



इरकॉन इंटरनेशनल लिमिटेड
(भारत सरकार का उपक्रम)
IRCON INTERNATIONAL LIMITED
(A Govt. of India Undertaking)
An Integrated Engineering and Construction Company



No. IRCON/ELECT/5037-5038/NCRTC/GLOBAL TENDER/2

Dt.:15.03.2021

The Secretary Commercial
(As per Mailing List)

Sub: Invitation of Global Open e-Tender through International Competitive Bidding for the work of Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC (Package-19 Lot 1 & Lot 2)”

Dear Sir/Madam,

Ircon International Limited (A Govt. of India Undertaking under the Ministry of Railways) has been awarded the work of Design, Supply, Installation, Testing and Commissioning of Receiving Sub Stations [including 25 kV AC Traction cum 33 kV Auxiliary Main Sub Stations], Extra High Voltage & High Voltage cabling, 25 KV Overhead Equipment (FOCS/ROCS), Auxiliary Power Supply [including Auxiliary Sub Station], SCADA Systems, Operational Control Centre and Associated works on Viaduct & Tunnel for Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC (Lot 1 & Lot 2).

In this regard, we have floated Global Open e-Tender through International Competitive Bidding for the following item:

S.No.	Name of Work / Item	e-Tender No. and Date	Last Date & Time for e-Bid Submission
1.	Design, Manufacture & Supply of Light Weight Section Insulator suitable for Design Speed of 180 kmph for Lot-1 and Lot-2 work of Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC (Package-19 Lot 1 & Lot 2)	IRCON/ELECT/5037-5038/NCRTC/LIGHT WT SECTION INSULATOR/OT/21 Dated: 15.03.2021	05.04.2021 up to 1700 Hrs IST

The complete set of tender document has been uploaded on website <https://etenders.gov.in/e procure/app>. Corrigendum, if any, would be uploaded only on the website only.

We are enclosing a copy of Notice Inviting Tender (NIT) of the floated tender and request you to kindly circulate and bring it to the notice of prospective bidders of your country.

Thanking You.

Yours sincerely,


(Sanjay Gupta)

Chief General Manager / Electrical

Encl: As above.





IRCON INTERNATIONAL LIMITED
(A Govt. of India Undertaking)

INTERNATIONAL e-PROCUREMENT DOCUMENTS
(International Competitive Bidding)

FOR

“Design, Manufacture & Supply of Light Weight Section Insulator for Design Speed of 180 kmph for Lot-1 and Lot-2 work of Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC (Package-19 Lot 1 & Lot 2)”

MARCH 2021

Registered Office

IRCON INTERNATIONAL LIMITED
(A Govt. of India Undertaking)
C-4, DISTRICT CENTRE, SAKET,
NEW DELHI-110017
PHONE:+91-11-29565666;
FAX:+91-11-26522000,26854000
Web:www.ircon.org
CIN-L45203DL1976GOI008171

CONTENTS

S.No	SECTION	DESCRIPTION	PAGES	
			FROM	TO
PART-I: TECHNICAL BID				
1	Section-I	International e-Procurement Notice	4	10
2	Section-II	Form of Bid	11	12
3	Section-III	Instructions to Tenderers (ITT)	13	37
4	Section-IV	Appendix to Tender	38	39
5	Section-V	Special Conditions of Contract (SCC)	40	63
8	Section-VI	General Specifications	Separate Volume	
9	Section-VII	Particular Specifications	Separate Volume	
10	Section-VIII	Drawings	Separate Volume	
11	Section-IX	Test Sheets	Separate Volume	
12	Section-X	General Conditions of Contract (GCC)	Separate Volume	
13	Section-XI	Format for Sub-Contractor Warranty	Separate Volume	
14	Section-XII	Vendor Approval Procedure & Format	Separate Volume	
PART-II: FINANCIAL BID				
1	Section-I	Price Bid/ Bill of Quantity (BOQ)	72	73



INTERNATIONAL e-PROCUREMENT DOCUMENT
(International Competitive Bidding)

PART-I

TECHNICAL BID

SECTION – I

International e-Procurement Notice (International Competitive Bidding)



IRCON INTERNATIONAL LIMITED
(A Govt. of India Undertaking)

No.: IRCON/ELECT/5037-5038/NCRTC/LIGHT WT SECTION INSULATOR/OT/21 Date :15/03/2021

INTERNATIONAL e-PROCUREMENT NOTICE

(International Competitive Bidding)

DATE SHEET

1.	Publishing Date	:	15/03/2021	11:30 Hrs IST
2.	Bid Document Download/ Start Date	:	15/03/2021	11:35 Hrs IST
3.	Clarification Start Date	:	15/03/2021	11:55 Hrs IST
4.	Clarification End Date	:	24/03/2021	17:30 Hrs IST
5.	Bid Submission Start Date	:	30/03/2021	09:00 Hrs IST
6.	Bid Submission End Date	:	05/04/2021	17:00 Hrs IST
7.	Bid Opening Date	:	06/04/2021	17:00 Hrs IST

- 1.0 Chief General Manager/Electrical, Ircon International Limited (IRCON), C-4, District Centre, Saket, New Delhi-110017, Email ID: sanjay.gupta@ircon.org, Contact No: 011-29565666 and +919560595063 invites online bid in **Two Packet system** 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 in the bid document. **Consortium/Joint Venture firms/Companies are not permitted in this tender.**

S. No.	Name of Work	Estimated Cost of Work excluding Custom Duty and GST	Earnest Money/ Bid Security Declaration	Completion Period
1	Design, Manufacture & Supply of Light Weight Section Insulator suitable for Design Speed of 180 kmph for Lot-1 and Lot-2 work of Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC (Package-19 Lot 1 & Lot 2).	EURO 273,734/-	A Bid Security Declaration has to be submitted on non judicial stamp paper of Rs. 100/- as per format in Annexure-VIII of ITT. However, the foreign bidder may submit the required document in the bid on non judicial stamp paper(s) through its local office in India or may submit the same on the letterhead, but the same has to be signed by the person(s) authorized to sign the bid documents.	For Stage-1 of Lot-1: 04 Months For Stage-2 of Lot-2: 08 Months For Stage-3 of Lot-1: 15 Months For Stage-4 of Lot-2: 15 Months

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/ Purchasing of Bid Documents**

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.

4.5 Tender documents will be available online on website <https://etenders.gov.in/eprocure/app> as per date sheet 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 **Euro 600/- (Euro Six Hundred) or equivalent INR 50,000/- (INR Fifty Thousand only) towards the cost of one set of tender documents through NEFT or RTGS only in IRCON's bank account no.: 5750000076024, IFSC Code: HDFC0000003 at HDFC Bank Ltd., Surya Kiran Building, KG Marg, New Delhi.**

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.cppsugep2?page=StandardBiddingDocuments&service=page>).

6.0 **Pre-bid meeting – NA.**

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 check the web site for any such corrigendum/addendum at the time of closing time of tender and ensure that bid submitted by them are in accordance with all the corrigendum's/addendums. Suitable time extension (not less than 3 days beyond the date of last amendment) for submission of bids will be granted.

8.0 The tender documents shall be submitted online in the prescribed format given on the website and e-bids received online shall be **opened as per date sheet 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 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 Bid Security Declaration as per provision given in sub-clause 9.1 of Instructions to Tenderers.** Representative of the bidder, who chooses to attend, may attend the online opening of the e-bids on scheduled date & time of bid opening. However, such representatives shall be allowed to attend the opening of the Technical 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/e procure/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 due date. 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 “Bid Declaration Form” 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.
- 17.0 **The validity of the offer shall be for the period indicated in “Appendix to Tender” after the date of opening (Technical Bid) of the tender.**
- 18.0 Purchase Preference Policy for Micro and Small Enterprises (MSEs) Registered Firms:**
- 18.1 Purchase Preference to Micro and Small Enterprises (MSEs) as admissible under Government’s existing policy on the date of acceptance of tender shall be applicable to Micro and Small Enterprises (MSEs) registered for the tendered items of goods & services with any statutory bodies specified by Ministry of Micro, Small & Medium Enterprises having Udyog Aadhaar Memoranda shall also be given all benefits under Public Procurement Policy Order 2012.
- 18.2 The tenderer(s) shall submit photocopy of current and valid MSEs registration certificate inclusive of all the pages showing the category of entrepreneur – whether the registered firm

is owned by General or SC/ST or women entrepreneurs, monetary limit of their registration for the items of goods & services tendered to avail the benefits under the policy. The MSEs shall also submit a copy of "Entrepreneur's Memorandum (Part-II)" of the concerned district Centre where the unit is established. The MSEs must also indicate the terminal validity date of their registration.

18.3 Such MSE registered firms shall be exempted from payment of tender document cost and payment of Earnest Money Deposit.

18.4 Definition of MSEs owned by SC / ST is as given below:

18.4.1 In case of proprietary MSE, proprietor(s) shall be SC/ST.

18.4.2 In case of partnership MSE, the SC/ST partners shall be holding at least 51% shares in the unit.

18.4.3 In case of Private Limited Companies, at least 51% share shall be held by SC/ST promoters.

18.5 All bidders registered under Micro and Small Enterprises (MSEs) shall have to satisfy the eligibility criteria at par with other bidders. There shall not be any relaxation in eligibility criteria/ tender process or other tender requirements and L.1 price.

18.6 If lowest valid bidder is non-MSE firm, then in such a case -

(a) IRCON may offer up to 25% of the tendered quantity to those firms registered under Micro and Small Enterprises (MSEs) Act whose quoted rate falls within + 15% of the lowest valid bid quoted price by non-MSE (L.1 offer) provided that they are willing to bring down their price matching to that of L.1 bidder and subject to their monetary limit.

IRCON may split the total quantity of 25% proportionately amongst those MSEs firms whose rate fall within price band of L1 + 15% in case of more than one MSEs firms falling within this purview. While splitting the quantity amongst MSEs firms the first preference for 5% percent out of 25% shall be given to MSEs owned by Scheduled Castes or Scheduled Tribes and 3% out of 25% shall be given to MSEs owned by women entrepreneur subject to their monetary limit.

(b) Purchase preference facilities shall not be applicable in the tender where quantity cannot be split. In such situations the total quantity shall be offered to the lowest valid bidder irrespective of their registration status and the benefit to MSEs shall be limited to exemption from cost of tender document and Earnest Money Deposit only.

(c) The total quantity shall be offered to non-MSE lowest valid bidder, in case suitable offer of MSEs firm is not available or they do not agree to match the price to that of L1 bidder and the quoted price by MSEs is beyond +15% of the lowest valid price bid.

(d) Since quantity of the tender cannot be split, purchase preference facility/preference, as mentioned in Para 18 above, shall be applicable as per 18.6 (b) only in this tender.

18.7 The above facilities shall not be applicable for the items for which they are not registered.

19.0 Following tender conditions on Make in India shall be applicable for tenders valuing more than Rs. 5 lacs:-

19.1 In procurement, where there is sufficient local capacity and local competition, and where the estimated value of procurement is Rs 50 Lakhs or less, only local vendors* shall be eligible. If the estimated value of such procurement is more than Rs. 50 Lakhs, the provisions of following clause/sub-clause 19.3 (i) and 19.3 (ii), as the case may be, shall apply.

(Local vendors means a supplier or service provider whose product or service offered for procurement meets the minimum local content as prescribed under the Order of Ministry of

Commerce and Industry, Department of Industrial Policy and Promotion or by the competent Ministries/ Departments in pursuance to this Order.)

- 19.2 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.
- 19.3 In the procurements not covered by sub-clause 19.1 above, and which are divisible/ splittable in nature, the following procedure shall be followed:
- 19.3 (i) Among all qualified bids, if the lowest bid (L 1) is from a local vendor, the contract for full quantity will be awarded to L 1.
- 19.3 (ii) If L 1 bid is not from a local vendor, 50% of the order quantity shall be awarded to L 1. Thereafter, the lowest bidder among the local vendors, will be invited to match the L 1 price for the remaining 50% quantity subject to the local vendor's quoted price falling within the purchase preference margin of (L 1 + 20%), and contract for that quantity shall be awarded to such local vendor subject to matching the L 1 price. In case such lowest eligible local vendor fails to match the L 1 price or accepts less than the offered quantity, the next higher local vendor within the purchase preference margin of (L 1 + 20%) shall be invited to match the L 1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on local vendors, then such balance quantity may also be ordered on the L 1 bidder.
- 19.4 In procurements not covered by sub-clause 19.1 above and which are not divisible and such procurements where the bid is evaluated on price alone, the following procedure shall be followed:
- 19.4 (i) Among all qualified bids, if the lowest bid is from a local vendor (L 1), the contract will be awarded to L 1.
- 19.4 (ii) If L 1 is not from a local vendor, the lowest bidder among the local vendors, will be invited to match the L 1 price subject to local vendor's quoted price falling within the purchase preference margin of (L 1 +20%), and the contract shall be awarded to such local vendor subject to matching the L 1 price.
- 19.4 (iii) In case such lowest eligible local vendor fails to match the L 1 price, the local vendor with the next higher bid within the purchase preference margin of (L 1 + 20%) shall be invited to match the L 1 price and so on and contract shall be awarded accordingly. In case none of the local vendors within the purchase preference margin of (L 1 +20%) matches the L 1 price, then the contract may be awarded to the L 1 bidder.
- 19.5 The local vendor at the time of tender shall provide self-certification that the item offered meets the minimum local content and shall give details of the location (s) at which the local value addition is made.
- 19.6 In cases of procurement for a value in excess of Rs. 10 Crores, the 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.

- 19.7 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.

For & on behalf of
IRCON INTERNATIONAL LIMITED

Chief General Manager / Electrical
C-4, District Centre, Saket,
New Delhi – 110017.

Email ID- sanjay.gupta@ircon.org
Phone no- 011-29565666, 9560595063

**SECTION - II
FORM OF BID**

FORM OF BID

To

IRCON INTERNATIONAL LIMITED,

Acting Through
 Chief General Manager / (Electrical),
 C-4, District Centre, Saket
 New Delhi – 110017.

Dear Sir,

I/We, _____ (*Name and address of the tenderer*) have read the various terms and conditions of the e-Procurement documents attached here with 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 alongwith all tender documents shall constitute a binding contract between me/us and Ircon International Limited.

Thanking you,

Yours Faithfully,

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

_____ (*In Block capital letters*)

Date this _____ day of _____ 2021.

SECTION - III
INSTRUCTIONS TO TENDERERS

SECTION III: Instructions To Tenderers
Table of Clauses

Clause No.	Description
A.1	General
A.2	Cost of Bidding
B.	The Bidding Documents
B.3	Content of Bidding Documents
B.4	Understanding and Amendment of Tender Documents
C.	Preparation of the Bids
C.5	Language of Bid
C.6	Signing of All Bid papers and Completing Bill of Quantities
C.7	Deviations
C.8	Transfer of tender documents
C.9	Earnest Money/Bid Security Declaration
C.10	-Deleted-
C.11	Period of validity of the tender
D.	Submission of Bids
D.12	Deadline for submission of tender
D.13	Modification/ Substitution/ Withdrawal of tender
E.	e-Bid opening and Evaluation
E.16	Opening of the tender
E.17	Clarification of the tenders
E.18	Preliminary Examination of bids
E.19	Evaluation and comparison of tenders
E.20	Canvassing
E.21	Right to accept any tender or reject all tenders
E.23	Award of Contract
E.24	Contractor Performance Feedback and Evaluation System
E.25	Ineligibility to participate in re-tenders/ future cases
E.26	Declaration of non-performance or ban status
E.27	Consequences of misrepresentation
Annexure-I	Details of the Bidder
Annexure-II	Assessment of Performance of working subcontractor
Annexure-III	Assessment of Performance of working consultant
Annexure-IV	Format of Affidavit to be signed by the tenderer
Annexure-V	Essential Qualifying Criteria
Annexure-VI	-Deleted-
Annexure-A	-Deleted-
Annexure-B	-Deleted-
Annexure-VII	Check list for list of documents to be scanned, uploaded with the e-tender and submitted online not later than the prescribed date and time for e-bid submission
Annexure-VIII	Format for Bid Security Declaration
Format-1	Details of similar works completed in last seven years
Format-2	Annual Turnovers for the last three years
Format-3	Programme for deployment of manpower
Format-4	Programme for deployment of plant and machinery proposed to be deployed on the project

INSTRUCTIONS TO TENDERERS

A.

1. General

1.1. Name of the Work: As indicated in 'Appendix to Tender'.

1.2. "A bidder in the capacity of Individual or Sole Proprietor, Partnership Firm, or Company can participate in the tender and the bidder must upload attested copies of the constitution of its firm such as Partnership Deed, Memorandum & Articles of Association, etc. along with original Power of Attorney of authorized signatory".

1.3. Any bidder from a country, which shares a land border with India, will be eligible to bid in this tender only if the bidder is registered with the Competent Authority nominated/Registration committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

(i) "Bidder 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;

(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 percent 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.
- (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 nominated/Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

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

- a) Client : As indicated in 'Appendix to Tender'.
- b) Employer/Engineer : IRCON INTERNATIONAL LIMITED address as given in 'Appendix to Tender'.
- c) Contractor : The successful tenderer to whom the work is awarded shall become the contractor/consultant 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 'Appendix to Tender'.

The scope given above 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 'Appendix to Tender.'

1.8. A bidder shall submit only one bid in the capacity of an Individual or Sole Proprietor, Partnership firm, or Company. 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 online technical 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:

Notice Inviting Tender

Instructions to Tenderers
Appendix to Tender
Form of Bid
Special Conditions of Contract
General Conditions of Contract
General Specifications
Particular Specifications
Bill of Quantities
Drawings
Test Sheet
Format for Sub-Contractor Warranty
Vendor Approval Procedure & Format

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, which shall be part of the Tender documents. The amendment shall be advised to all the prospective bidders.
- 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 in the Bill of Quantities, tenderer shall ensure that the rates are filled up in figures only. System will automatically convert such filled up rates into words. In case of item rate tenders, the system will automatically calculate the total price by multiplying the unit rate with quantity.
- 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.**

The tenderer may download financial bid form 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. 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.

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. If the tenderer has any observations, the same may be indicated in his forwarding letter along with the tender.

8. Transfer of tender documents

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

9. Earnest Money/Bid Security Declaration

- 9.1. **The tenderer must furnish the Bid Security Declaration at the time of bid submission as indicated in 'Appendix to Tender' as per the format mentioned in Annexure-VIII of ITT for the work as specified failing which the tender shall be summarily rejected.**

10. Integrity Pact (IP): -Deleted-

11. Period of validity of the tender

- 11.1. The tender shall remain valid for the period indicated in "Appendix to Tender" 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 received by Employer at the address specified in the "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/e procure/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. Submission 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 Bid Security Declaration, 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 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. 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. In case of open tenders, bids, which are determined as substantially responsive, shall be evaluated based on criteria as given in Annexure-V. 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.

19.2. 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 duly attached with scanned copy of Proof of Dispatch (POD) that his tender has been accepted.

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 over-all 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. Declaration of non-performance or ban status or termination

Tenderers 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 our 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 on account of contractor's default during the last two years prior to the date of bid submission.
- d. The bidder (any partners in case of JV) 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 in case of JV) duly certified by the Statutory auditor of bidder must be submitted along with bid.

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. The tenderer will also be liable for disqualification for future tenders of IRCON 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 PG and SD (if any). The Contractor will also be disqualified for future tenders of IRCON for a period of 2 years.

**For & on behalf of
IRCON INTERNATIONAL LIMITED**

**Chief General Manager / Electrical
IRCON INTERNATIONAL LIMITED**

C-4, District Centre, Saket,
New Delhi – 110017.

Email ID- sanjay.gupta@ircon.org
Phone no- 011-29565666 ,09560595063

Annexure -'I'

DETAILS OF THE BIDDER

1. Name of the Bidder :
- 1.1 Registered Address of the bidder :
- Land Line Telephone Number with STD Code :
- FAX Number with STD Code :
- 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. with STD Code :
- e-mail Address

Ref. Clause 24 of 'Instructions to Tenderers)

ASSESSMENT OF PERFORMANCE OF WORKING SUBCONTRACTOR

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: >15%			
b	At 50% time: >30%			
c	At 100% time: >60%			
d	At 175% time: >98%			
3	Quality Assurance Capability			
3.1	Documentation of procedures, work instructions, check list and adherence to the requirements of ISO 9001:2008	4		
3.2	Rectification of defects/non-conformity to quality standards within 30 days: (Nos. mentioned in writing/Rectified within 30 days of writing)	4		
3.3	Implementation of corrective and preventive measures to control non-conformities/rejections	2		
4	Claims and Disputes			
4.1	Raising unnecessary claims and litigation	5		
	TOTAL:	100		

(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 26.b. Instructions to Tenderers, Sub-clause 10.2 of ITT)

AFFIDAVIT

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

1. Neither our firm nor any of the members/ partners in any manner as an individual or the constituent partner in case of partnership firm 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 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 are debarred for tendering, blacklisted, suspended in Central/State Government Department in India including authority controlled by them.
3. As on date 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 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 obligation on the bid due date.
4. No contract agreement between IRCON or its wholly owned subsidiaries and either our firm or any of the members/partners in any manner as an individual or the constituent partner in case of partnership firm have been terminated on account of our default during the last two years prior to 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. We have read and understood all the provisions included in the Integrity Pact and abide by them, if applicable.
9. **We have read and understood all the provisions included in the bid documents and abide by them.**

10.1 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 nominated/Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT) shall be attached]

10.2 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 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 nominated/Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). 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 nominated/Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT) shall be attached]

11. The information furnished by us is correct and we understand the consequences in case any of the information furnished is not found to be true.

(Signed by the Authorized Representative of the Firm)

Name of the Authorized Representative.

Name of the Firm.

Dated:

ANNEXURE – V

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

Essential Qualifying Criteria

1. The contractor should possess the experience of having successfully 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 completed works each costing not less than the amount equal to **Euro 82,120/- or equivalent INR 69,07,411/-**
 - ii) Two similar completed works each costing not less than the amount equal to **Euro 109,494/- or equivalent INR 92,09,882/-**
 - iii) One similar completed work costing not less than the amount equal to **Euro 177,927/- or equivalent INR 1,49,66,058/-**

Notes:

Work shall be considered similar, if executed work consists of “**Supply of Light Weight Section Insulator**”.

2. The average annual financial turnover during the last 3-years should be not less than **Euro 82,120/- or equivalent INR 69,07,411/-**

Notes:

The financial turnover shall be judged from ITCC or Annual Reports including Profit and Loss Account.

In case the financials of immediate prior Financial Year have not yet been audited till the time of submission of the tender, the bidder shall 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. The Contractor should have positive net worth. 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 prior Financial Year.
4. The contractor should submit performance certificates and Letter of Award 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.

5. The bidder shall sign the Affidavit as enclosed in Annexure-‘IV’ of “Instructions to Tenderers”.
6. The bidder should have successfully supplied Light Weight Section Insulator suitable for design **speed of 180 kmph or above** for any project and shall submit supporting documentary evidence for the same with the technical bid.

Explanatory Notes:

- i.) Exchange Rate:

For Clause 1, works with payment received in other than Euro and INR shall be converted in INR by adopting the Exchange rate between that Currency and INR as prevailing on the completion date mentioned in the completion certificate and if month of completion is mentioned in the Completion Certificate then the exchange rate of last working day of the Month shall be taken.

For Clause 2. & 3., the Average Annual Turnover and Net Worth, in case the figure is stated in currency other than Euro and INR, the same (currency of each financial year) shall be converted to INR by adopting the Exchange rate between that Currency and INR as on last day of the respective financial year.

The rates of exchange shall be the Reference Rates of RBI as per website of RBI on that date. In case the exchange rate of particular currency on given date is not available in this web site, it will be as per the web site of Financial Benchmark India Private Limited (FBIL) as recommended by RBI. In case the exchange rate of particular currency is not available on any date in both these websites then the selling exchange rate as per the website of the Central Bank of that country to which the currency belongs will be taken. In case the exchange rate of that currency is not directly available in INR on that website then the currency will be first converted to USD as per that web site and then converted from USD to INR as Per RBI or FBIL. The Bidder should indicate the source used with documentary evidence for conversion and conversion rates used for converting foreign currency into INR.

- ii.) In case any of the documents submitted by the bidder are in foreign language (i.e. any language other than English), the translation of the same shall be submitted and it should be authenticated by Embassy/High Commission.



Annexure-VI

Integrity Pact

-Deleted-

ANNEXURE – VII

(Ref. Clause 8.0 of e-Procurement Notice , sub-clause 'C. 6.3' of ITT, sub-clause D.12.2 of ITT & sub-clause D. 15.1 of ITT)

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:

1. Forwarding Letter of the bidder
2. Form of Bid
3. Details of similar works completed in last seven years (Format - 1).
4. Form-EXP-1
5. Annual Turnover for the last three years with supporting documents (Format - 2).
6. Programme for deployment of man power (Format - 3).
7. Programme for deployment of Plant and Machinery on the project (Format - 4).
8. Attested copies of the constitution of its firm such as Partnership Deed, Memorandum and Articles of Association, etc.
9. GSTIN
10. ISO 9001-2008 certificate (if any).
11. Schedule of start and completion of work in the form of Bar Chart.
12. Methodology for execution of works.
13. Proof of transaction towards payment of Cost of Tender Document through NEFT or RTGS
14. Power of Attorney duly attested by Notary Public in favour of the person signing the e-bidding documents digitally as well as manually. The bidder should submit the notarised Power of Attorney. Power of Attorney(s) and Board Resolution confirming authority on the persons issuing the Power of Attorney for such actions shall be submitted duly notarized by the notary public of country of origin and should be either stamped by Embassy/High Commission or Partner Countries of Hague convention may submit these document with "Apostille" stamp. Also, in case the documents are in foreign language the translation of the same shall be authenticated by Embassy/High Commission.
15. 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).
16. Affidavit (as per Format given in Annexure-IV)
17. Bid Security Declaration as per the format mentioned in Annexure-VIII of ITT
- 18. Duly filled, signed & stamped vendor approval format along with required documents as mentioned in clause 18.0 of SCC.**
- 19. Complete Bill of Materials without rates as per SCC Clause No. 5.**
- 20. Undertaking for providing 5 years warranty for Section Insulator Assembly with Section Insulator as mentioned in Annexure-A to SCC (Brief Particular Specifications)**

Note :

- i) Hard copy of above documents 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.**

ANNEXURE – VIII

(Ref. Clause 9.1 of ITT)

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

13
16

Annexure-I**Format for Bid Security Declaration
(On Non-judicial stamp paper of ₹100)**

Whereas, I/we _____ (name of agency) has submitted bid for _____ (name of work) and whereas the Earnest Money Deposit is being exempted in the aforesaid tender to give relief to the bidders as per Govt. of India guidelines due to severe financial crunch on account of slowdown in economy due to the pandemic,

I/we hereby submit following "Bid Security Declaration" in lieu of exemption from submitting Earnest Money Deposit:-

- (1) If I/we withdraw or modify my/our bid during the bid validity period (including extended validity of tender) specified in the tender documents;
or
- (2) If, after the award of work, I/we fail to accept LOA/LOI, or to sign the contract agreement or fail to submit performance guarantee, or fail to commence the work within the stipulated time period prescribed in the tender documents;
or
- (3) If I/we furnish any incorrect or false statement/ information/ document;
or
- (4) If I/we hide any relevant information or do not disclose any material fact in the tender;
or
- (5) If I/we commit any breach of Integrity Pact,

I/we may be disqualified and banned for a period of two years and shall not be eligible to bid for future tenders of Irrcon International Ltd. for the period of two years from the date of issue of such order.

(Signed by the Authorized Representative of the Firm)

Name of the Authorized Representative.

Name of the Firm.

Dated:

Bingal
02/12/2020

Form EXP – 1: Contracts of Similar Size and Nature

Fill out one (1) form per contract.

The exchange rate to be used to calculate the value of the contract for conversion to a specific currency shall be as per the Explanatory Notes of EQC (Annexure-V of ITT).

Contract of Similar Size and Nature		
Contract No of	Contract Identification	
Award Date	Completion Date	
Total Contract Amount	INR	
If partner in a Joint Venture or Subcontractor, specify participation of total contract amount	Percent of Total	Amount
Employer's name Address Telephone number Fax number E-mail		
Description of the Similarity in Accordance with sl. No. 1 of Essential Qualification Criteria		

The bidder shall attach a copy of the Certificate(s) issued by the employer in support of the information being furnished in each EXP-1 Form, failing which the claim of the bidder shall be liable to be rejected (in case of experience as a sub-contractor, the employer shall be the owner of the Project who has engaged the main Contractor).

FORMAT-1
(Ref. Annexure-VII to Instructions to Tenderers)
DETAILS OF SIMILAR WORKS 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	Reasons for delays, if any	Penalty, if any, imposed for delay	Any other relevant information	Remarks
1											
2											
3											
4											
5											
6											

Note :

1. Please attach copies of the certificates issued by the Client.
2. Only those works shall be considered for evaluation for which copies of the certificates issued by the client are attached.

FORMAT-2 (Ref. Annexure-VII to Instructions to Tenderers) ANNUAL TURNOVERS FOR THE LAST THREE YEARS				
S. No.	YEAR	Turnover from Supply works	Turnover from all sources	Remarks
1				
2				
3				

Note :

1. Please attach certified/attested copies of the latest ITCC and/or Profit and Loss Account statement to support the information furnished.
2. Certified Copy of Chartered Accountant showing turn-over.

FORMAT-3 <i>(Ref. 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. Annexure-VII to ITT)

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

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

SECTION - IV
APPENDIX TO TENDER

APPENDIX TO TENDER

DESCRIPTION	Reference Clause
Name of Work: - Design, Manufacture & Supply of Light Weight Section Insulator suitable for Design Speed of 180 kmph for Lot-1 and Lot-2 work of Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC (Package-19 Lot 1 & Lot 2)	1.1 of Instructions to Tenderers
Place of Registration of: - NA	1.2 of Instructions to Tenderers
Client: - National Capital Region Transport Corporation (NCRTC)	1.4(a) of Instructions to Tenderers
Employer: - IRCON INTERNATIONAL LIMITED C-4, District Centre, Saket, New Delhi-110 017	1.4(b) of Instructions to Tenderers
Scope of Work: - The scope of work is to “Design, Manufacture & Supply (including Transportation on CFR basis to India Nhava Sheva Jawaharlal Nehru Port) of Light Weight Section Insulator Assembly with Section Insulator including 1 set of all Tools required for successful Installation & Adjustment suitable for Design Speed of 180 kmph for Lot-1 and Lot-2 for the work of Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC (Package-19 Lot 1 & Lot 2)” specified and in accordance with the international standards. All the material/accessories offered shall be in full Technical conformity with the brief Particular Specifications enclosed at Annexure-A to SCC .	1.6 of Instructions to Tenderers, Clause 4.0 of Special Conditions of Contract (SCC)
Approximate Estimated Cost of the Work: EURO 273,734/- excluding Custom Duty & GST.	1.7 of Instructions to Tenderers
Amount of Earnest Money and in case EMD is submitted in the form of Pay Order/Demand Draft, the same shall be payable at:- Bid Security Declaration has to be submitted as per format in Annexure-VIII of ITT.	9.1 of Instructions to Tenderers
Period of Validity of Tender: - 90 days.	11.1 of Instructions to Tenderers
Period of Completion: - For Stage-1 of Lot-1: 04 Months For Stage-2 of Lot-2: 08 Months For Stage-3 of Lot-1: 15 Months For Stage-4 of Lot-2: 15 Months	Clause 11.0 (Delivery Period) of Special Conditions of Contract
Defect Liability Period: - 24 Months	Clause 25.0 of Special Conditions of Contract

SECTION - V

SPECIAL CONDITIONS OF CONTRACT

SPECIAL CONDITIONS OF CONTRACT

1. DEFINITION:

The conditions of the Contract shall be General Conditions of Contract (hereinafter called 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. In so far as any of the conditions of the Special Conditions of Contract conflict or be inconsistent with any of the General Conditions, the special condition of contract shall prevail.

In the Contract, as herein after defined, the following word expressions shall have the meanings hereby assigned to them, except where the context requires otherwise.

- i) "Client or Principal Employer or Owner" means the Department, Organization, individual, firm, company, who awarded the work to IRCON INTERNATIONAL LIMITED for execution of the project of which the works is a part, and shall include its heirs, executors, legal representatives etc. In this tender it is **National Capital Region Transport Corporation (NCRTC)**.
- ii) "Employer " means IRCON INTERNATIONAL LIMITED, A Govt. of India Undertaking (IRCON in abbreviation) acting through its Chairman & Managing Director or any other authorized officer and shall include their legal successors in title and permitted assignees.
- iii) "Engineer or Engineer in Charge" means the Project Head of IRCON INTERNATIONAL LTD. (Employer) or any other officer authorized by the Employer to act on his behalf and for the purpose of operating the contract.
- iv) "**General Consultant (GC)**" means **AIAI (Ayasa-Italferr-Ayasa India JV)**
- v) "Engineer's Representative" means any official nominated from time to time by the Engineer to act on his behalf.
- vi) "Contractor" means the individual, firm, Company, Consultant, Corporation, Supplier whether incorporated or not, who enters into the Contract with the Employer/Engineer, and shall include its heirs, executors, administrators, successors, legal representatives, as the case may be.
- vii) "Contractor's Representative" shall mean the person responsible for execution of the contract who shall be so declared by the Contractor and who shall be authorized under a duly executed power of attorney to comply the instructions and to use, receive materials issued by the Engineer to the Contractor for works. He shall be capable of taking responsibility for proper execution of works.
- viii) "Sub-Contractor" means the individual, firm, Company, Corporation, having direct Contract with the Contractor and to whom any part of the work has been sublet by the contractor and shall include his heirs, his executors, administrators, successors, legal representatives, as the case may be.
- ix) "Tenderer or Bidder" means the individual, firm, Company, Corporation, submitting a bid/tender.
- x) "Scheduled Bank" means a bank included in the second schedule to the Reserve Bank of India Act, 1934, or modification thereto.
- xi) "Contract" shall mean and include the Agreement or Letter of Acceptance, the accepted Bill of Quantities and Rates, the General Conditions of Contract, Special Conditions of Contract, Appendix to Tender, Form of Bid, Instructions to the Tenderers, Drawings, Specifications and other Tender Documents.
- xii) "Tender or Bid" means the offer (Technical and/or Financial) made by individual, firm, Company, corporation for the execution of the works.
- xiii) "Specifications" means the specifications referred to in the Contract and any modification thereof or addition thereto, or as may from time to time be furnished or approved in writing by the Engineer.

- xiv) "Bill of Quantities (BOQ)" means list of items of work, their quantities and rates.
- xv) "Original Contract Value" means the sum stated in the letter of Acceptance/Contract Agreement.
- xvi) "Site" means the land and/or other places on, under, in or through which the works are to be carried out, and any other lands or places provided by the Client/Employer/Engineer for the purpose of the Contract.
- xvii) "Defect Liability Period" means the specified period of defects liability from the date of completion of the work or as certified by the Engineer.
- xviii) "Letter of Acceptance" means the letter from the Employer or the Engineer to the Contractor, conveying acceptance of the Tender.
- xix) "CFR (Cost and Freight)" – The term CFR for imported goods offered from abroad, shall be governed by the rules & regulations prescribed in the 2020 edition of INCOTERMS, published by the International Chamber of Commerce, Paris.

2. 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:

The Contract Agreement
 Letter of Acceptance of Tender
 Addendum(s)/Corrigendum(s), if any
 Notice Inviting Tender
 Instructions to the Tenderers
 Appendix to Tender
 Form of Bid
 Special Conditions of the Contract
 General Conditions of Contract
 Particular Specifications
 General Specifications
 Technical Sheet (GTP)
 Test Sheets
 Relevant codes and Standards
 Drawings
 Bill of Quantities

3. INTRODUCTION OF WORK:

Project: Design, Supply, Installation, Testing and Commissioning of Receiving Sub Stations [including 25 kV AC Traction cum 33 kV Auxiliary Main Sub Stations], Extra High Voltage & High Voltage cabling, 25 KV Overhead Equipment (FOCS/ROCS), Auxiliary Power Supply [including Auxiliary Sub Station], SCADA Systems, Operational Control Centre and Associated works on Viaduct & Tunnel for Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC (Lot 1 & Lot 2).

The project is planned for a phased commissioning in 4 stages as under:

Stage	Sections	Tentative ROD
Stage 1	Sahibabad (incl) – Duhai (EPE) including Duhai depot	March 2023
Stage 2	Duhai (EPE) – Meerut (South)	Dec 2023
Stage 3	Sarai Kale Khan – Sahibabad (excl) including Jangpura Stabling Yard	Oct 2024
Stage 4	Meerut (South) – Modipuram including Modipuram Depot	March 2025

The route length details, number of stations, depots etc. for Lot-1 and Lot-2 are as under:

Stage	Sections	Length	UG stations	Elevated stations	No. of depots
	Lot-1				
Stage 1	Sahibabad (incl) – Duhai (EPE)	20 rkm		04	
	Duhai depot	14 tkm		01 (at-grade)	01
Stage 3	Sarai Kale Khan – Sahibabad (excl)	11.5 rkm (FOCS) 6 rkm (ROCS)	01	02	
	Jangpura Stabling Yard	5.5 tkm			
	Lot-2				
Stage 2	Duhai (EPE) – Meerut South (incl)	25 rkm (FOCS)	0	3	0
Stage 4	Meerut South (incl) – Modipuram	25 rkm 5.5 rkm (ROCS)	3	9	1
	Modipuram Depot	21.5 tkm		01 (at-grade)	

Electrification system consists of the following main constituents:

5 nos. Receiving cum Traction cum Auxiliary Main Substations, as under:

SN	Name location	Details	Lot
1	Sarai Kale Khan RSS, GIS type (Ch. 1km)	Incoming supply: 66kV AMS transformers: 66kV/33kV, 2x15/20 MVA Traction transformers: 66/27.5kV, 4x40/50 MVA	Lot-1
2	Ghaziabad RSS, GIS type (Ch. 21.5km)	Incoming supply: 220kV AMS transformers: 220kV/33kV, 2x15/20 MVA Traction transformers: 220/27.5kV, 2x40/50 MVA	Lot-1
3	Murad Nagar RSS, GIS type (Ch. 40km)	Incoming supply: 220kV AMS transformers: 220kV/33kV, 2x15/20 MVA Traction transformers: 220/27.5kV, 2x40/50 MVA	Lot-2
4	Shatabdi Nagar RSS, GIS type (Ch. 60.7km)	Incoming supply: 220kV AMS transformers: 220kV/33kV, 2x15/20 MVA Traction transformers: 220/27.5kV, 2x40/50 MVA	Lot-2
5	Modipuram RSS, GIS type (Ch. 78.8km)	Incoming supply: 220kV AMS transformers: 220kV/33kV, 2x15/20 MVA Traction transformers: 220/27.5kV, 2x40/50 MVA	Lot-2

4. SCOPE OF WORK:

For complete scope of work, kindly refer Technical Specifications, Corrigendum/Addendum, SOD, Test Sheets and GTP (Technical Sheets) enclosed herewith. The Broad scope of work is as under:

- 4.1. Design, Manufacture & Supply of Light Weight Section Insulator Assembly with Section Insulator including 1 set of all Tools required for successful Installation & Adjustment suitable for Design Speed of 180 kmph in Overhead Equipment with Contact Wire (150 Sq mm), Messenger Wire (120 Sq mm) and Dropper Wire (5mm Dia) for Lot-1 and Lot-

2 for complete section of Lot-1 & Lot-2 for the work of Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC (Package-19 Lot 1 & Lot 2) including packing, loading, transporting on CFR basis to India-Nhava Sheva (Jawaharlal Nehru Port-JNPT). All the Equipment and accessories offered shall be in full Technical conformity with the brief Particular Specifications enclosed at Annexure-A.

4.2.Factory Inspection of all Material before dispatch.

4.3.Supervision at site during Installation, Testing & Commissioning (if required).

4.4.Training to authorized personnel of NCRTC.

5. BILL OF MATERIALS:

Detailed Bill of Material (BOM) without mentioning rates shall be submitted with the Technical Bid.

- i. Bidder shall also furnish the detailed drawings, literature and catalogues with the Technical Bid for taking approval from NCRTC.
 - ii. Bidders should furnish GTP (Guaranteed Technical Particulars) of the materials offered and submit with their offer. However, The GTP shall be finalized in consultation with GC/NCRTC during the detailed design. Any changes proposed by GC/NCRTC during detailed design shall be borne by supplier without any additional financial implication to the Employer.
6. Offer shall be submitted in full conformity with the technical specifications and operating environment conditions as approved by NCRTC.

7. MOBILISATION ADVANCE: Not Applicable

8. PRICE BASIS:

- a) The price shall be quoted on “**Firm Price Basis**” exactly in the .xls format of Price Bid/BOQ hosted in e-Tendering Portal <https://etenders.gov.in/eprocure/app>. Any changes, modification shall not be accepted. Copy of the Price Bid in .pdf format is also enclosed Section-1 of financial Bid for reference.
- b) Prices shall cover Design, manufacture & supply of Equipment, as required, at site as per Delivery Schedule. Successful bidder is required to extend his support for supervision of testing and commissioning of the equipment, if required.
- c) Prices for Spare Parts, Tools & Plants (if any) shall be quoted as per BOQ/Scope of Work. The bidder is required to submit Test Reports of all the supplied equipment/material, spares and Tools & Plants. The bidder shall also facilitate in handing over of spares to NCRTC, if any.
- d) Prices shall also include the Freight Charges for delivery on CFR basis to India-Nhava Sheva (Jawaharlal Nehru Port-JNPT).
- e) Prices shall also include the training of Employer/Client’s personnel.

9. COMMENCEMENT OF CONTRACT

Date of issue of Letter of Acceptance (LOA) shall be considered as the commencement date of Contract.

10. PROGRAMME OF WORKS:

The Tenderer shall submit with his offer a program of works in the form of a Bar Chart of all activities in Consistence with milestone targets envisaged at clause 11.0 below. In case this bar chart requires to be modified, the Engineer-in-charge and the contractor shall agree upon a time and progress chart. The chart shall be prepared in direct relation to the time stated as per clause 11.0 mentioned below for completion of the works and the milestone targets specified at clause 11.0 below of these Special Conditions. It shall

indicate the forecast of the dates of commencement and completion of various activities of the work and may be amended as necessary by agreement between the Engineer-in-charge and the contractor within the limitation of as per below completion period.

11. DELIVERY PERIOD/ MILESTONE TARGET:

The Contractor shall be required to supply the equipment/material as per the schedule given below:

S. No	Stage & Lot	Site/Substation	Delivery Period/ Milestone Target
1	Stage-1, Lot-1	On CFR basis to India-Nhava Sheva (Jawaharlal Nehru Port-JNPT)	04 Months from issue of LOA
2	Stage-2, Lot-2	On CFR basis to India-Nhava Sheva (Jawaharlal Nehru Port-JNPT)	08 Months from issue of LOA
3	Stage-3, Lot-1	On CFR basis to India-Nhava Sheva (Jawaharlal Nehru Port-JNPT)	15 Months from issue of LOA
4	Stage-4, Lot-2	On CFR basis to India-Nhava Sheva (Jawaharlal Nehru Port-JNPT)	15 Months from issue of LOA

- (i) The Contractor shall be required to supply the equipment/material as per the schedule given above.

12. INSPECTION & TESTING OF MATERIAL:

- (i) First Article Inspection (FAI) shall be performed jointly by the representative of NCRTC/IRCON or both or by any authorized representative (which may include our client representatives or any independent inspection agency) and the Contractor on all major equipment items or sub-systems identified by the Employer's Engineer without any extra cost to IRCON to ensure that the offered materials confirm to the specifications. Inspecting agency shall be provided with all necessary facility to carry out inspection or witness test without any additional charges. If IRCON/Client or any other nominated agency requires type test/part of type test or other test, the same is to be carried out by supplier. Equipment shall be shipped from the point of manufacture only after a FAI has been completed or the requirement waived in writing by the Employer's Engineer.
- (ii) The Contractor shall provide a minimum of 15 working days' notice to the Employer's Engineer/Client before any FAI. Other than the FAI, the Contractor shall give the Employer's Engineer notice of all Quality Control Points and Quality Hold Points involving inspections and/or tests by the Contractor.
- (iii) At least 15 days prior to each FAI, the latest drawings, inspection and test procedures, specifications and quality documentation required for adequate inspection of the equipment under inspection shall be submitted to the Employer's Engineer. The drawings shall be complete to the lowest level replaceable unit.
- (iv) The Contractor shall ensure that he and his subcontractors are prepared for all FAIs. The Contractor shall not schedule more than one FAI on the same day without prior notice of No Objection by the Employer's Engineer.
- (v) Before shipment all manufactured items or systems shall undergo (Factory Acceptance Test) FAT performed jointly by the representative of NCRTC/IRCON or both or by any authorized representative (which may include our client representatives or any independent inspection agency) in accordance with the requirements of the Particular Specification (PS).

- (vi) The Contractor shall correct all faults found during testing, and shall arrange for the relevant tests to be repeated. The relevant tests shall only be repeated when the fault has been remedied and the equipment demonstrated to function correctly.
- (vii) Where remedial measures involve significant modifications that might, in the Employer's Engineer's opinion, affect the validity of earlier tests, the Contractor shall repeat the earlier tests and obtain results satisfactory to the Employer and the Employer's Engineer before repeating the test in which the fault was first identified.
- (viii) The Employer or the Employer's Engineer shall have the right to order the repeat or abandonment of any test in the event that results demonstrate that the equipment is significantly non-compliant with the Contract.
- (ix) The Employer or the Employer's Engineer shall have the right to suspend any test in the event that errors or failures have become unacceptable. The Employer or the Employer's Engineer shall also have the right to suspend any test if a fault was detected by the Contractor but not reported to the Employer's Engineer within 24 hours of the detection. In this event, the suspension shall remain in effect until reporting has been brought up to date to the satisfaction of the Employer and the Employer's Engineer.
- (x) Employer / Client will bear their own costs for attendance at witnessed inspections or tests (other than re-tests) scheduled in accordance with the agreed Works Programme and subject to notice in accordance with the Specification.

13. TYPE TEST

Proposed equipment should be fully type tested as per latest IEC standards at the time of submitting the bid. The bidder would be required to submit the detailed type reports as per latest IEC standards along with bid submission.

For standard equipment, which is serial or bulk manufactured, manufacturer's Type Test Certificates may, subject to review by the Employer/Client, be accepted. It is to be ensured that Type Test should not be more than 10 years old. In case the contractor is not having valid Type Tests Reports and Type Tests are required to be done after the award of work, the charges for the same shall be borne by the Contractor. The quoted prices are deemed to be inclusive of any Type Test charges. No separate Type Test charges shall be paid.

14. TAXES, DUTIES & LEVIES

- a. Offered prices shall be on CFR basis India-Nhava Sheva (Jawaharlal Nehru Port-JNPT) basis. All applicable taxes, levies and duties applicable in the country of the contractor shall be borne by the contractor. However, Custom Duty & GST applicable in India is not to be borne by the Contractor
- b. All duties, taxes [except Custom Duty, Goods and Services Tax (GST)], royalties, cess and other levies payable by the Bidder under the Contract, or for any other cause, as of 28 days prior to the deadline for submission of bids, shall be included in the rates and the total Bid Price submitted by the Bidder. The Delhi Ghaziabad Meerut Corridor of Regional Rapid Transit System being implemented by National Capital Region Transport Corporation Limited, is an approved project by the Government of India and Financed by Asian Development Bank and Asian Infrastructure Investment Bank. The Goods imported for the project execution are exempt from whole of the duty of customs leviable thereon under first Schedule to the Customs tariff Act 1975 (51 of 1975) and the whole of the special duty of customs leviable under section 68 of the Finance (No. 2) Act 1996 as per the provision of the Notification No. 84/97 dated 11th Nov 1997, as amended time to time.

- c. If there is any change to the existing rates of statutory taxes/ duties of the state/ Central Governments or Levy of any new type of statutory taxes/duties of substitution of existing taxes/duties in the country of the contractor after the last date of submission of tender, it shall be borne by Contractor
 - d. The Contractor shall bear the cost of all royalties, fees and other payments in respect of patents, patents right and license(s) or which may be payable to patentee, licensee, or other person or corporation and shall obtain all necessary license/permissions. In case of any breach (whether willfully or inadvertently) by the Contractor of this provision, the contractor shall indemnify Employer, Engineer and their employees against all claims, proceedings, damages, costs, charges, loss and liability which they or any of them may sustain, incur or be put to by reason or in consequence directly or indirectly of such breach and against payments of any royalties, damage or other money which the Employer/Engineer may have to make to any person or pay in total to the patent rights in respect of the users of any machine, instruments, process, articles matter or thing constructed, manufactured, supplied or delivered by the Contractor under this contract.
 - e. The Contractor shall be liable to submit the royalty payments receipt (if applicable) as per the applicable norms and prevailing rate to the extent materials are used on the project. IRCON shall be free to deduct suitable amount from RA Bill of the contractor if the Royalty payment receipt (if applicable) is not submitted by the contractor before releasing payment. Amount deducted by the Engineer on account of Royalty (if applicable) shall only be released on submission of Royalty payment receipt/Royalty Clearance Certificate (if applicable) by the contractor. However, Contractor shall be liable to submit Royalty clearance certificate (if applicable) from the concerned authority before releasing the final bill.
15. The documents and other originals of all records or documents pertaining to the work shall be treated as confidential by contractor and shall not, without consent of the Employer and Client, be made available to any person and shall be delivered to the Employer / Client upon completion of the work. However, copyright of the design / documents developed by contractor shall vest with the contractor and the same cannot be used for any other work without permission from the Employer/Client.
16. Contractor shall deliver the assignment with utmost quality standards.
17. The contractor shall prepare, provide and keep up to date a complete set of operation and maintenance manual for the work (the "O&M Manual").

18. VENDOR APPROVAL

Successful bidder is required to be assessed for technical, financial capability etc. by NCRTC. LOA will be placed only when NCRTC has accepted the successful bidder as the vendor for supply of equipment/material. Following documents shall be submitted with the bid for the purpose of Vendor Approval:

- (i) Company Profile and Experience of the Vendor.
- (ii) Clause wise compliance of the relevant Clauses of Specifications.
- (iii) Details of supplies /orders executed in last ten years for the type of Equipment / product offered. Supplies / orders executed for Underground Metro Systems shall be specifically mentioned.
- (iv) Details of the facilities available at the Works / Manufacturing Unit where the proposed equipment/ product shall be manufactured.

- (v) ISO 9000 Certification for the Works / Manufacturing Unit where the proposed equipment / product shall be manufactured (The Works/Manufacturing Unit where the proposed equipment / product shall be manufactured must have ISO 9000 Certification).
- (vi) Proof regarding compliance to Manufacturer's Qualifications. The offered products must be proven in service.
- (vii) Audited Financial Statements of the Vendor for the last three years.
- (viii) Type test certificates/ Performance certificate from accredited laboratories for the proposed type of equipment / products to establish the technical capability of the vendor {In case, specific requirements are mentioned in the relevant sections of Specifications with regard to type testing, same shall also be complied additionally}.
- (ix) The vendor shall not have been blacklisted by any Govt. Agency in India.
- (x) Any other item as required by Employer / Employer's Representative.
- (xi) Installation manual, Operation & maintenance manual & RAMS manual/plan. Detailed procedure and format for the vendor approval is enclosed as separate Volume.

19. TRAINING REQUIREMENT:

The Contractor shall carry out training of employees of the Employer (and/or other personnel identified in the Employer's Requirements) in the operation and maintenance of the Works, and any other aspect of the Works, to the extent specified in the Employer's Requirements. If the Employer's Requirements specify training which is to be carried out before taking over, the Works shall not be considered to be completed for the purposes of taking over (Taking Over the Works and Sections) until this training has been completed in accordance with the Employer's Requirements. The timing of the training shall be as stated in the Employer's Requirements (if not stated, as acceptable to the Employer). The Contractor shall provide qualified and experienced training staff, training facilities and all training materials as necessary and/or as stated in the Employer's Requirements.

The training requirements (number of courses, course duration and contents, number of trainees in each category) indicated below for the operations and maintenance staff connected with Power supply system & OHE, is indicative. It shall be used by the Contractor for the purpose of cost estimation.

Instructor Man-weeks (Onshore & Offshore)

Sl. No.	Equipment/System	Instructor Man weeks	
		Onshore	Offshore
1.	Light Weight Section Insulator	02 Week	01 Week

The Employer/Client will pay all of his staff's salaries, travelling, subsistence and other related allowances during the course of training.

The cost of Onshore Training shall be deemed to be inclusive of rates quoted by the bidder in the Bill of Quantities (BOQ).

20. APPROVAL / REVIEW

Notwithstanding with any approval or acceptance which the Employer may grant to the Contractor under the Contract, the Contractor shall be solely and wholly responsible and liable for the execution and performance in terms of the Contract and the Employer reserves the right to reject, any of works/material performed under the Contract.

21. PAYMENT TERMS:

21.1 Payment shall be made as follows:

A. SUPPLY AND DELIVERY (INCLUDING TRANSPORTATION ON CFR BASIS TO INDIA-NHAVA SHEVA JAWAHARLAL NEHRU PORT-JNPT) OF ALL MATERIAL AS MENTIONED IN THE BILL OF QUANTITIES

S No.	Description	% age Payment	Remarks
i)	On Supply and Delivery (including Transportation) of all Quantities of Light Weight Section Insulator Assembly with Section Insulator mentioned in the Bill of Quantities on CFR basis to India-Nhava Sheva (Jawaharlal Nehru Port-JNPT) with submission of all dispatch documents like Shipping documents, Invoices, Packing Documents, etc.	90%	
ii)	On successful Installation, Testing & Commissioning	10%	

B. TRAINING OF PERSONNEL

S No.	Description	% age Payment	Remarks
a)	On certification from IRCON/Authorized Engineer that all the necessary Training of Personnel has been provided as per SCC Clause No. 19.	100%	

21.2 Payment for the equipment shall be made by IRCON INTERNATIONAL LTD., through RTGS/NEFT or crossed cheque within 45 days of submission of an invoice with all the supporting documents as mentioned below.

21.3 Payment shall be made for actual work done and at the accepted rates only. Payment shall be made only after submission of Performance Security and signing of contract agreement. All payments shall be made after deduction of TDS (as applicable for foreign supplier), or any other taxes/sums due from the contractor. Payment will be made in currencies as specified in the Price Bid / Bill of Quantities.

21.4 Documents required for release of payment as per Clause No. 21.1 (A) (i).

S.No	Documents	Copies
i)	Contractor invoice showing LOA reference, goods description, quantity despatched, unit price, total amount	Three (3) copies
ii)	Packing list identifying contents of each package	Three (3) copies
iii)	Bill of Landing/Air way Bill/Railway Receipt (RR)/Receipted Lorry Receipt (LR), as the case may be.	One original+ Two (2) copies
iv)	Manufacturer's guarantee certificate	One original+ Two (2) copies

S.No	Documents	Copies
v)	Material inspection & clearance certificate (MICC) issued by IRCON/NCRTC and the contractor's factory inspection report.	Three (3) copies
vi)	Certificate from IRCON's representative clearly stated receipt of materials in good condition.	One original+ Two (2) copies
vii)	Certificate of Origin	One original + One (1) copy
viii)	Certificate of Type Test	One original + One (1) copy
x)	Operation, Maintenance and Troubleshooting manuals	Two (2) copies + Two (2) sets of CDs

All the As built drawings shall be submitted by contractor as per requirement of NCRTC/IRCON.

21.5 Documents required for release of payments as per Clause No. 21.1 (A) (ii):

S. No.	Documents	Copies
1.	Certificate from IRCON's representative clearly stating testing & commissioning of the system	One original+ One (1) copy

A

22. PACKAGING, STORAGE, SHIPPING AND DELIVERY

General Precautions

- a) Spare parts shall be tropicalized in their packing for prolonged storage in accordance with BS 1133 or other equivalent International /Indian standard and shall be suitably and individually labelled to indicate:
 - 1) shelf life and date of manufacture;
 - 2) type or condition(s) of storage and special handling information;
 - 3) description of item and relevant part number;
 - 4) serial number, if applicable;
 - 5) inspection/test certificate number and batch number; and
 - 6) Contract number, variation order number and item number.
- b) Tubes, cable, conductor and other similar openings shall be properly sealed and blanked off to prevent ingress of dirt or moisture. Flanged ends shall be protected by adhesive tape or jointing material covered by a properly secured wooden blank not smaller than the flange itself. Plain tube ends shall be closed off with bungs or plugs or suitable materials firmly fixed in position.
- c) Particular care shall be taken to prevent mechanical transport related damage or corrosion of shafts and journals where they rest on timber or other supports which may contain moisture. At such points, wrappings impregnated with anti- rusting composition and of sufficient strength to resist chafing under the pressures and movements during transit shall be used.
- d) Spare ball and roller bearings and similarly protected items shall not be removed from the manufacturer's wrappings or packing.
- e) Fragile materials shall be packed in such a way that they shall not be damaged during

transit and when they are properly unpacked for quality inspection. Glass items shall be capable of being easily re-packed without removing the original wrappings or packing for long-term storage within the same packing case.

- f) Appropriate precautions in accordance with the Contractor's safety regulations, the regulations of the Employer, and statutory regulations shall be taken in respect of all hazardous, toxic, inflammable, etc. materials.

Packaging Procedures

- a) All required inspection/test certificates shall be supplied and packed together with individual material. All packaging materials and procedures shall be subject to review by the Employer's Engineer.
- b) The Packing for the goods to be provided by the contractor should be strong and durable enough to withstand, without limitation, the entire journey during transit, rough handling, open storage, exposure to extreme temperatures etc. without any damage deterioration etc.

Shipping

- a) The Contractor shall notify the Employer's Engineer ten days in advance of any expected shipment date and give further notification of the actual shipment date and routing when such information is subsequently established. This shall complement the inspection requirements prior to delivery as specified herein.
- b) Two copies of packing lists and quality certificates shall be attached to each case or package to be shipped. One copy shall be placed inside the package and the second copy shall be enclosed in a watertight enclosure on the outside of each case or package. A copy of packing lists and quality certificates shall be sent to the Employer's Engineer after each package of the Works, the equipment, spare parts and other items to be shipped have been shipped.

Delivery

- a) Any part of the Works or any item to be supplied under the Contract that is damaged in transit shall not be considered as delivered until repairs or replacements have been made and all necessary spare parts or items have been delivered to the Site.
- b) All documents, manuals, drawings and other deliverables shall be delivered to IRCON Project office in NCR region to be designated by the Employer's Engineer in writing.
- c) An item shall be considered delivered when all damage have been repaired and all documentation and post-delivery preparation have been completed to the satisfaction of the Employer's Engineer.

23. PERFORMANCE SECURITY & RETENTION MONEY

The successful Bidder shall submit a Performance Guarantee (P.G.) in the form of irrevocable bank guarantee on the Performa annexed as Annexure-II of GCC from any Scheduled Bank for an amount of **3% (Three Percent)** of the contract value.

All other conditions of Clause 8.0 of GCC shall prevail.

24. QUANTITY VARIATION

The quantity variation shall be applicable only against the quantities mentioned in the Price Bid/ Bill of Quantities.

All other conditions of Clause 58.0 of GCC shall prevail.

25. DEFECT LIABILITY PERIOD

Defect Liability Period shall be 24 Months & commence from the date of ROD. The tentative date of ROD is mentioned under Clause 3.0 (Introduction to Work) above. The contractor shall investigate equipment failure cause & submit report to IRCON/NCRTC. Contractor shall replace/repair the failed equipment without any cost implication to IRCON/NCRTC. The contractor shall be responsible for the supervision of maintenance of the equipment supplied under contract during DLP. 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 fulfil his obligations during the Defects Liability period. A penalty of Rs. 10,000/- per day in DLP period will be imposed if major equipment or any complete system failure, affects the revenue services.

26. FAILURE TO REMEDY DEFECTS:

If the Contractor fails to remedy any defect or damage within such time as the Employer / Engineer may deem to be reasonable, the Employer/ Engineer may fix a date on or by which to remedy the defect or damage, and give the Contractor reasonable notice of such date. If the Contractor fails to remedy the defect or damage 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, but the Contractor shall have no responsibility for such work: the costs incurred by the Employer in remedying the defect or damage shall be recoverable from the Contractor by the Employer;
- (ii) require the Engineer to determine and certify a reasonable reduction in the Contract Price;

27. SUB CONTRACTOR/VENDOR WARRANTY:

The successful bidder shall be fully responsible for the Plants, Materials, goods, workmanship, preparing, developing and coordinating all associated Works to enable that part of the Works to be constructed and/or to be fully operational in accordance with the Contract's requirements. The successful bidder shall be required to submit Sub-Contractor warranty (enclosed as Separate Volume), and should be made available at the time of signing of the Agreement.

28. LIQUIDATED DAMAGES –

Time is the essence of the contract and therefore if the work is delayed on account of the contractor, liquidated damage shall be recovered as provided for in the contract. Such liquidated damage shall generally be 0.25% of the contract value per week delay or part of a week for which the contractor is in default with an upper limit of generally 10% of the contract value. The liquidated damages are recovered by the Employer from the Contractor for delay and not as penalty. The payment or deduction of such damages shall not relieve the manufacturer from its obligation and liabilities under the contract. Once the maximum is reached, the purchaser may consider termination of the contract pursuant of the contract to Termination for default. All other conditions of Clause 49.0 of GCC shall prevail.

29. AS BUILT DRAWINGS AND OPERATION & MAINTENANCE MANUAL:

The Contractor shall supply Operation and Maintenance documentation in respect of the systems and equipment supplied or installed or modified under the Contract in accordance with the requirement. All Operation and Maintenance Manuals produced by the Contractor

shall conform to the requirements of the NCRTC. The Contractor shall supply all documentation, including Operation and Maintenance Manuals and “as-built” drawings, necessary for operating, maintaining, repairing and modifying the systems and equipment supplied, installed or modified under the Contract. The Contractor shall provide one electronic copy, eight bound copies and one unbound copy of all documentation. The unbound copy will be used by the Employer for reproduction purposes. All documentation including the Operation and Maintenance Manuals shall be provided in the English language. The contractor shall obtain the consent of IRCON/NCRTC as to their size, the referencing system and other pertinent details. Soft/Electronic copy of As Built drawings shall be provided in the following formats: (1) Native File Format or (2) IFC2x3-IFC4 Add2.

30. PRICE VARIATION: NOT APPLICABLE

31. INTERFACE REQUIREMENT:

Various activities shall be executed by more than one agency. The interfacing for the purpose of integration of the works between the contractors/consultant will arise. The Contractor has to liason & interact with Detailed design consultant and GC/NCRTC.

32. APPLICABLE LAW

The order shall be governed by the relevant laws of India, Delhi jurisdiction. Priority of contract documents is as per contract Agreement clause.

33. CLAIMS AND SETTLEMENT OF DISPUTES

Claims and Settlement of disputes clause shall not be applicable for this tender.

34. INSURANCE – N.A.

For & on behalf of
IRCON INTERNATIONAL LIMITED
Chief General Manager/Electrical

Annexure - A to SCC
(Ref. SCC Clause No. 4)

**DELHI – GHAZIABAD – MEERUT REGIONAL RAPID
TRANSIT SYSTEM PROJECT
PACKAGE 19, LOT-1 & LOT-2**

**Design, Manufacture & Supply of Light Weight Section Insulator for Design Speed of 180
kmph for Lot-1 and Lot-2 work of Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC
(Package-19 Lot 1 & Lot 2)**

TECHNICAL SPECIFICATIONS

1. INTRODUCTION

This document describes the technical specifications/details of 25kV AC Flexible Overhead Catenary System (FOCS) items/equipments to be used in Delhi - Ghaziabad - Meerut RRTS Corridor. The specifications have been worked out based on NCRTC Contract, Section 6B: Particular Specifications Chapter 7- Technical Requirements and Appendix B - Technical Sheets, A&C-3. Sizes, Tension of conductors proposed, and maximum conductor temperature are subject to validation by Simulation Studies.

For Main line the design speed is 180 kmph and maximum operational speed is 160 kmph. At platforms the speed will be restricted to 100 kmph.

For Branch line (sidings, connections to depot) the design speed is 95 kmph and maximum operational speed is 85 kmph.

Operating speed on diverging lines at turnouts having weldable CMS crossing (1 in 9) and thick web switch with 300 m radius of lead curve rail shall be 45 kmph and for weldable CMS crossing (1 in 7) and thick web switch with 190 m radius of lead curve rail shall be 35 kmph.

Operation will be stopped when wind speed reaches 100 kmph or more. The speed of trains shall be restricted to 40 kmph on platform when wind speed is more than 70 kmph but less than 100 kmph. When wind speed exceeds 100 kmph, the train movement shall be halted, preferably at platform.

In main line (Elevated Section) including connections to yards, test track the Overhead Equipment shall consist of Flexible Overhead Catenary System.

In depots(s) and stabling yard the OHE shall be tramway type except Inspection Bay (2 no. IBL) where Retractable Catenary System (MOCS) will be provided as per Contractual requirement.

As per Contract, Chapter 7-Technical requirement, Section-6B: Particular Specification and Addendum, Clause 7.38.7 "Conductor Mechanical Tensions" and its Addendum. For main lines, the mechanical tension of the messenger wire and of the contact wire are kept constant within the temperature range -2°C to +100°C (by sun and electric heating effect) by means of a pulley-block/spring type tensioning device.

10. LIGHT WEIGHT SECTION INSULATOR

Table 16. Light Weight Section Insulator

SL NO.	SPECIFICATION	VALUE
1	Standard	RDSO Spec no. TI/SPC/OHE/LWTSI/0060 and IEC 61109 / IEC 60507 / EN 50119 and Additional requirements as per Contract, Chapter 7, Clause 7.33 "Insulators"
2	Type	Light weight with proven service experience with Silicone Composite Insulator. Suitable for 150 sq.mm contact wire (Cu-Ag0.1) and 120 sq.mm messenger wire (Cu-Mg Bz-II)
3	Speed Potential	200 kmph
4	Nominal voltage at 50 Hz (line to earth)	25 kV
5	System voltage can go upto	30 kV
6	Creepage distance of insulator	1600 mm
7	Air Gap	310 mm
8	Maximum working load	31.5 kN
9	Min. Breaking load	94.5 kN
10	Shed and sheath material of insulator	Made of HTV type silicon rubber having silicon content between 40-50% and preferably alumina tri hydrate as filler
11	Core material of the insulator	Boron free, electrically corrosion resistant grade fibre reinforced epoxy resin rod having at least 70% fiber by weight
12	Power Frequency Withstand Voltage (Dry)	110 kV
13	Power Frequency Withstand Voltage (Wet)	100 kV
14	Service life	>20 years (without considering the aging and wear resistance at direct sliding of the insulator)
15	5 years Warranty for SI	To be provided by OEM
16	Manufacturer	To be shared by OEM
17	Place of Manufacture	To be shared by OEM
18	Manufacturer drawing reference number	To be shared by OEM

Section Insulator should be used at least 5 years in any metro/railway/RRT system with satisfactory performance.

10.1 Type Tests

1. Visual examination of components
2. Dimensional verification of components
3. Visual and dimensional examination of complete assembly
4. Interchangeability of components
5. Physical and chemical tests on test bars representing the castings and forgings.
6. Radiographic examination of castings

Document No.	Rev.	Date	Page
NCRTC-DM093-IRC-XXXX-ZZZ-TS-PT-10018	56 R0	17/02/2021	Page 28 of 35

7. Liquid dye penetration test on castings and forgings
8. Load test on end fittings of catenary conductor and contact wire
9. Chemical analysis of other fittings/components
10. Dry lightning impulse withstand voltage test on insulators
11. One-minute wet power frequency with-stand voltage test on insulators
12. Mechanical load time test on insulators
13. Tests on fasteners
14. Cyclic tensile load test on insulating rods
15. Wear test on insulating rods

10.2 Routine Tests

1. Visual examination of components
2. Liquid dry penetration test on castings and forgings
3. Mechanical routine test on insulators

10.3 Acceptance Tests

1. Visual examination of components
2. Dimensional verification of components
3. Visual and dimensional examination of complete assembly
4. Interchangeability of components
5. Physical and chemical tests on test bars representing the casting and forgings
6. Liquid dry penetration test on castings and forgings
7. Load test on end fittings of catenary conductor and contact wire
8. Chemical analysis of other fittings/components
9. Tests on fasteners

10.4 Ordering and Delivery

Ordering, packaging, verification of compliance and test results shall be in accordance with TI/PC/OHE/LWTSL/0060 or Equivalent and Contractual requirements.

Document No.	Rev.	Date	Page
NCRTC-DM093-IRC-XXXX-ZZZ-TS-PT-10018	57 R0	17/02/2021	Page 29 of 35

10.5 Inspection & Testing

As per Section 6B Clause 8.4.1.36, Factory Inspection and testing of supply items of equipment and components of Overhead contact line:

- A. 1 month before factory acceptance test, contractor shall submit to the Engineer the test content. This test content shall refer to appropriate standards.
- B. The contractor quality manager will assist to all factory acceptance test on equipment and components of Overhead contact line in the manufacturer’s workshops. After each test, a test report shall be made, giving a pass or fail status, and shall be submitted to the Employer’s representative.
- C. The contractor design and quality team shall conduct the factory acceptance test on equipment and components of Overhead contact line in the manufacturer’s workshops. This will be performed on 10% of the quantity ordered based on random selection of the product offered for inspection. The Engineer may take part to inspection.
- D. Such material immediately after completion of inspection and testing shall be sealed before shipping in presence of witnessing by Employer’s representative, manufacturer’s representative and the contractor.
- E. Type test shall have to be performed as per specification if it has not been done earlier by a national / international accredited reputed agency.
- F. Moreover, the employer reserves the right to order type test irrespective of whether the type test conducted earlier or not.
- G. Concerning type tests, test certificates issued by national/international recognized agencies may be asked to issue, if the contractor cannot carry out these tests himself and if the test certificates are related to a similar equipment of same capacity and design

Document No.	Rev.		
NCRTC-DM093-IRC-XXXX-ZZZ-TS-PT-10018	R0		

As per Section 6B Clause 8.4.1.38, Final factory tests:

- A. The final factory tests will be carried out on the fully assembled equipment as specified. Thereafter, if required and permitted by the technical features of the equipment, the equipment may be dis-assembled for transportation purposes. The dis-assembly should not, however, cause any deterioration of the technical performance of the equipment. In respect of certain routine tests, it may be necessary to repeat the tests at more than one stage, and the Contractor should ensure that this is done, as required by the Employer's representative. The fact that certain tests had to be carried out on the equipment and/or any part, at more than one stage, cannot be claimed by the Contractor, as reason for any failure/sub-standard technical performances of the equipment.
- B. The Employer reserves the right to halt the proceeding of any assembly work, which would not be in accordance with the stipulations of this section
- C. All delays which could arise from additional tests, from modifications required due to a defects will not be able to be used by the contractor to justify price increase or time extensions
- D. Each piece of equipment will be subjected to two successive tests: in the factory and on the site after assembly
- E. Tests of 8.4.1.38.D. will be carried out by the contractor's responsibility and in the presence of the Engineer
- F. Tests of 8.4.1.38.D. will be subjected to a certificate. Provisional acceptance will be granted only after execution of 8.4.1.38.D. of tests

As per Section 6B Clause 8.4.1.39, After shipment and Preliminary tests:

- A. After shipment
 - i. The contractor should perform at this stage the tests verifying that any damage has taken place during transportation.
 - ii. The contractor should ensure to carry out, at least, the tests listed in the column "after shipment "of each concerned equipment test sheet (test sheet in Appendix C)
- B. Preliminary tests: the contractor should ensure at this stage the tests verifying that equipment have been installed and assembled correctly

Document No.

NCRTC-DM093-IRC-XXXX-ZZZ-TS-PT-10018

Rev.		
50 50		

2. COPPER CONDUCTORS:

2.1 150 mm² Contact wire (Cu-Ag0.1) (Flat Bottom) for elevated and at-grade section of the corridor

Table 1. 150 mm² Contact wire (Cu-Ag0.1) (Flat Bottom)

SL NO.	SPECIFICATION	VALUE
1	Material designation	High Strength Copper-Silver alloy: Symbol: Cu-Ag 0.1 Number: CW013A
2	Standard	EN 50149:2012
3	Chemical Composition in %	Copper, Cu: min: Rest Silver, Ag: min: 0.08% and max: 0.12%, Bi: Max-0.0005%, O: Max-0.040. Other elements: max: 0.03% (excluding Ag & O).
4	Configuration	BF-150 as per EN 50149
5	Cross section	150 sq.mm (Flat Bottom)
6	Identification groove	Wires of copper alloy with silver shall incorporate two identification grooves on the upper lobe of the wire in accordance with Figure 2 of EN 50149:2012
7	Diameter of conductor (A, B)	A=14.50mm, B=13.6mm in accordance with Annex-A, Figure A.13 of EN 50149:2012
7.1	Tolerance on diameter	As per Clause C3 of Annex C of EN50149:2012
8	Figure (All dimensions are given without tolerance as per Annex-A, Figure A.13 of EN 50149:2012)	
9	Maximum resistivity at 20°C	1.777x10 ⁻⁰⁸ Ωm (As per Table-2 of EN 50149-2012)
10	Maximum Resistance per kilometre at 20°C	0.122 Ω/km (As per Table-3 of EN 50149-2012)
11	Temperature coefficient of resistance at 20°C	3.8x10 ⁻⁰³ /K (As per Cl. 5.4 of EN 50149-2012)
12	Minimum tensile strength	360 N/mm ² (As per Table-4 of EN 50149-2012)
13	Minimum breaking load	52.4 kN (As per Table-5 of EN 50149-2012)
14	Elongation (per 200 mm)	3.0% min. (As per Table-4 of EN 50149-2012)
15	Nominal mass of wire	1.3335 kg/m (Average as per Table C.1 of EN 50149-2012)
16	Tolerance on mass	As per Table C.1 of EN 50149-2012
17	Coefficient of linear expansion	17x10 ⁻⁶ /K (As per EN 50149-2012)

18	Joints in the conductor	No Joints as per RDSO Spec. ETI/OHE/76(6/97)
19	Additional requirements as per Contract, Chapter 7, Clause 7.28.3 "Contact wire"	There shall be no brazed or any other type of joint in contact wire & other conductors during manufacturing. Vendor shall submit a certificate regarding the same during supply of each lot.
20	Minimum diameter of contact wire drawn out of continuous cast rod	To be shared by OEM
21	Max. Length of wire per drum	To be shared by OEM
22	Total weight of drum with contact wire	To be shared by OEM
23	Drum Type	Wodden with mild steel frame or superior
24	Drum tested as per	EN 50149:2012
25	Manufacturer	To be shared by OEM
26	Place of Manufacture	To be shared by OEM
27	Manufacturer drawing reference number	To be shared by OEM

Document No.	Rev.		
NCRTC-DM093-IRC-XXXX-ZZZ-TS-PT-10018	R0		

2.3 120 mm² Catenary wire Cu-Mg (Bz-II) for main line, depot connecting lines and test track

Table 3. 120 mm² Catenary wire Cu-Mg for main line

SL NO.	SPECIFICATION	VALUE
1	Material designation	High strength copper: Symbol: Cu-Mg (BzII)
2	Standards	DIN 48201-2
4	Configuration and chemical composition	Copper, Cu: min: Rest, Mg: min: 0.4% and max: 0.7%, P: Max- 0.01%. Other elements: max: 0.1% (excluding Mg & P).
5	Cross section	120 sq.mm (19/2.8mm dia stranded conductor)
6	Overall Diameter (OD)	14 mm (as per Table 1 of DIN 48201-2)
7	Maximum resistivity at 20 ^o C	2.772x10 ⁻⁰⁸ Ωm (As per BS EN 50149- 2012)
9	Maximum Resistance per kilometre at 20 ^o C	0.231 Ω/km (for Conductivity of 36m/ Ω-mm ²)
11	Temperature coefficient of resistance	2.7x10 ⁻⁰³ /K (As per BS EN 50149-2012)
12	Breaking Strength	67.57kN (As per DIN 48201-2)
13	Nominal mass of wire	1.06 Kg/m (As per DIN 48201-2)
14	Tolerance on mass	As per DIN 48201-2
15	Coefficient of linear expansion	17x10 ⁻⁶ /K (As per BS EN 50149-2012)
16	Joints in the conductor	As per DIN 48201-2
17	Additional requirements as per Contract, Chapter 7, Clause 7.28.4 "Messenger wire"	In stations, the messenger wire will be protected with an insulated cover in order to avoid birds touching messenger wire and return cable at the same time.
18	Max. Length of wire per drum	To be shared by OEM
19	Total weight of drum with catenary wire wire	To be shared by OEM
20	Drum Type	Wodden with mild steel frame or superior
21	Drum tested as per	To be shared by OEM
22	Manufacturer	To be shared by OEM
23	Place of Manufacture	To be shared by OEM
24	Manufacturer drawing reference number	To be shared by OEM

NOTE: SAME SPECIFICATIONS ARE ALSO APPLICABLE FOR ANTI-CREEP WIRE.

Document No.	Rev.		
NCRTC-DM093-IRC-XXXX-ZZZ-TS-PT-10018	R0		

6. DROPPER 12 MM² CU ALLOY FOR MAIN LINE.

The dropper sizing and type of dropper to be used in Main line shall be current carrying droppers, at least 12 sq.mm with proper clamping arrangement. The fastening arrangement shall be provided with locking arrangement to withstand vibrations. The factor of safety for the complete dropper shall be 2.5 for vertical and 1.5 for horizontal working loads. Current carrying droppers shall be designed to allow for current to flow between the contact and catenary wires. Electrical design shall take into account the current distribution between the droppers in at least one span. A short-circuit close to one single dropper could cause a very high short-circuit current in the dropper. Under these circumstances, the dropper is not required to be short-circuit proof. Clamps and line fittings shall provide a path for the specified normal and short-circuit current flow without causing failure. The droppers and its clamps shall be suitable for contact wire of 150 sq.mm Cu-Ag0.1 and messenger wire of 120 sq.mm Cu-Mg (Bz-II) as per EN, DIN and RDSO specifications.

Table 12. Specifications of Dropper 12 mm² Cu alloy for main line.

S No.	SPECIFICATION	VALUE
1	Material and Designation	Bronze, 12B
2	Configuration	7x0.65 + 42x0.54
3	Nominal cross section	12 sq.mm
4	Diameter of conductor	5.00 mm
5	Linear resistance at 20°C (max.)	2.12 Ω/km
6	Minimum Breaking load	695 daN
7	Linear Mass	103 kg/km
8	Electrical conductivity	72 % IACS
9	Additional requirements as per Contract, Chapter 7, Clause 7.29 "Dropper"	To be confirmed by OEM
10	Manufacturer	To be shared by OEM
11	Place of Manufacture	To be shared by OEM
12	Manufacturer drawing reference number	To be shared by OEM

SECTION-VI
GENERAL SPECIFICATIONS
SEPARATE VOLUME

SECTION-VII
PARTICULAR SPECIFICATIONS
SEPARATE VOLUME

SECTION-VIII
DRAWINGS
SEPARATE VOLUME

SECTION-IX
TEST SHEETS
SEPARATE VOLUME

SECTION-X
GENERAL CONDITIONS OF CONTRACT (GCC)
SEPARATE VOLUME

SECTION-XI
FORMAT OF SUBCONTRACTOR WARRANTY
SEPARATE VOLUME

SECTION-XII

PROCEDURE & FORMAT FOR VENDOR APPROVAL

SEPARATE VOLUME

PART-II
FINANCIAL BID

SECTION-I

Price Bid/ Bill of Quantity (BOQ)

Tender Inviting Authority:		Chief General Manager/ Electrical							
Name of Work:		Design, Manufacture & Supply of Light Weight Section insulator for Design Speed of 180 kmph for Lot-1 and Lot-2 work of Delhi – Ghaziabad – Meerut RRTS Corridor of NCRTC (Package-19 Lot 1 & Lot2)							
e-NIT No.:		IRCON/ELECT/5037-5038/NCRTC/LIGHT WT SECTION INSULATOR/OT/21							
Name of the Bidder/ Bidding Firm / Company :									
Bill of Quantities (BoQ)									
Sl. No.	Item Description	Quantity (Stage-1 of Lot-1)	Quantity (Stage-2 of Lot-2)	Quantity (Stage-3 of Lot-1)	Quantity (Stage-4 of Lot-2)	Total Quantity	Unit	Rate (in Euro) inclusive of all applicable Taxes except Custom Duty & GST	Amount (in Euro) inclusive of all applicable Taxes except Custom Duty & GST
1	Design, Manufacture & Supply (including Transportation on CFR basis to Nhava-Sheva Jawaharlal Nehru Port) of Light Weight Section Insulator Assembly with Section Insulator.	34	10	18	44	106	Set		-
2	Training of Personnel (Offshore)			1		1	Week		-
GRAND TOTAL									-