grass, benching of existing slope of old bank, all handling/re-handling taxes, octroi and royalty etc. As a complete job. Cut trees shall be property of railways and to be deposited in the railway's nearest godown unless specified otherwise in the Special conditions of contract. The price is inclusive of compaction of earth/ blanketing material filled in embankment with contractor's rollers density as per specification, testing as per IS codes incl. cost of water, T&P consumable material and all labour as a complete job. The work is to be executed as per latest edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow.

BOQ ITEM OHE-19

Boulder pitching on the slopes at locations of OHE structures/switching post:

The price shall cover providing and laying pitching with stone boulders weighing not less than 35 kg each with voids filled with cement sand and mortar 1:4 on slopes and laid over prepared surface including boulder apron laid dry in front of the toe of embankment complete as per drawing and technical specification on slopes at locations of OHE structures/Switching stations as per requirement.

BOQ ITEM OHE-20

SUPPLY AND ERECTION OF MATERIAL FOR TERMINATION OF DOUBLE OVERHEAD EQUIPMENT CONDUCTOR WITH INSULATORS:

The price shall cover supply of all material necessary for the termination of two overhead equipment conductors on a traction mast or structure, including appropriate mast anchor fittings, clevis assembly, two adjusters, ending clamps for catenary and contact wires, anchor double strap assembly, equalizing/compensating plates and fittings including 9- ton porcelain insulators assembly and terminating wire fittings if any. The price shall also cover erection of all materials including 9 ton insulator assembly.

BOQ ITEM OHE-21

SUPPLY AND ERECTION OF A SECTION INSULATOR ASSEMBLY WITH INSULATORS AND ASSOCIATED FITTINGS & FASTENERS FOR OHE:

The price shall cover supply, erection and adjustment of all components required for a standard section insulator assembly (serving both the overhead equipment conductors) including special droppers for supporting the equipment and all terminal fittings for conductors and the section insulator assembly, 9-ton insulator assembly on the catenary, sectioning insulator and dropper wires as required and as per latest guidelines/ specifications of railways. Tentative list of components is given as below :-

Rly. Id No.	Description of components	Qty. for unit
1	2	3
1120/or SK/436 or 1122 & 1123	Catenary ending clamp	2 off
1192/ETI/OHE/SK/333	Catenary dropper clip assembly.	As required
6170	Parallel clamp for double contact wire	12 off
6180	Section insulator dropper assembly.	3 sets
6100	Section insulator assembly	01 off
6020	9 ton insulator assembly	01 off

BOQ ITEM OHE-22

SUPPLY AND ERECTION OF 25 KV S.P ISOLATORS WITH INSULATOR WITH/WITHOUT EARTH CONTACT ASSEMBLY, WITH/ WITHOUT INTERLOCK: (1600 Amps capacity)

The prices shall cover supply and erection of isolator switches of approved make, complete with arcing horns, operating rods, operating rod guides, and mounting base including supply and erection of 25 KV Solid Core Post and Operating rod insulator.

The price shall also cover supply and erection of a number plate of approved design, supply and erection of small parts steel work complete with bolts and nuts etc. for support of each isolator and for support of operating rods on gantries/ masts, and insulator to support jumper and jumper connectors.

BOQ ITEM OHE-23

SUPPLY AND ERECTION OF 25 KV DOUBLE POLE ISOLATOR WITH INSULATOR WITH/ WITHOUT EARTH CONTACT ASSEMBLY WITH/ WITHOUT INTERLOCK:

The price shall cover supply and erection of a double pole isolator complete with mounting base, operating rod, operating rod guides required for the operation of the isolator. The price shall also cover supply and erection of aluminium-copper strips, a pad-lock, a number plate of approved design for each isolator, supply and erection of small parts steel works for support of isolators and for support of operating rods on gantries masts including supply and erection of 25 KV Solid Core Post and Operating rod insulator. Rating of isolator shall be approved by railway / IRCON.

The price shall also cover for supply and erection of an earth contact assembly in the isolator. The price shall cover the cost of supply and erection of 3 x 25 mm copper connections between earth contact assembly and the structures.

The price shall cover supply and erection of an inter locking mechanism on an isolator along with small parts steel if any, to permit working of two or more isolators.

Note :All Isolators are to be supplied with required numbers of 25 kV operating rod insulators with complete accesBOQies and small parts steel. Isolator key box of appropriate size shall be provided for at each station on the section, one number at the nearby OHE depot in charge of the section and one number at SSP/SP, as desired by the Engineer at site.

BOQ ITEM OHE-24

Supply and Erection of suitable length of contact wire in the span under any overline structure; complete with supply and erection of end fittings, jumpers, PG clamps etc (however payment of contact wire shall be made under different BOQ item meant for it):

The price shall cover Supply and Erection of suitable length of contact wire in the span under any overline structure; complete with supply and erection of end fittings, jumpers, PG clamps etc (however payment of contact wire shall be made under different BOQ item meant for it). The prices shall also cover erection and adjustment of special droppers wherever required. The price shall also cover the cutting of existing Catenary wire, supply and erection of all materials and components including adjustment of dropper wires(excluding supply of contact wire).

BOQ ITEM OHE-25

SUPPLY OF MATERIALS AND ERECTION OF A LARGE COPPER JUMPER (160 SQMM) BETWEEN ALUMINIUM BUS / OHE AND CROSS FEEDER WITH ALL ASSOCIATED FITTINGS:

This jumper shall be provided between 36 mm aluminium bus/OHE and the copper cross feeder at SSP, SP and FP.

The price shall cover the supply of 160 sq. mm flexible copper jumper wire made of annealed stranded 100% pure copper conductor as per RDSO's spec No. ETI/OHE/3 (2/94) with A & C Slip No.1 or latest, all components and fittings required for providing a flexible copper jumper 160 sq. mm and connection between 36 mm aluminium bus / OHE & copper cross feeder including terminal connector 19 mm multiple hole bolted type (1009), parallel clamp (1050-3) aluminium-copper bimetallic strips fasteners etc.

The price shall also cover the erection of the complete jumper assembly including jumper wire, connectors and fasteners etc.

BOQ ITEM OHE-26

SUPPLY AND ERECTION OF SOLID COPPER BUSBAR 18 MM DIA INCLUDING ALL CONNECTORS, BUS SPLICE ETC:

The price shall cover supply and erection of solid copper bus bar 18 mm, bus splice and it's all types of connectors and component used for fixing on support insulator (excluding supply of support insulator). Payment for supply and erection of support insulator will be made under separate BOQ meant for it. The copper bus-bar of 18 mm mainly used for Isolators provided on TTC/Portal structure. The price shall include bending and shaping of bus bar.

BOQ ITEM OHE-27

SUPPLY AND ERECTION OF ALL TYPES OF CONNECTORS REQUIRED FOR ALUMINIUM/COPPER BUS BAR REQUIRED FOR COMMISSIONING OF SWITCHING STATIONS WITH FASTENERS.

The price shall cover supply and erection of solid copper bus bar junction and connectors of various type specified including bolts, nuts and ALCU bi-metallic strip etc. required at junction or termination of aluminum bus bars/solid copper bus bar etc.

BOQ ITEM OHE-28

SUPPLY AND ERECTION OF SAFETY ITEMS i. e. FIRE EXTINGUISHERS, SET OF FIRE BUCKET WITH STAND AND FIRST AID BOX, KEY BOX WITH SUITABLE KEY CHAIN, LOCKS AND OTHER MISC ITEMS REQUIRED FOR COMMISSIONING OF SWITCHING STATION.

The price shall cover supply and erection of fire extinguishers, details as given below including mounting arrangements. Each set would consist of following and each of 6-litre capacity.

- i. CO-2 type/ DCP Type - 02 Nos.

The fire extinguishers supplied shall be of approved brand and as per relevant specification.

The price shall also cover supply and erection of standard first Aid box of GI Sheet with pad lock as approved by the Employer. The list of items/ medicines to be supplied along with in the first aid box shall be obtained from employer/ engineer.

The price shall cover supply and erection of six number of fire buckets with stand of standard size and locking arrangement as per standard practice and as approved by the Employer.

The price shall also covers Supply and installation of key box in SSP/ SP with suitable key chains and locks as directed by Employer/ Engineer in charge. The price shall also cover cost of supply & fixing of Shock Treatment chart either laminated or flex printed.

BOQ ITEM OHE-29

SUPPLY AND ERECTION OF 25 KV AC DANGER BOARD / DANGER BOARD FOR HEIGHT GAUGE, PUBLIC / STAFF CAUTION BOARD REQUIRED FOR COMMISSIONING OF OHE/ SWSS.

The payment under this item shall cover supply and erection of 25 KV AC danger board, danger board for height gauge, public / staff caution boards on uniform basis and Shock Treatment Chart etc. Purchaser will advise the requirement of the various types of boards and location to contractor. The above payment shall also include supply of necessary clamps, nuts, and bolts etc., required for the erection of the boards. Caution boards shall be made in bi-lingual or Hindi/ English and vernacular language, where ever required and same will be advised to contractor. The various types of above boards to be supplied shall be as per the standard size and standard specification of Railways. vacuum bolts etc., required for the erection of the boards. Caution boards shall be made in bi-lingual or Hindi/ English and vernacular language, where ever required and same will be advised to contractor. The various types of above boards to be supplied shall be as per the standard size and standard specification of Railways.

BOQ ITEM OHE-30

SUPPLY AND ERECTION OF VACUUM 25 KV INTERRUPTER:

The price shall cover supply of a 1600 A 25 Kv AC 50 Hz Single Pole, Outdoor type vacuum interrupter with all accessories including Terminal connectors and components as per RDSO's latest Specification at site and erection of the same with supporting framework and terminal connectors.

The price for erection shall include mounting of accesBOQies, if any, in their respective positions. The price shall also cover supply and erection of enameled number plates. All necessary tools, equipments, instruments, including power supply required for carrying out necessary checks, tests and commissioning shall be arranged by the contractor.

The price shall also cover supply of all bolts, nuts, fasteners required for erection of the 25KV single vacuum pole interrupter.

BOQ ITEM OHE-31

SUPPLY AND ERECTION OF VACUUM 25 KV CIRCUIT BREAKER:

The price shall cover supply and erection of 25 kV Vacuum Circuit Breaker (2000 Amp Rating) complete with operating mechanism, all fittings, and accesBOQies including terminal connectors. The price shall cover grouting, the supporting frame and mechanism box on foundation block and mounting of other accessories in their respective

places. It shall also cover, testing and commissioning of the circuit breaker. The price shall also cover the supply and erection of an enamelled number plate. The Contractor shall make his own arrangement for power supply required for testing purpose. The price shall also include supply of interlocks and shall be applicable individually for each Circuit Breaker. The supply of vacuum circuit breaker shall be as per RDSO specification No. TI/SPC/PSI/LVCBIN/0120 with A&C slip No. or latest.

BOQ ITEM OHE-32

Supply of control and relay panel for 1 No. siding CB as per latest RDSO specification No. TI/PSI/PROTCT/6071 (for one CB) with A&C.:

The price shall cover supply and erection testing commissioning of control and relay panel for 1 No siding circuit breaker as per latest RDSO specification with A&C with all accessories and mounting and connecting the cables from the outdoor equipment of a switching station as per RDSO Drawing or as required by railway or as per site requirement.

BOQ ITEM OHE-33

SUPPLY AND ERECTION OF A 25 KV POTENTIAL TRANSFORMER TYPE-I OR TYPE -II:

The price shall cover supply and erection of a 25 KV Potential transformer Type-I or Type -II complete with all fittings and accessories as per relevant latest specification, including terminal connectors and fixing bolts. The price for supply and erection shall include proper alignment of the transformer in position. The price shall also cover the supply and erection of an enameled number plate and fixing bolts. The price shall not include the cost of any small parts steel work.

BOQ ITEM OHE-34

SUPPLY AND ERECTION OF A 25 KV CURRENT TRANSFORMER (1500-750/5A):

The price shall cover supply, erection and connecting of a 25 kV Current Transformer (ratio 1500-750/5A) complete with all fittings and accessories including terminal connectors. It shall include mounting of the transformer in position and supply & erection of an enamelled number plate. The price shall also include the cost of small parts steel work if any

BOQ ITEM OHE-35

SUPPLY AND ERECTION OF A 42 KV LIGHTNING ARRESTOR:

The price shall cover supply and erection of a 42 kV lightning arrestor complete with all fittings and accessories as per relevant latest specification including terminal connectors, Copper cables and disconnector assembly. The cost of erection shall include proper alignment of the lighting arrestor in position. The price shall not cover supply and erection of cadmium copper jumper (65), which will be paid separately under respective schedule item. The price shall not include the cost of any small part steel work.

BOQ ITEM OHE-36

SUPPLY AND INSTALLATION OF CABLES FOR SWS:

The price shall cover supply, installation, and connecting-up the all types of cables for control and indication, (PVC 1100 V grade 2.5 sq mm copper conductor 7 core), from the interrupter to the terminal board, supply and erection of terminal connectors at ends if required and conduits wherever necessary, heater supply cable, (1100 V grade PVC insulated heavy duty 2 core 4 sq mm aluminium conductor), from interrupter to the 230 V fuse box mounted on wall inside the control cubicle and from this box to LT distribution board inside the control cubicle, supply and erection of terminal connector at each end, if required, conduit if any at the interrupter end, catenary indication (240 V AC circuit cable, PVC 1100 V grade 2.5 sq mm Copper conductor 2 core), between potential transformer Type-I and terminal board inside the control cubicle and supply and erection of terminal connectors at both ends, if required and conduit to be embedded between the steel work base and the cable trench and shall include all fastenings on masts and structural members to support them, LT power supply cable, (1100 V grade aluminium conductor XLPE insulated PVC sheathed and steel armoured heavy duty cable conforming to IS7098/Pt.I/1988 2x25 sq mm for 5 KVA AT, 2x70 sq mm for 10 KVA AT, 2x185 sq mm for 25 KVA AT), between LT supply transformer at switching station and LT distribution board provided in control cubicle and suitable cable boxes and connectors at both ends if required, cable between 110V battery charger and battery, between battery and the DC fuse box and between the

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DC fuse box and terminal board and etc. The price shall include supply and erection of terminal connectors ,Cable Tagging and cable sealing/securing wherever required.

NOTES:

- 1 *In case of feeding stations which are located within the traction sub-station premises, the cables shall be run from individual equipment and terminated inside the sub-station control room.*
- 2 *Notwithstanding the sizes of cables given above, the bidder shall assure himself that various cables would suit the ratings of equipments offered by him.*

BOQ ITEM OHE-37

SUPPLY AND ERECTION OF ALUMINUM JUMPER WITH FASTENERS:

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he price shall cover on flat rate basis the supply and erection of an aluminum jumper complete with all components and fittings required for providing jumper connection including parallel clamps, bi-metallic Aluminium-Copper strips wherever required and terminal or tee clamps at either end. The price shall be applicable for any aluminum jumper/ connection in any combination between feeders, return conductors, overhead equipment, isolators, and out-going bus bars or switching stations and booster stations. Jumper connections for 25 kV feeding stations will also be paid under this item.

BOQ ITEM OHE-38

SUPPLY AND ERECTION OF ALUMINIUM BUS BAR 36MMx28MM:

The price shall cover supply and erection per meter length of 36mmx28mm dia. Aluminum tube to serve as bus bar or equipment to equipment bus bar connection in the TSS/SP/SSP wherever required. The price shall include bending, shaping and connecting /clamping of the Aluminium tube to the equipment terminals/ bus bar supports as required.

NOTE- For purpose of payment for this item fraction of a meter in the total length used at a sub-station shall be rounded off to the nearest meter (0.5 m and below being ignored).

BOQ ITEM OHE-39

SUPPLY OF STAY ARM PORCELAIN INSULATOR (CD-1050 MM)

The price shall cover supply of normal solid core Porcelain Stay Arm Insulators having C.D 1050mm and complying to latest RDSO specifications.

BOQ ITEM OHE-40

SUPPLY OF BRACKET PORCELAIN INSULATOR (CD-1050 MM)

The price shall cover supply of normal solid core Porcelain Bracket Insulators having C.D 1050mm and complying to latest RDSO specifications.

BOQ ITEM OHE-41

SUPPLY & ERECTION OF 25 KV SUPPORT INSULATOR WITH FITTINGS AND FASTENERS

The price shall cover supply of normal solid core Porcelain 25kVPost Insulators and complying to latest RDSO specifications and erection of the same with its fittings like support clamps etc. for supporting Bus Bar. This item will be used for locations which is not covered in other schedule items only else will be paid in its respective schedule only.

BOQ ITEM OHE-42

SUPPLY AND ERECTION OF ANTI CREEP INCLUDING INSULATORS.

The price shall cover supply of all materials for an anti-creeper including adjusters, mast anchor fittings at its terminations on either side of structures, ending clamps, fittings and including 9- ton insulator assembly conforming to RDSO specification, but excluding small parts steel work as well as catenary wire as per requirement. The price shall cover erection of all materials including 9- ton insulator assembly with small parts steel work, if any.

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Tentative list of items is given below for information.

Rly. Id No.	Description of components	Qty. for unit
1	2	3
6020	9- ton insulator assembly.	As required
	wire ending clamp	2 off
5020-1/5020-2	9 -ton adjuster	2 off
5030	Anchor double strap assembly	As required
3010/5040	Clevis assembly	2 off
3231	Mast anchor fitting with bolts, nuts etc.	2 sets.
1170	Double suspension clamp	1 off
Less 1160	Suspension clamp	(-) 1 off
5183	Double eye distance rod	As required.

Note – For erection of anti-creep with catenary wire, the contractor shall organize and arrange to provide the components as per requirement, whether given in the list or not.

BOQ ITEM OHE 43

SUPPLY AND ERECTION OF OVER HEAD EQUIPMENT I.E. CONTACT, CATENARY WIRE (EXCLUDING COST OF CONTACT, CATENARY AND JUMPER WIRES), JUMPER WIRE, DROPPER WIRE, CONTACT / CATENARY CLIPS, FASTENERS AND ALL OTHER MATERIAL REQUIRED AT TURN OUT/OVERLAPS/DIAMOND CROSSINGS ETC FOR COMMISSIONING OF CONVENTIONAL OHE.

The price shall cover supply & erection of complete overhead equipment with all components and wires and conductors including contact wire, catenary wire, droppers, jumpers (Dropper wire (5 mm), all types of OHE Jumper Wires (50 sqmm,) Large jumper (105 sq. mm) and terminating wires at turn outs / overlaps / diamond crossings/ATJ, C,F jumpers etc, if any.(Excluding the cost of contact, Catenary, dropper& Jumper wire which will be paid separately under respective schedule item of work.

The price shall also cover supply of all components including dropper clips, parallel clamps for jumpering and splices (where their use is approved), dropper wire, jumper wire and terminating wire/ small parts steel works complete with bolts and nuts etc. for attachment of number plates to mast/ structure, if any.

The price shall include provision of enameled/ retro-reflective number plates (as per railways latest guidelines/ specifications) on traction masts or structures. The price shall also include the cost of painting the setting distance of masts/ structures, location number on opposite side of mast/structure, rail level on masts/ structures, stenciling of symbol for direction of emergency telephone socket and Y marking at BWA location. This price also includes supply and erection of different retro-reflective/ enameled caution/ warning boards (as per latest railway guidelines / specifications) on OHE structure and wiring.

Rly. Id No.	Description of components	Qty. for unit
1	2	3
1040-2 or SK-534/1 & SK-575/2 or SK-576/1 & SK-535/2 or 1041-3 or 1031, 1051-2,3	Contact wire parallel clamp small	As required
1180/SK-572/1 & SK-572/2	Contact wire dropper clip(107)	-do-
1192	Catenary dropper clip complete with bolts, nuts etc.	-do-
7501	Enameled number plates complete with 2 Galva. MS. bolts m 10x35/30, nuts and lead washer for m10 bolts but excluding SPS for attachment of number plate masts/structures. Two nos. retro reflective number plate per Km are also be erected along with fasteners.	-do-
1110-2	Contact wire ending clamp	-do-
1120	Catenary ending clamp	-do-
1140	Large span wire clamp (130)	-do-
5020-1/5020-2	Adjuster	-do-
5030	Anchor double strap assembly	-do-
5191/5192	Compensating plate/Equalizing plate.	-do-

The price shall cover supply of all components required for a pull-off arrangement to pull one equipment only including head-span mast fittings complete with M.S. angle, equalizing plate assembly, steady-arm, catenary wire dropper clip, contact wire swivel clip and fittings including 9-Ton solid core insulators.

The price shall cover erection of all components including solid core insulators, small jumper wire, large jumper wire and conductors. The price shall also cover provision of double contact wire at RRA locations as per Railway requirement with required fittings and fastener. Cost of supply of contact wire will be paid in respective BOQ.

The price shall cover supply and erection of all additional fittings required including the supply of required conductors/ jumper wires, in case the pull off pulls more than one equipment. Forged fittings shall be used as per guidelines/ specifications of railways.

BOQ ITEM OHE 44

SUPPLY OF HDGCC 107 SQ MM COPPER CONTACT WIRE AND DROPPER WIRE

The price shall cover the cost of supply of hard drawn grooved continuous cast copper contact wire 107 sq mm for overhead equipment and 5 mm in-span dropper wires.

BOQ ITEM OHE-45

SUPPLY OF 65 SQ MM COPPER CATENARY WIRE AND ALL JUMPER WIRES

The price shall cover the cost of supply of stranded copper catenary wire and all type of copper jumper wires for overhead equipment.

The price of supply of all types jumper wires are covered in this item (large jumper wire size 105 sq. mm (19/7/1.02mm, small copper jumper size 50 sq. mm (19/1.80 mm) or any other Size Jumper Wire) on a flat rate basis including the cost of the supply of all components and fittings ,parallel clamps, bi-metallic and aluminium-copper strips and bolted type terminal connectors wherever required (The weight of Jumper wires shall be calculated based on the standard length of Jumper wire as per Railway Guidelines or as per actual length of Jumper Wire erected at site).

BOQ ITEM OHE-46

SUPPLY AND ERECTION OF COPPER STRIPS FOR EQUIPMENT EARTHING:

The price shall cover supply and erection of 25mm x 3mm copper strips to connect the earth terminals of equipment like potential transformers, lighting arrestor, and LT supply transformers to the main masts of the gantries on which they are mounted. The price shall also cover all fastenings required for fixing the copper strip along any structure member of the gantry.

BOQ ITEM OHE-47

Erection of all types of Copper Jumper Wires which are not covered in BOQ Item No. 41 (Supply of Jumper Wires covered in separate BOQ Item No. 43)

The prices shall cover the erection of the complete jumper assembly including jumper wire. The price shall be applicable for all type jumper wire connections (Jumper connection in any combination between feeders, lightening arrestors, isolators and booster stations, between the Overhead equipment and L.T. Transformer's drop out switch) which are not covered in BOQ Item No. 41.

BOQ ITEM OHE-48

SUPPLY AND ERECTION OF CONCRETE FOR FOUNDATION AND PLINTH IN ALL TYPES OF SOIL

The price shall cover excavation, supply and handling of all materials and accessories, temporary arrangements for excavation in all types of soils and soft rock, concrete/masonry drains/walls, shoring where-ever necessary, casting concrete including frame work wherever necessary, tamping of concrete, grouting of masts and finishing the top of concrete foundation or anchor blocks. The price also includes dismantling of all connected temporary arrangements, back filling with excavated earth and compacting the same to the required height and width as per drawing to ensure safety of foundation, confining the exposed height of foundation block to within 10 cm., and removal/ dressing of

soil. The price shall also include the cost of supply of cement. In case of buried foundation grouting/muffing of mast shall be done as per RDSO letter TI/CIV/FNDS/2017 dt 26.09.2017.

Notes for measurement

1. The payable volume of the foundations under the above item shall be the designed one as shown in the drawings for which the hole has been made, irrespective of the actual configuration.
2. The depth of the excavation shall be measured from the formation level to the maximum excavated point.
3. The prices shall be calculated for the individual volume of concrete, fraction of a cubic meter beyond the third decimal shall be rounded off to the next nearest third decimal.
4. The prices shall apply for concreting of all foundations for mast, gantries, portals, anchor blocks for guy rods, and fencing uprights.
5. For purposes of computation of volume of concrete, the volume of steel work embedded in the foundation block shall be ignored.
6. For the purpose of computation of volume of concrete, the volume of concrete shall include the volume of sand and bitumen in sand cored foundation. However, for the purpose of computation of quantity of cement utilized in sand core foundations, the volume of the sand and bitumen used in core hole should be deducted from the total volume of the foundation.
7. For purposes of computation of volume of concrete, the volume of each muff for all masts shall be taken as 0.02 cu.m. except for masts with balance weights and for each column of portal, mast, 2 or 3 track cantilever masts, and special fabricated masts for which the volume of muff shall be taken as 0.08 cu.m, irrespective of the size and shape of the muff, on a flat basis.
8. The item shall also be applicable to include the cost of concrete of equipment at the switching stations/ traction sub-station (except building foundations) as well as embedment of drain pipes, wherever required.
9. The prices shall also cover the cost of diversion of masonry/ earth drain wherever necessary for casting of foundations.
- 10.(a) RDSO guidelines shall be followed for grade of concrete, type of foundations etc.
 - (b) Generally Concrete for foundation shall be nominal mix of Grade-M-10 (obtained by mixing of Cement, coarse aggregate, fine aggregate and water in accordance with the proportion as given vide Table 3 of IS: 456-1978), including ramming by vibrator.
 - (c) For grouting, muffing, embedding of structure in foundation and for cable Trenches at Switching station, normal mix concrete of M-15 obtained by mixing materials in proportion as indicated in table 3 of IS: 456-1978, shall be used.
 - (d) Foundations casted in Soft/ Hard rock, and whether they are in-contact or buried under any non-aggressive soil/ ground water, the foundation concrete shall be of M-15 grade and core concrete shall be of M-20 grade.
 - (e) Foundations casted in Soft/ Hard rock in coastal areas, the foundation as well as core concrete shall be of M-20 grade each. In case of buried foundation grouting/muffing of mast shall be done as per RDSO letter TI/CIV/FNDS/2017 dt 26.09.2017.
11. No extra payment shall be made for foundation casted with steel reinforcement as per RDSO drawing.
12. Cement for use in the works should be procured by the contractor from the main producers/ their authorized dealers/ authorized stock yards which should conform to BIS specifications.
13. Cement bags preferably in paper bag packing should bear the following information in legible markings.
 - i) Manufacturer's name.
 - ii) Registered trade mark of manufacturer, if any,
 - iii) Type of Cement.
 - iv) Weight of each bag in KGs or No. of bags/Ton
 - v) Date of manufacture, generally marked as week of the year/year of manufacture, e.g. 30/93 which means 30th week of 1993.
- 14) To ensure quality control, if demanded by Purchaser, test certificate from the manufacturers should be produced by the contractors which should conform to the relevant specifications (latest may be incorporated).
- 15) Purchaser may also take samples during the course of work and get the cement tested to ascertain their conformity to specifications. When such sampling is done, it should be as per IS specifications.
- 16) Tests on the samples to be carried out in field should be as per IS 4031. Some of the tests which may be carried out are.
 - i) Compressive strength.
 - ii) Initial and final setting time.
 - iii) Consistency.
 - iv) Soundness.

BOQ ITEM OHE-49

SUPPLY AND ERECTION OF CONCRETE FOR FOUNDATION AND PLINTH IN EXTRA HARD ROCK

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The prices shall cover excavation, supply and handling of all materials, and accessories, temporary arrangement for excavation in hard rock and concrete/ masonry drains/ walls requiring use of Chisel and hammer and/or blasting/ shoring where-ever necessary, casting concrete including frame work where-ever necessary, tamping of concrete, grouting of masts and finishing the top of concrete foundation or anchor blocks.

The price also includes dismantling of all connected temporary arrangements, back filling with earth and compacting the same to the required height and width as per drawing to ensure safety of foundation confining the exposed height of foundation block to within 10 cm., and removal of soil.

The purchaser's Engineer shall certify where use of chisel and hammer or blasting is necessary. The contractor shall arrange for supply of explosives and all tools and plants for blasting operations at his own cost. If half or more of the depth or width of excavation is in hard soil/ concrete/ masonry. The price shall also include the cost of supply of cement

Whether casted in Drains/walls or in rock, the entire foundations shall be paid as per the rate. Even if, half of the depth or width of the excavation is in hard soil/ concrete/ masonry drains/ walls and the other half is in rock, the entire foundation shall be payable as per the rate.

The price shall include the cost of cement. Before starting the foundation work, cutting/ filling of earth, etc. as required at site will have to be carried out by the contractor.

Item against OHE- 47 will be payable only for extra hard rock locations where rock breaker is required for cutting/drilling of rocks and is certified by purchaser's Engineer.

Notes for measurement

1. The payable volume of the foundations under the above item shall be the designed one as shown in the drawings for which the hole has been blasted, irrespective of the actual configuration assumed by the latter due to the blasting.
2. The depth of the excavation shall be measured from the formation level to the maximum excavated point.
3. The prices shall be same for any shape or size of concrete blocks. In calculating the individual volume of concrete, fraction of a cubic meter beyond the third decimal shall be rounded off to the next nearest third decimal.
4. The prices shall apply for concreting of all foundations for mast, gantries, portals, anchor blocks for guy rods, and fencing uprights.
5. If half or more of the volume of excavation is in hard soil/ rock requiring chiseling/ blasting, then the entire foundations shall be paid for under this item.
6. For purposes of computation of volume of concrete, the volume of steel work embedded in the foundation block shall be ignored.
7. For the purpose of computation of volume of concrete, the volume of concrete shall include the volume of sand and bitumen in sand cored foundation. However, for the purpose of computation of quantity of cement utilized in sand core foundations, the volume of the sand and bitumen used in core hole should be deducted from the total volume of the foundation.
8. For purposes of computation of volume of concrete, the volume of each muff for all masts shall be taken as 0.02 cu.m. except for masts with balance weights and for each column of portal, each head span mast, 2 or 3 track cantilever masts, and special fabricated masts for which the volume of muff shall be taken as 0.08 cum, irrespective of the size and shape of the muff, on a flat rate basis.
9. The item shall also be applicable to include the cost of concrete of equipment at the switching stations/ traction sub-station (except building foundations) as well as embedment of drain pipes, wherever required.
10. The prices shall also cover the cost of diversion of masonry/ earth drain, wherever necessary for casting of foundations.
- 11.(a) RDSO guidelines shall be followed for grade of concrete, type of foundations etc.
 - (b) Generally Concrete for foundation shall be nominal mix of Grade-M-10 (obtained by mixing of Cement, coarse aggregate, fine aggregate and water in accordance with the proportion as given vide Table 3 of IS: 456-1978), including ramming by vibrator.
 - (c) For grouting, muffing, embedding of structure in foundation and for cable Trenches at Switching station, normal mix concrete of M-15 obtained by mixing materials in proportion as indicated in table 3 of IS: 456-1978, shall be used.
 - (d) Foundations casted in Soft/ Hard rock, and whether they are in-contact or buried under any non-aggressive soil/ ground water, the foundation concrete shall be of M-15 grade and core concrete shall be of M-20 grade.
 - (e) Foundations casted in Soft/ Hard rock in coastal areas, the foundation as well as core concrete shall be of M-20 grade each. In case of buried foundation grouting/muffing of mast shall be done as per RDSO letter TI/CIV/FNDS/2017 dt 26.09.2017.

12. No extra payment shall be made for foundation casted with steel reinforcement as per RDSO drawing. Similarly, no extra payment shall be made for foundations casted as per 11(b), (c)
13. Cement for use in the works should be procured by the contractor from the main producers/ their authorized dealers/ authorized stock yards which should conform to BIS specifications.
- 14) Cement bags preferably in paper bag packing should bear the following information in legible markings.
 - i) Manufacturer's name.
 - ii) Registered trade mark of manufacturer, if any,
 - iii) Type of Cement.
 - iv) Weight of each bag in KGs or No. of bags/Ton
 - v) Date of manufacture, generally marked as week of the year/year of manufacture, e.g. 30/93 which means 30th week of 1993.
- 11) To ensure quality control, if demanded by Purchaser, test certificate from the manufacturers should be produced by the contractors which should conform to the relevant specifications (latest may be incorporated).
- 12) Purchaser may also take samples during the course of work and get the cement tested to ascertain their conformity to specifications. When such sampling is done, it should be as per IS specifications.
- 13) Tests on the samples to be carried out in field should be as per IS 4031. Some of the tests which may be carried out are.
 - i) Compressive strength.
 - ii) Initial and final setting time.
 - iii) Consistency.
 - iv) Soundness.

BOQ ITEM OHE-50

SUPPLY AND ERECTION OF CONCRETE FOR FOUNDATION AND PLINTH FOR REINFORCED CONCRETE:

The price shall cover excavation and providing & laying of all reinforced concrete work for pier/ column/ pile/ pedestals/ columns/ cable trenches/ trench covers **and** other materials including bending, binding, laying of reinforcement, shoring and shuttering where necessary, casting concrete including frame work, where necessary, grouting and finishing the tops of foundation blocks with the required slope/muff, where required. The price shall also include dismantling of all connected temporary arrangements, back filling as required and removal of soil. The price shall also include the cost of supply of cement. Dowel bars will not be considered as reinforcement for the purpose of this item

Notes for measurement

1. The Concrete for cable trenches/ trench cover/pier/column/pile shall be nominal mix of 1:2:4 (M-15 grade)
2. The prices shall be same for any shape or size of concrete blocks. In calculating the individual volume of concrete, fraction of a cubic meter beyond the third decimal shall be rounded off to the next nearest third decimal.
3. The prices shall apply for concreting of all foundations for mast, gantries, portals, anchor blocks for guy rods, and fencing uprights.
4. For purposes of computation of volume of concrete the volume of steel work embedded in the foundation block shall be ignored.
5. The price under this item shall also include the cost of concrete cable trenches and trench covers at the switching stations/traction sub-station as well as embedment of drain pipe, where required.
6. The prices shall also cover the cost of diversion of masonry/ earth drain wherever necessary for casting of concrete.
7. The price under this item shall also include the cost of required steel for the work. The payment of cost of cable support and trays will be made through a separate schedule item meant for payment of steel.
8. The price shall cover casting of cable trench covers in reinforced concrete as per approved RDSO latest drawing. The cable trench covers will be cast in a galvanized angle iron frame of angle size 40x40x5 the price shall include the supply of steel for reinforcement angle iron for the frame work fabrication of angle iron frame etc. The price shall include positioning and dressing up of the trench covers, if required. The price shall include the cost of cement also.
9. *The steel for nominal reinforcement will be arranged by the Contractor and the concrete mixture, in such a case shall be as for normal foundations 1:3:6*

BOQ ITEM OHE-51

SUPPLY AND ERECTION OF A GUY ROD ASSEMBLY:

The price shall cover supply and erection of a guy rod assembly of various lengths for traction masts, feeder line towers or supports complete with mast guy rod fittings, guy rod with adjustments and part/s to be grouted in the anchor block. The price shall not include the cost of supply and erection of a dwarf or stub mast with anchor plates drilled and welded in position, where required, for anchorage, and small parts steel work, complete with bolts and

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nuts etc., if any for attaching the mast guy rod fittings to the mast/ structure which shall be paid for separately under the relevant item.

COMPONENTS REQUIREMENT

Rly. Id No.	Description of components	Qty. for unit
1	2	3
3232	Mast guy rod fitting (welded) complete with 4 short bolts, nuts, lock nuts and washers for attachment to mast/S.P.S including appropriate fittings	1 off
5001/5001-1 or 5001-3	Anchor bolts (complete with nuts, lock nuts and split pins)	1 Set
5002	Guy rod stirrup	1 off
5004 or 5005 or 5006-1 or 5070 or 5071	Guy rod with nut, washer and split pin	1 off
5007-1	Anchor 'v' bolt	2 off
5008	Anchor loop	2 off
5220	Guy rod double strap assembly	1 off or 2 off (as required)

NOTE :

1. In case the Contractor desires to adopt a different design for guy rod assembly, the same shall be indicated by him in the Tender and the components required should be clearly listed under this item.
2. Supply and erection of guy rod assembly at anti-creep portals will also be paid for under this item.

BOQ ITEM OHE-52

SUPPLY AND ERECTION OF PROTECTIVE SCREEN ON FOBS/ROBS:

The price shall cover the cost of supply and erection of protective screen on ROBS/FOBs. The cost of all material required for fabrication of protective screen including MS Angle, Tee, expanded metal (Jali), GI sheet, paints, suitable fixtures for fixing on the ROB/FOB etc. The price shall also include the labour cost for fabrication, erection on ROB/FOB and painting. The fabrication and erection work shall be done as per RDSO Drg. No. ETI/C/0068 Mod-E or latest.

BOQ ITEM OHE-53

SUPPLY AND ERECTION OF BRACKET ASSEMBLY AS PER OHE PLAN:

The price shall cover on a flat rate basis for supply and erection of any bracket assembly on a traction mast or support or drop arm and shall include those on high/low level platform, in the vicinity of turnouts, over bridges or over-laps and at locations with reduced encumbrance or terminating wires. The price shall include the cost of supply of all components including galvanized steel tube, composite/ solid core porcelain stay arm & bracket arm insulator assemblies (CD-1050mm) (however cost of the insulators will be paid separately under respective item) dropper wires and small parts steel work complete with bolts and nuts, MCC channel, etc., if any as per latest guidelines/ specifications of railways. The price shall cover erection of all components including solid core insulators and dropper wires, small parts steel work, if any. However, this does not include the anti-creep arrangement at masts/ structures. The price shall also include the cost of following components as per requirement:

Rly. Id No.	Description of components	Qty. for unit
1	2	3
3020	Mast fitting for hook insulator including GI bolts, nuts, lock nuts and 16 dia washers	1 set
3070-1/2	Mast Bracket fitting assy. complete with nuts, Lock nuts and 16 mm dia washers and fasteners for attachment to structure or to small part steel work.	1 set
2400/2402-1/ 2403-1	Tubular stay arm assembly (including galvanized steel tube) including tubular stay arm adjuster/ RRA adjuster and Tubular stay sleeve	1 set
2110/2130/ 2380	Catenary suspension bracket assembly or hook bracket	1 off
1160	Single Suspension clamp for Catenary with U bolt and nuts and lock plate.	1 off (as required)
2120/ 2140/	Bracket tube assembly complete with tube cap and sleeve	1 set

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Rly. Id No.	Description of components	Qty. for unit
1	2	3
2040/ 2080/ 2081	where required (including galvanized steel tube). Large Bracket tube 49/40mm	
2104-1	Tube cap 40 mm	
2150-1 & 2160-1	Register arm hook assembly complete with bolts, nuts and lock nuts.	1 off
2420/ 2423-1/ 2422-1	Register arm assembly or raised register arm assembly (including galvanized steel tube). Tube cap 25mm. Reg Arm eye piece	1 set
2270-4 or 5, 2460 Sty - 02, 2470 Style 02	Register arm dropper assembly including dropper wire complete with bolts, nuts etc.	1 set
2390/ 2540/ 2520	BFB steady arm or bent steady arm	(As required)
2360/ 2490-2	25 mm steady arm drop bracket/clamp	-do-
1220/ 1370/-1	Contact wire swivel clip or raised register arm clamp	1 off
2550-1/2	Anti wind clamp	As required
	Bracket insulator and Stay arm insulator (To be paid separately in respective item)	One set

The price is also applicable for the provision of any additional fitting & required to support an additional OHE on a single bracket assembly payable under this item. The price shall include supply of all extra fittings including the double contact wire swivel clip. Quantity of payment will be 2 Nos. for double cantilever assemblies and 3 Nos. for triple cantilever assemblies. Modified RRA clamp shall be provided at curve locations as per latest RDSO/RB guidelines.

BOQ ITEM OHE-54

SUPPLY AND ERECTION OF REGULATING EQUIPMENT (MODIFY 3 PULLEY TYPE) WITH COUNTER WEIGHT ASSEMBLY FOR CONVENTIONAL OHE):

The price shall cover supply and erection of a 3-Pulley type counter weight assembly including 9 ton adjuster with double strap assembly and normal/anti-theft guide tube assembly, the supply of regulating equipment and stainless steel wire rope required for the regulating equipment and small part steel work, if any, as per latest railway guidelines / specifications. The price shall also cover adjustment of the entire regulating equipment and painting of counter weight with one coat of red oxide and two coats of Aluminium paint.

BOQ ITEM OHE-55

SUPPLY AND ERECTION OF A STRUCTURE BOND/ A LONGITUDINAL BOND/ TRANSVERSE AND SPECIAL BOND:

The price shall cover supply of all materials including mild steel flats required to provide a structure bond connecting a traction mast or structures to the nearest non-track-circuited rail, or earth electrode, including all fastenings at both ends. The price shall include shaping and drilling of the bond and erection of all materials including provision of heat shrinkable PVC tube for structure bond under track circuit rail. This would also cover connection or earthing terminals of equipments like LT Transformers with structure and then to rails as per relevant drawings.

The price shall cover provision of connection of buried rails to running rail as per RDSO drawing No. ETI/OHE/G/05306 & shall include supply, fabrication and erection of all connections (including drilling at both ends) and refilling of buried rail pit.

The price shall cover the supply of all materials including mild steel flats, fasteners etc. required to provide longitudinal bond / transverse bonds connecting to rails at the rail joint at the locations to be specified by the Employer. The price shall include shaping and drilling of the bond and erection of all materials including the bonds.

The price shall also cover the supply of all materials including mild steel flats to provide special bonds at level crossings, foot over/ road over bridge/protective screen etc. for which the location will be specified by the Employer. The price shall include shaping and drilling of the bond and erection of all materials including the bond.

BOQ ITEM OHE-56

SUPPLY AND ERECTION OF SINGLE EARTH ELECTRODE 3 MTR WITH CONNECTION TO NEAREST TRACTION RAIL/STRUCTURES:

The price shall cover supply and erection of an earth electrode as per RDSO drawing and connection to nearest traction rail/structure with 40/50x6 mm MS/flat. The price shall cover the provision of a protective concrete box with removable cover as shown in the drawing. The price shall include the testing of earth value and painting the particulars on the box

BOQ ITEM OHE-57

SUPPLY AND ERECTION OF ALL TYPES OF GALVANISED STEEL STRUCTURES, SMALL PARTS STEEL etc:

The price shall cover the cost of supply, fabrication, galvanization, erection, alignment and setting before grouting of all types of individual Traction Masts or main masts of switching stations or finished traction mast or steel for gantries/ portals and/or supporting/additional steel structures (including those required for head spans of traction mast or main mast of switching stations) and small steel parts required in Traction Sub-station work.

The price shall also cover the costs of :-

- 1) Supply / erection of finished Traction Mast fabricated from rolled mild steel beam (BFB) 152 mm x 152mm x 37.1 Kg/m designated SC-150, table 3.1 of IS-808/1989 duly drilled as per RDSO's Specification No. ETI/OHE/C/00144 Mod- B or latest and galvanized as per specification No. ETI/OHE/13(4/84) with A&C slip No. 1 to 3 or latest. The length of mast will be 9.5 or 8.5 meter as required.
- 2) supply / erection of any other structures fabricated out of Rolled Mild Steel Joist beams (RSJ) 203 mm x 152 mm x 52.0 Kg/m designation WB-200, according to Table 2.2 of IS- 808/1989 and duly drilled as per RDSO drawing nos. given below for various type of masts and galvanized as per specification No. ETI/OHE/13(4/84) with A & C slip No.1 to 3 or latest. Following drawing may be referred :-
 - (i) ETI/OHE/C/0000144 Mod- 09.5 M long
 - (ii) ETI/C/0030 Mod-F 11.4 m (S1)
 - (iii) ETI/C/0031 Mod-D 11.4 m (S2)
 - (iv) ETI/C/0036 Mod-E 08.0 m (S4)
 - (v) ETI/C/0181 Mod-C 12.4 m (S6)
 - (vi) ETI/C/0184 Mod-B 09.4 m (S9)
- 3) supply / erection of O, N and R type portals with necessary components as per following RDSO Drawing Nos., cost of erection, alignment and setting before grouting, wherever required, of portals assembly of boom components and erection of the same.
- 4) supply and erection of galvanized bolts, nuts washers etc. wherever required as per approved designs and drawings.
- 5) assembling, adjustment and erection of all types of booms including TTC booms and any special structures across the track, not covered under this item.
- 6) assembly of the fabricated steel work at site to the extent necessary. The structures shall be fabricated and galvanized from steel conforming to IS-2062 or 'A' as per concerned specification i.e. IS:2062/1984, IS-808/1989 and RDSO specification No. ETI/OHE/13 (4/84) with A&C slip Nos 1 to 3 or latest.
 - (i) ETI/C/0008 Sheet No. 2 to 6 latest Mod for 'N' type
 - (ii) ETI/C/0017 Sheet No. 2 to 6 latest Mod for 'O' type
 - (iii) ETI/C/0011/69 Sheet No. 2 to 6 latest Mod for 'R' type
- 7) supply of B-Series traction mast 9.5 m long i.e. B-150, B-175 and B-200 etc. fabricated and galvanized as per RDSO Drawing No. ETI/C/0071 (Mod-E) and specification No. ETI/OHE/13 (4/84) or latest.
- 8) supply of special fabricated and galvanized steel structures (other than BFB/RSJ/'B' Series Masts and Portals). The structure to be supplied under this item TTC, 'G' Type, BFB Type portals, Bridge masts, Emergency masts and Double/Fabricated 'S' Series masts such as S-3, S-5, S-7, S-8, S-100, S-101, T-150, cable trays etc., Any other similar structure required during the execution of work shall also be supplied under this item.
- 9) Steel for fabrication, galvanization and supply at site for erection. Steel shall be conforming to IS:2062 Grade 'A' SK 1984 (Latest), Zinc conforming to IS:209/1997 (Latest) and galvanization to RDSO's specification No.ETI/OHE/13 (4/84) with 'A' & 'C' slip No. 1 to 3 or latest. The various structures covered under this item are:

Sr	Description	Drawing No	Mod.
1	TTC with 5.5/8.0 mtrs boom	ETI/C/0009 Sheet 2 to 5	'B'
2	'G' type Portal Up right and End Pieces	ETI/C/0056	'C'
3	BFB Portal	ETI/C/0026 Sheet 2	'A'

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4	S-7, 12.4 MTRS Length	ETI/C/0182	'C'
5	S-8, 12.4 Mtrs Length	ETI/C/0183	'C'
6	S-100, for LT Transformer at SWS	ETI/C/0043	'B'
7	S-101, for Isolators inside SWS	ETI/C/0180	'A'
8	S-3, 11.4 Mtrs	ETI/C/0180	'C'
9	S-5, 11.4 Mtrs	ETI/C/0042	'E'
10	T-150, for LT Supply Transformer	ETI/PSI/037	'C'

- 10) erection, alignment and setting before grouting, wherever required, gantries, including tower / steel tower / steel work for feeders for traction sub-station, drop arms, standard super masts and suspension brackets for feeders and return conductors. Dwarf masts of stub masts for anchoring, complete with anchor plates drilled and welded in position multiple cantilever cross arm, chairs, adopters for bracket assemblies and all other small part steel works, the erection of which is carried out by the contractor irrespective of whether they are supplied by purchaser/contractor. The prices shall also include supply and erection of galvanized bolts, nuts washers etc., wherever required as per approved designs and drawings.
- 11) Supply / erection of any other size of B-series or K-Series mast required, that has not been mentioned in this item.
- 12) repairing of platform shelters in case the shelter is dismantled/removed/damaged during the course of erection of a mast / portal at platforms.
- 13) stenciling of location number on masts/portal uprights in the manner as directed by the Purchaser.
- 14) straightening of masts/portals uprights wherever approved by the purchaser and cutting of mast/portals/upright to suit the site condition.
- 15) supply of all fabricated steel work excluding fasteners which are required to be supplied by the Contractor. The cost of erection for such steel work, if carried out by the Contractor shall be paid for under relevant item

Note:

- 1) All gantries/portals and supporting steel structures and small parts steel work will be supplied by the Contractor. The term "Small parts steel work" is meant to cover fabricated steel work made from rolled steel sections such as cross beams, base-plates, backing angles, knee brackets etc. including bolts, nuts, locknuts and washers etc. for fastening the small parts steel work to any structural member.
- 2) The steel supporting frame of equipment supplied along with the equipments will not be reckoned for purposes of payment under this item unless specifically indicated. None of the other items of the work shall include the cost of supply and erection of small parts steel work which will invariably be paid in this schedule item, as applicable.
- 3) The calculated weight to be considered for payment under this item shall be included in relevant drawings at the time of submitting designs for approval of the Purchaser.
- 4) For the purpose of payment, the weights of individual traction mast and masts of head span shall be determined for each type on the basis of the payable weight per meter length shown below for standard types.
- 5) For special types, the payable weight per meter length will be indicated by the Employer at the time of approval of designs.
- 6) For purposes of payment, the weight of fabricated steel work shall be calculated according to the weight of black steel given in section books for the lengths of various members, as shown in approved drawings. There will be no addition for increased weight due to galvanizing or painting or reduction for holes or skew cuts. An addition of 1% will, however, be made to the calculated weight to cover weight of bolts, nuts, locknuts and weld materials etc. The weights of holding-down bolts, calculated on the basis of standard weight tables shall be separately included in the payable weight of steel under this item.

PAYABLE UNIT WEIGHTS FOR STANDARD MASTS

Sr	Type of masts	Weight in Kg per meter including galvanization
1	6"x6" BFB	38.03
2	162x154 BFB	38.00
3	200x200 BFB	51.20
4	8"x6" RSJ	53.39
5	S1	53.30
6	S3	76.40
7	S4	53.39
8	S5	111.53
9	S6	53.39
10	S7	76.40
11	S8	111.53
12	K 100	23.70
13	K 125	30.30

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14	K150	38.18
15	K175	43.72
16	K200	49.87
17	K225	57.50
18	K250	66.72
19	B100	27.71
20	B125	32.47
21	B150	39.07
22	B175	44.61
23	B200	50.76
24	B225	61.50
25	B250	70.72
26	S 100	23.72
27	S101	19.98
28	Other Sections	As & when issued by RDSO/ market survey etc

The steel shall be conforming to IS-2062/1992 (latest) Gr 'A' SK zinc conforming to IS-209/1992 or latest.

For standard fabricated steel work for which RDSO'S approved drawings are available, the weight of steel work as specified in RDSO'S drawings shall be considered for payment. However, in case the unit sectional weight of any member indicated in RDSO's drawing is not in conformity with the unit sectional weight as per the latest IS specification, the weight of the fabricated steel work shall be calculated on the basis of latest IS specification and the same will be considered for payment. For the non-standard fabricated steel work, the calculated weight to be considered for payment under this item shall be included in the relevant drawing based on, latest IS sectional weight at the time of submitting the designs for approval of the Employer

- 7) The payment shall be made on the basis of the final lengths/ weight of the structures, in case the same are cut or modified as indicated above before erection.
- 8) For the purpose of payment against items, weight of structures or fabricated steel work will be calculated according to the weight of black steel given in section books for the lengths of various members shown in the approved drawings. There will be no addition for increased weight due to galvanizing or painting or weld material or reduction for holes or skew cuts.
- 9) The rates against item shall be applicable to the erection of small part steel work, including cable tray for TSS/switching post cable laying which are not covered under the various other items of work

BOQ ITEM OHE-58

SUPPLY AND ERECTION OF FENCING PANELS, UPRIGHTS, GATE, AND ANTI-CLIMBING DEVICE:

The price shall include supply and erection of fencing panels painted with two coats of red oxide zinc chromate primer to IS: 2074 and finished with two coats of aluminium paint to IS:2339. The prices shall also include supply and erection of fencing upright, anti-climbing devices including the cost of fasteners and the price shall be for a meter length of the panels 2.4 m height measured in the plan view of the appropriate approved drawings.

The prices shall be on the basis of black weight of the steel with no deduction for holes or skew cuts or no increase for weld materials.

The price shall also cover supply and erection of an anti-climbing device consisting of galvanized steel fixtures mounted on the fencing panels as per approved design. The price shall be per meter length of the panel. Fencing panel shall be manufactured with 8 SWG GI wire as per CORE drawing no CORE/ALD/PSI/001 Mod 'B'.

The price shall cover cost of supply and erection of fabricated fencing uprights painted with two coats of red oxide zinc chromate primer and finished with two coats of Aluminum paint to IS: 2339. The price shall be on the basis of black weight of the steel section of the approved drawing with no deduction for holes and skew cuts or no increase for weld materials. The cost of foundation of uprights will be paid separately. Provision of the earth connections connecting each upright with the main earth bus as per approved drawing shall be paid separately.

The price shall cover cost of supply and erection of gates including locking device as per Drg. No. CORE/ALD/PS/01 Mod. 'C'. The gates will be painted with two coats of red oxide zinc chromate primer to IS: 2074 and finished with two coats of aluminum paint as per particulars specified in IS: 2339. The price shall be per meter length of the gate as measured on the plan view of the appropriate approved drawings. The price shall also include providing two bond connections made of multi-stranded flexible steel equivalent to 6 SWG in the form of helical spring for the purpose of continuity of earthing between the gate and the adjacent fencing uprights as per the approved drawings. Both fixing

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ends shall be provided with an "eye" and properly clamped. NOTE: All fasteners, bolts, nuts, locknuts and washers etc. required for assembly and fixing of steel work shall be galvanized.

The price shall cover supply and erection of an anti-climbing device consisting of steel fixtures and galvanized barbed wire mounted on the fencing panels as per approved drawings. The price shall be per meter length of the panel. The price shall include painting of the fixtures with two coats of red oxide zinc chromate primer and two finishing coats of aluminum paint as per particulars specified in IS: 2339.

BOQ ITEM OHE-59

Supply and erection of M-27 x 500mm Hilty AM8.8 rod and core cutting of 32 mm dia into 400mm depth and grouting with Hilty RE-500:

The price shall cover Supply and erection of M-27 x 500mm Hilty AM8.8 rod and core cutting of 32 mm dia into 400mm depth and grouting with Hilty RE-500. The price shall include complete arrangement like scaffolding, use of generator its transportation and all other charges. No any additional payment will be given for supply and erection of all the materials for this purpose. This item is specially used at bridge piers hence all safety arrangements shall be made by the contractor for which no any additional payment will be given

BOQ ITEM OHE-60

Supply and erection of M-16 x 300mm Hilty V anchor and core cutting of 20 mm dia into 200mm depth and grouting with Hilty RE-500:

The price shall cover Supply and erection of M-16 x 300mm Hilty V anchor and core cutting of 20 mm dia into 200mm depth and grouting with Hilty RE-500. The price shall include complete arrangement like scaffolding, use of generator its transportation and all other charges required for completion of the same. No any additional payment will be given for supply and erection of all the materials for this purpose. This item is specially used at bridge /concrete walls, tunnels hence all safety arrangements shall be made by the contractor for which no any additional payment will be given

BOQ ITEM OHE-61

Breaking and removal of concrete from already casted foundation with hand held rock breaker:

The price shall cover breaking of existing foundation or already casted foundation with hand held rock breaker or other means and removal of debris. Payment under this item will be made only for the item which is not covered in any other schedule.

BOQ ITEM OHE-62

OHE miscellaneous modification/dismantling of existing OHE as per individual rates mentioned against each item.

The price shall cover dismantling of existing OHE assets/ items/ equipments/ parts by use of Tower Wagon/ Ladder/ M&P or manually by cutting/ labour etc as mentioned against each schedule item. The price shall also include transportation and handing over of the released materials to the nearest nominated stores

BOQ ITEM OHE-62 (a)

Slewing and re-slewing of OHE:

The price shall cover Slewing and re-slewing of existing OHE of one span. Slewing and re-slewing shall be done in proper way without damaging the OHE. After slewing of OHE it shall be properly secured till it is re-slewed.

BOQ ITEM OHE-62 (b)

Splicing and extension of OHE:

The price shall cover Splicing and extension of contact/catenary wire each. The price will also cover supply and erection of contact/catenary splice.

BOQ ITEM OHE-62 (c)

Adjustment of existing OHE & TW checking:

The price shall cover adjustment of existing OHE by Tower Wagon/ Ladder as the case may be for the OHE transferred from one mast/support to another mast/ support for one span of OHE. No extra payment will be made for slewing/ re-slewing of OHE which will be paid in separate BOQ item.

BOQ ITEM OHE-62 (62(d) to 62 (r))

Dismantling of OHE items

The price shall cover dismantling of existing OHE assets/ items/ equipments/ parts by use of Tower Wagon/ Ladder/ M&P or manually by cutting/ labour etc. The price shall also include transportation and handing over of the released materials to the nearest nominated stores.

BOQ ITEM OHE-63

Execution (Erection/dismantling) under power block @100% extra of erection/dismantling rate

The price shall cover the payment under power block which will be paid @100% extra of erection/dismantling rate. Work under power block will be decided by IRCON Engineer.

BOQ ITEM NO. OHE -64

Cost of EIG approval of OHE & switching stations:

The price includes the preparation of EIG Documents, Submission of EIG Documents to Railway, submission of compliance of observations noted by Railway Officials in their Inspection Note in EIG Documents, liaisoning with Railway Officials for EIG Approval for OHE and Switching Station works.

BOQ ITEM OHE-65

Inspection & Checking by Railway Officer at various level.

The cost shall be reimbursed to contractor toward working lunch, dinner, staying arrangements & etc. on producing of original bills and decided by Engineer-in-charge or Engineer's representative.

BOQ ITEM OHE-66

Rent of Tower Car charges for OHE checking (Span, Bracket, SI, Turnout & as required for commissioning).

The Tower Car (including fuel cost) is requested by the contractor on behalf of IRCON. The cost of the Rent of Tower car per day is to be paid by the contractor to the Railway. If the contractor fails to make the payment to the Railway for the Tower Car charges (including fuel cost), IRCON will make the payment on behalf of the contractor and deduct the amount, along with a 10% profit from the contractor's running bill.

The cost includes the Rent per day for Tower Car, including fuel and Operator's cost.

BOQ ITEM NO. OHE -67

WATCHING AND GUARDING OF OHE ALONG THE TRACK AFTER EIG FOR 12 HRS EACH DAY ON ADMINISTRATIVE REASONS:

Price shall include provision of watchman/guard armed/unarmed for guarding of OHE along the track for 12 hours each day as per timings specified by Engineer after EIG in case there is abnormal delay in energization of OHE due to administrative reasons and not due to any fault of the contractor. In such cases specific approval of Employer shall be taken by contractor prior to deployment of persons. However, this arrangement shall not in any way absolve the contractor of any responsibilities against theft of OHE which shall remain the contractor's liability including recoupment/rework of stolen material as mentioned in agreement.

The armed guard(s) shall have proper arms, ammunition and license issued by the competent authority to operate arms.

EXPLANATORYNOTES/ TECHNICAL SPECIFICATIONS FOR GENERAL ELECTRICAL WORKS
(SCHEDULE-I)

**1. EXPLANATORY NOTES VARIOUS ITEMS OF WORK IN ELECTRICAL GENERAL SERVICES
SCHEDULE ARE GIVEN BELOW:**

- i. All electrical works should comply with India Electricity Act 2003 and Rules framed there under.
- ii. All electrical installations shall conform to the relevant Indian standard and shall be carried out as per the relevant safety Code of Practices and guidance for Safety procedures in Electrical Works as per IS: 5216/Pt I & II/1982.
- iii. Notwithstanding the rating specified in the BOQ, all components proposed to be used in the installation, shall be of appropriate rating of voltage, current and frequency without any additional financial implication on Purchaser/ Employer. Discrepancies, if any, in this regard, shall be brought to the notice of the Engineer by the Contractor.
- iv. All minor items viz. hardware items, foundation bolts, termination lugs for electrical connections, ELCB (40 A DP 230 V for service/ station building & quarters) etc. as required and necessary for proper working of the equipment shall be deemed to have been included in the bill of Quantities, whether such items are specifically mentioned or not.
- v. (a) The basic quantities of components & materials required to make up a unit of work for selected items are approximate. The Contractor shall plan the work, estimate the actual quantities required and get the same approved by the Engineer before placing orders.
(b) In estimating the prices for various items of work, provision for loss or wastage in transit and erection including freight, handling, taxes and duties, insurance if any etc. should be taken into account and firm unit price offered for a complete unit of work to be done by the contractor.
- vi. The various items to be supplied/provided/erected should be as per the list of approved suppliers included in Employer/ Purchaser's Technical specifications/ List followed by concerned Zonal Railway. Items not appearing in the approved list shall be procured from good quality sources in line with best industries practices and shall be either ISI marked or conforming to latest ISI (if any). Before Procurement, Vendor approval shall be obtained from the Employer.
- vii. Good workmanship and total compliance with safety and other statutory rules and regulations, shall invariably be observed by the Contractor.
- viii. All approvals from the relevant and appropriate government & statutory authorities shall be the total responsibility of the contractor unless specified otherwise.
- ix. All quoted rates shall cover supply of materials, handling of materials, labour required, civil works, taxes and duties, fabrication, installation, testing and commissioning, training and free maintenance till handing over to the Employer's representative.
- x. If any activity of the work is essential for the satisfactory completion of the work but is mentioned specifically in the Bill of Quantities or elsewhere in the bidding documents, the same shall be deemed to be included in the scope of work and shall be executed by the contractor within the accepted cost. The work shall be handed over in a functional manner complete in all respects.
- xi. The contractor shall nominate an electrical supervisor with a minimum of 3 years of experience in supervising electrical general works. The CV of nominated supervisor shall be forwarded through nominated electrical site engineer of IRCON & to be got approved from the project head of electrical department of IRCON. All correspondences and proposals

regarding procurement of materials, approval of makes of materials, change in methodology of working and submission of bills shall be routed through nominated electrical site engineer of IRCON for further submission to electrical project head of IRCON.

- xii. Whenever required the contractor shall provide inspection vehicle(s) to the purchaser's authorized representative(s) for visiting the site of work or as per requirement for execution of work.

2. DRAWINGS

- i. The contractor shall prepare drawings in Auto Cad for all LT/HT installations, service buildings, quarters etc. indicating proposed works and shall obtain approval of Engineer prior to taking up the work, such drawings shall be prepared in coordination with all other agencies executing works at the same site and a maximum of 06 (Five) copies as per required by Employer/ Purchaser/ Railways with one tracing on RTF paper.
- ii. After commissioning, these drawings shall be duly update as per erection work at site and submitted in Five copies and one tracing in RTF paper, as Completion Drawings, along with a soft copy to the Employer.
- iii. where the contractor proposes to use an item of equipment, other than that specified or detailed on the drawings, which requires any re design of the structure, partitions, foundation, piping, wiring or any other part of the mechanical, electrical or architectural layouts, he shall inform the Engineer well in advance and obtain his approval. Delay resulting from such re-design shall be On Contractor's account. He shall also submit all related information as may be required for approval of such redesign, to the Engineer.
- iv. Where the work of the Contractor has to be executed in close proximity to or will interfere with work of other agencies, the contractor shall work out space/ time adjustments in coordination with other agencies. If the contractor installs his work before coordinating with other agencies, so as to cause any interference with their work, he shall make the necessary changes without extra cost to the owners of the installation.

3. EXPLANATORY NOTES FOR BOQ ITEMS

The descriptions of all items are self-explanatory. These Explanatory Notes are supplementary to the BOQ description. Further details shall be as per Railways guidelines / specifications as amended from time to time.

NOTE: Following particular requirements shall be followed for wiring works:

- 1. No conduit shall be of size less than 20 mm.
- 2. Occupancy of wiring cable in conduit shall not exceed 45% of the capacity of conduit.
- 3. Switch boxes shall be of galvanized sheet metal of suitable sizes from approved sources.
- 4. Separate conduit shall be laid for each circuit/ sub main/ main wiring.
- 5. Water cooler/ AC points and other such inductive loads shall be controlled with "C" series MCB's
- 6. Neutral cable shall be brought into each switch box.
- 7. Earth cable shall be brought into each switch box.
- 8. Fan point wiring shall include supply & fixing of fan box.
- 9. Approx. 150 mm long wiring cable shall be kept loose in switch box/ SDB/ DB etc.
- 10. Conduit laid in sheds shall be clamped with the shed structure with clamps made from GI strips of 25x1.6 mm and spaced at about 1000 mm interval, fixed with 8mm dia bolts with nuts.
- 11. Brass screw and cup washers shall be used for fixing sheets on the front of switch box.
- 12. All the wiring work shall be in conformity with IS-732/1989 (Latest Version) CODE OF PRACTICE FOR ELECTRICAL WIRING INSTALLATIONS & IS 4648/ 1968 (Latest Version) Guide for Electrical Wiring in Residential Buildings.
- 13. The equipments which are available with ISI mark in Indian market, they shall be supplied

having ISI mark only whether specifically mentioned in BOQ & Its explanatory notes or not.

14. All the energy consuming equipments which are available in Indian market with energy star rating issued by BEE, shall be supplied with minimum 3-star energy rating only whether specifically mentioned in BOQ & its explanatory notes or not.
15. Equivalent LED fitting and lamp (as approved by Engineer) may be used in place of other type of lighting fixtures with lamp for better life and energy efficiency.

ITEM NO GS-1 & 2: Supply, erection, testing and commissioning of LED Lights of different wattage

The item price includes supply, erection, testing and commissioning of cost of LED light fitting with luminary complete with all accessories of approved make etc. or as approved by Engineer. The item price also includes labour & cost of all materials including cost of FR PVC insulated multi-stranded single core copper conductor cable for wiring, earthing etc.

ITEM NO GS-3 & 4: SUPPLYING, INSTALLATION, TESTING AND COMMISSIONING OF LT SWITCH BOARDS OF DIFFERENT CAPACITIES.

The item price includes labour & cost of all materials including cost of LT switch board, connection of cables for incoming and outgoing etc. LT switch board shall be suitable for operation on 3 phase, 4 wire, 415-volt, AC supply system, fabricated with 16 SWG M.S. sheet powder coated and complete with hair connections, instrument connections with copper conductor cable, copper bus bar 200/250 amps. (as per capacity of switch board 63/125A), CT's, voltmeter, ammeter, LED type indication lights, cable glands earthing studs etc.

ITEM NO GS-5: SUPPLY AND ERECTION OF SP 06-32A MCB

Item price includes supply and erection of SP 06-32 A MCB.

ITEM NO. GS-6: SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF CUBICAL TYPE, MAST MOUNTED, DUST & VERMIN PROOF. L.T CONTROL BOARD FOR AT.

Item price includes supply, installation, testing & commissioning of L.T control switch board for AT switch board shall be cubical type mast mounted, dust & vermin proof. Conforming to IS:8623 (latest version), fabrication with 16 SWG, CRCA sheet, powder coated and complete with inter connections with copper conductor cable, copper bus bars in bus chamber, clustered LED type indicated lights, cable glands for incoming and outgoing clamping with mast 50x50x6mm MS flat clamps, earth studs etc. complete with TPN MCCB, copper bus bars etc. as per details given EMPLOYER/ PURCHASER/ RAILWAYS tech specification.

ITEM NO. GS-7 & 8: SUPPLY AND ERECTION OF CLASS'B' G.I PIPE WITH BENDS, ACCESSORIES ETC.

The item price includes labour & cost of G.I. Pipe class 'B', ISI marked with bends, accessories etc.

ITEM NO. GS-9: SUPPLYING, INSTALLATION, TESTING AND COMMISSIONING OF AUTOMATIC CHANGEOVER PANEL COMPLETE.

The item price includes labour & cost of all materials including cost of automatic changeover panel complete as per RDSO specification No. TI/SPC/PSI/CLS/0020(12/02) (with A & C slip No1 to 4) with connections as required.

Note: Vendor shall be approved as Approved Vendor List of Items by RDSO/CORE.

ITEM NO. GS-10: EARTHING WITH 3 METER LONG, 50 MM DIA G.I. PIPE CLASS "B" EARTHING ELECTRODE.

The item price includes labour & cost of all materials including cost of GI pipe, masonry enclosure, cover plate with lifting handle, charcoal/coke and salt (as conducting medium) etc. Earthing shall be in conformity to I.E Rule 61 and 67 and IS 3043/1987 (latest Version) and as per approved drawing.

Excavation shall be done complying with code of safety per IS 3764/ 1992 (latest version).

ITEM NO. GS-11: PROVISION OF MAINTENANCE FREE EARTHING

The main objective of an earthing system is to provide as nearly as possible a surface under around a station to be at a uniform potential as near zero or absolute earth as possible. Earthing practices adopted at sub-stations, distribution structures and lines are of great importance from safety perspective for persons and assets both. This modern maintenance free and durable earthing system should employ steel conductors which are copper clad and utilize graphitic compounds and non-corrosive salts as "ground enhancing material", so as not lead to corrosion in general. These earthing systems should normally provide trouble-free service for approx.. 15-20 years.

ITEM NO GS-12: SUPPLY AND LAYING OF G.I. STRIP BELOW GROUND OR SURFACE RECESS.

The item price includes labour & cost of all materials including cost of G.I. strip on surface or recess or digging in ground/making chase in wall/ floor and making good the damages, connections including soldering/ riveting etc. as require.

ITEM NO. GS-13 to 19: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF LT CABLE.

The item price includes Supply of LT XLPE cable conforming to IS: 7098/PT I (latest version) The price also includes labour cost for trenching, cost of bricks & sand & their laying in trench.

ITEM NO. GS-20: SUPPLY & ERECTION OF CABLE ROUTE MARKER

The price includes Fabrication of Cable route markers of size not less than 200x150x5mm thick M.S. Plate and bolted to 40x40x6mm M.S. angle iron of suitable length to hold the laid cable including fixing. Inscription on the plate shall be as specified in Employer/ Purchaser/ Railways Tech. Spec. Cable markers shall be provides as instructed by Engineer.

ITEM NO GS-21 : Supply And Erection Of High Mast System Complete With Accessories,

The item price includes & cost of Supply, erection, testing & commissioning of hot dipped galvanized (inside & outside), 16m high mast system (in two sections), complete with accessories, foundation bolts with nuts, washers, anchor plates & templates etc. manufactured from special steel head frame, 2-point suspension system with steel wire rope 6mm dia 7/19 construction), double drum winch, galvanized lantern carriage arrangement suitable for 9 luminaries symmetrically arranged & control gear boxes and lighting final etc. the mast shall have integral type power tool at the base compartment for its raising and lowering operation, twin dome aviation obstruction lights with suitable wattage lamp, control panel etc. High mast shall be supplied complete with LED luminaries (degree of protection IP-65) with control gear boxes, LED lamps, multi core flexible copper conductor cable of suitable rating, connection with earthing system etc. as required.

Control panel shall consist of:

- (a) 1x63 A TPN MCB for incoming supply.
- (b) 3x32 A SPN MCB for outgoing (50% lighting, 100% lighting, motor)
- (c) Automatic timer with contactor for controlling above lights of suitable capacity.
- (d) 1 no multi plug socket 16A

The cost shall also include construction of foundation as per recommendation of manufacturer and approved drawing and its fixing arrangements etc. For protection of High Mast against hitting by Payloader/Truck min 06 nos. MS Rail each of min. length 03 mtr shall be grouted all around the High Mast (MS Rail shall be issued by Engineer to Contractor).

NOTE: Pipe electrode earthing is payable extra under relevant BOQ Item.

ITEM NO. GS-22: SUPPLY AND LAYING OF RCC HUME PIPE UNDER THE RAILWAY TRACK/ROAD

The item price includes labour & cost of all materials including cost of RCC Hume pipe, ISI marked, NP-4 class, digging of trench laying of pipe and back filling of trench with excavated earth etc.

Prior to start of excavation works under track/road, proper permission shall be obtained from the concerned authorities.

ITEM NO. GS-23 : SUPPLY AND LAYING OF DWC/SPLIT DWC PIPE UNDER THE RAILWAY TRACK/ ROAD

The item price includes labour & cost of all materials including cost of DWC pipe, conforming IS: 14930 (part 2:2001), Nonmetallic, corrugated, multiwalled, normal duty, pliable, without protection against chemical attack & non flame propagating in 6M length of size 200mm outer dia and 175 mm inner dia (permitted tolerance in dia =+/- 2mm), digging of trench, laying of pipe and back filling of trench with excavation earth etc.

Prior to start of excavation works under track/road, proper permission shall be obtained from the concerned authorities.

ITEM NO GS-24 : SUPPLY INSTALLATION, TESTING & COMMISSIONING OF SUBMERSIBLE PUMP SET, CONTROL PANEL ETC.

The item price includes labour & cost of all material including cost of submersible pump set ISI marked and min 3 star energy rating with control panel, suitable starter, submersible cable, submersible pipeline etc. suitable for supplying water at required head and discharge as per site conditions and as directed by Engineer, the horse power of the motor is approximate, suitable motor has to be installed keeping in view the site conditions. However, all items required for the safe and efficient operation whether stated or not shall be deemed to be included. Control panel shall be wall mounted cubicle type, dust & vermin proof, suitable of operation on 230/415 volts AC supply system, with degree of protection not less than IP 54, fabricated with 16 SWG thick CRCA sheet steel, duly powder coated.

Details of accessories etc are as under:

1. Flat, water submersible, 3core cable of size as recommended by the manufacture and of the required length.
2. Cable ties for clamping of flat cable to pipe at every 1mtr interval throughout the length.
3. Two pairs of MS suspension clamps made of suitable size of MS flat – 1 set.
4. Full way valve of suitable size ISI mark – 1 no.
5. Pressure gauge of required capacity 1 no.
6. Bore cover 1 no
7. GI bend of suitable size –as required
8. BCH/L&T make cubicle type, weather proof control panel with degree of protection not less than IP54, complete with the following:-
 - (i) TPN MCB 32A 10kA – 1no.
 - (ii) Direct out line starter (DOL) suitable to the above –1no.
 - (iii) Suitable pump set measurement and protection system as approved by engineer –1 set.
 - (iv) MINILEC current based dry run protection-01 no. or as per requirement at site.
 - (v) Suitable capacitors to improve PF to Min 0.99.

ITEM NO. GS-25:

CO-ORDINATION/LIAISONING AND CHASING WITH STATE ELECTRICITY BOARD AUTHORITIES FOR AVAILING NEW ELECTRIC CONNECTION/AUGMENTATION OF LOAD/ MODIFICATION OF CROSSING ETC.

The item price includes cost for Co-ordination/liaisoning/chasing with state Electricity Board authorities for various activities involved for availing new connections, augmentation of loads, including collection of estimates for New connections, additional load & crossings modification, arranging payment from Employer/ Purchaser/ Railways, depositing payment to SEB's authority, released of load & other connected works etc. as required. **NOTE: Payments made for application forms will be reimbursed by Employer/ Purchaser/ Railways on proof of documents.**

ITEM NO. GS-26: Design and preparation of working & completion drawings of the installations.

The item price includes cost for design of electrical works and preparation of working & completion drawing of the installations covered under general electrical services work of the complete project

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including internal electrification of quarters, level crossing, station buildings, offices, buildings, power line crossing, power supply distribution arrangements of station with platform lightings, sub stations, electrification of substation building, etc as required on Auto Cad & arranging approval from competent authority.

On award of contract, survey of all the installations (Excluding Power Line Crossing which are covered under other BOQ item) shall be carried out and drawings indicating existing & proposed works, schematic layout/arrangements etc. shall be prepared on Auto Cad based on Zonal Railways/SEB's etc. norms and requirements and shall be got approved from the Engineer in Charge. All the drawing shall be speaking with conventional signs and symbols.

After completion of entire work, as executed drawings shall be prepared and supplied while handing over the completed works to the Maintenance Agency.

Design and Drawings will be the property of Railway. Following drawings shall be prepared and submitted.

WORKING DRAWINGS:

1	Soft Copy	One set of each drawing prepared on Auto cad.
2	Hard Copy	Three set of each drawing of not less than A-3 Size paper.

COMPLETION DRAWINGS:

1	Soft Copy	One set of each drawing prepared on Auto cad.
2	Hard Copy	Three sets of each drawing of not less than A-3 Size on RTF (Re-producible Tracing Film) and Three sets on paper

ITEM NO. GS-27 & 28: PROVIDING TEMPORARY WIRING/CABLING ARRANGEMENTS FOR LIGHTS & FANS WITH STAND BY D.G. SETS.

The item price includes labour & cost of all material required for temporary arrangements in adequate quantity distributed over entire station area as decide by the engineer including wiring, cabling, luminaries with lamps, pedestal fans, cost of consumables for replacement, deployment of staff for maintaining temporary arrangement during per/post during non- interlocking period as required, arrangement of DG sets for power supply to temporary installation including operation and supply of required Diesel Oil, lube oil,, provision of earthing arrangement as required. D.G. Sets including spare DG set should be of suitable capacity as decide by Engineer in charge to meet the load required during non-interlocking period. Work of temporary wiring installation shall comply with latest code of practices and IE Rules. After completion of requirements of non-interlocking work, installation shall be dismantled and material shall be taken away from the site as directed by the engineer.

NOTE: Normal power supply, if spare load is available, may be used up to sanctioned load with prior approval free of cost

ITEM NO GS-29: 15 W LED TYPE SOLAR STREET LIGHT:

Item price includes supply, erection, testing & commissioning of 15 W LED solar street light system complete with solar panels battery, control gear, 6/7 m GI pipe. The control gear shall include features for automatic switching ON & OFF of street light according to day light, Battery shall have at least 3 days backup to cater for cloudy days, Battery shall be maintenance free type. Make: Tata, Phillips, Bajaj, Havells, CGL or Engineer Approved.

EXPLNATORY NOTES (SCHEDULE- J)

FOR
SCADA SCHEDULE

1. Supply, erection, testing, protocol of hardware, software, communication cable, colour codes of cable and various parameters of each of the schedule item, shall conform to RDSO's Specification No. TI/RCC/SCADA/0134 or latest with up-to-date amendments issued by RDSO and shall be obtained by the contractor. SCADA shall be suitable to match and interface with existing SCADA of RCC.
2. The complete SCADA system shall be supplied, erected, and commissioned through Railway's approved vendors. The vender's list is updated by RDSO/CORE Allahabad and shall be valid for the contractual period. Vendors under trial period shall not be considered for this project. Comprehensive maintenance of 3 years shall be the part as guarantee/warranty after its commissioning/commissioning of 1st RTU, as the case may be, as per RDSO guidelines. No any extra charges will be payable for the same.

BOQ Item SCADA-1: PREPARATION AND SUPPLY OF DESIGN & DRAWING FOR SCADA AT RCC & SSP:

Price shall cover the cost of Design & Drawing for SCADA and shall give all details of various items of equipment at remote control center and the controlled stations with updated equipment numbering and shall comply with details of RCC center, the various interface with the main computer and the monitor/console on which traction power controllers will monitor status and execute the commands and ensure correct execution and tele-signals from control Centre to various remote controlled posts and vice-versa. The drawing shall show the details of TSSs, SPs & SSPs with details of RTUs, layout of equipments, cable colour codes, tag numbers, terminals numbers, in addition to various tele-commands & tele-signals and panel indication. All drawings shall be got approved by the Client/Engineer and Railways before commencement of execution. All the 'As Erected' drawing & design in soft copies in Hard Disk / Pen Drive / CDs and hard copies six numbers of each drawing shall be handed over to the purchaser for final approval.

BOQ Item SCADA-2: MODIFICATION, UPGRADATION, TESTING & COMMISSIONING IN EXISTING STANDARD SCADA SOFTWARE AT RCC EQUIPMENTS FOR CONFIGURATION, INTEGRATION/ HOOKING UP OF ADDITIONAL RTU'S OF SIDING

The price shall include modification/upgradation, testing & commissioning in existing standard SCADA software at RCC equipments for configuration/Integration/Hooking up additional RTUs of adjacent section with master station as per RDSO Specification TI/SPC/RCC/SCADA/0134. The price shall also cover all items/equipments required for modification of Master Station as mentioned

BOQ Item SCADA-3: SUPPLY, ERECTION, TESTING & COMMISSIONING OF RTU'S AS PER LATEST RDSO SPECIFICATIONS AT SSP:

The price shall cover for Supply, erection, testing & commissioning of RTUs as per latest RDSO Specification Spec No. TI/SPC/RCC/SCADA/0134 or latest for each controlled station listed in the Specification. The price shall cover on a flat rate basis the cost of Remote Terminal Units per controlled station (TSS/SP/SSP) the section. The price shall also cover the cost of power supply units, modem, memory units, digital input/output module, interposing Contactors, surge arrestors and the steel cubicles required for housing the RTUs, cost of interconnecting cables and wiring etc., and all materials necessary for proper functioning of the RTUs. The price shall also cover testing of materials and equipments at the manufacturer's works. The RTU shall be supplied in accordance with RDSO's standard specification shall be capable of working on standard communication protocol as defined in the specification.

The price shall also cover the cost of supply of catenary Voltage, indication circuits, under voltage circuits, voltage failure circuits and necessary interposing Contactors/relays/optocouplers to meet the requirements of RDSO's specification. The number of tele-signals given against each of the controlled stations in the Schedule does not include the tele-signals required for signaling defects in the operation of remote-control equipment. The cost shall also include the provision of these tele- signals.

TENDER FOR 25 KV AC OHE WORKS, EXTERNAL ELECTRIFICATION WORKS & SCADA WORKS OF CSPGCL SIDING
TAKING OFF FROM CERL

Prices shall also cover provision of separate earthing of communication cable shield at controlled stations:

NOTES: RTUs supplied for the controlled posts shall include the necessary transducers, summation CT'S, PT, supply change over arrangement, digital analogue input modules, limit settings, modems, CPU cards, power supply unit, surge arrestor, relays, and contactors etc. At Traction sub-stations and SPs for different analogue parameters and measurements as per mentioned in the specifications.

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