

KOLKATA METRO RAIL CORPORATION LIMITED

CONTRACT : UG - E&M(R)

CLARIFICATIONS TO PRE - BID QUERIES

DESIGN VERIFICATION, DETAILED ENGINEERING, MANUFACTURE, SUPPLY, DELIVERY AND STORAGE AT SITE, LAYING, INSTALLATION, TESTING AND COMMISSIONING (INCLUDING INTEGRATED TESTING & COMMISSIONING), TRAINING OF PERSONNEL, DEMONSTRATION OF PERFORMANCE OF SYSTEM / EQUIPMENT OF ELECTRICAL AND MECHANICAL (E&M) INCLUSIVE OF FIRE PROTECTION SYSTEM OF KOLKATA METRO EAST-WEST LINE PROJECT (PHASE-1)

Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
1	1	INSTRUCTIONS TO TENDERES (ITT)	C 2.6	ITT/12	The Form of Tender shall be submitted on Rupees 200/- Stamp Paper.	Kindly confirm whether Form of Tender to be submitted on Rs. 200/- stamp paper / Franking of Rs. 200/- OR on company letter head shall suffice. As Form of Tender is not going to be a registered document (even in case of successful bidder) we request that Form of Tender on a company letter be acceptable.	Please refer item no. 3 of Addendum no.-1
2	1	INSTRUCTIONS TO TENDERES (ITT)	C 2.7	ITT/12	Appendix-2 to the Form of Tender (Pricing Document) shall be duly completed including the Tender Total, amounts under apportioned each schedule (Schedule X and Schedule Y). Similarly monthly cash flows for both the Contracts separately as per Payment Schedule to be completed, etc.	By two separate Contract Agreements we understand that one contract shall be for Supply i.e Schedule X and other for Installation, Testing, Commissioning & Handover i.e Schedule Y. Please confirm. Kindly confirm for " Supply " under schedule X wherever applicable whether you will be able to issue C form / E1 or E2 form and road permits will be provided by you. In the event of you are not being able to provide C form / E1 & E2 form / road permits the objective splitting the scope of work and awarding as different contract may not serve the purpose of optimising the tax liability. Hence, a single contract for SITC work covering the entire scope may be awarded.	No change in tender condition is envisaged.
3	1	INSTRUCTIONS TO TENDERES (ITT)	C 15.2	ITT/16	The Tenderer is to note the Key Dates given in Appendix 1A to the Form of Tender. These are to be adhered to strictly, failing which Liquidated Damages as per item 4 of Appendix 1 to the Form of Tender shall be applied. Prior to the Date of Commencement, Key Dates will be converted to calendar dates applicable to each Schedule X and Y.	We request that if the contractor completes / achieves subsequent milestone within stipulated key date (and any extensions of time thereof), the Liquidated Damages if applied for failing to achieve previous milestone be released to the contractor in the next RA bill / interim payment.	No change in tender condition is envisaged.
4	1	INSTRUCTIONS TO TENDERES (ITT)	C 15.2	ITT/16	The Tenderer is to note the Key Dates given in Appendix 1A to the Form of Tender. These are to be adhered to strictly, failing which Liquidated Damages as per item 4 of Appendix 1 to the Form of Tender shall be applied. Prior to the Date of Commencement, Key Dates will be converted to calendar dates applicable to each Schedule X and Y.	We request that if milestone is achieved before the specified key date, the contractor shall be rewarded. We propose that the LD penalty as per item 4 of Appendix 1 to the Form of Tender shall be the reward.	No change in tender condition is envisaged.
5	1	INSTRUCTIONS TO TENDERES (ITT)	C 18.4	ITT/18	The Tender Security of the unsuccessful Tenderers shall be released when the Contract has been signed with the successful Tenderer.	We request that the Tender Security of the unsuccessful Tenderers shall be released when the Contract has been signed with the successful Tenderer or within 30 days of opening of financial bid, whichever occurs earlier.	No change in tender condition is envisaged.
6	1	INSTRUCTIONS TO TENDERES (ITT)	ANNEXURE 2	ITT Annexure 2 / 2	Obtaining the clearance certificate from RDSO and CRS and any other relevant statutory authorities as applicable.	Kindly confirm whether scope under E&M works requires RDSO and CRS approval. Kindly provide which relevant statutory clearance certificate is required / applicable.	RDSO and CRS approval is for the overall project in which E & M is a part. Hence, no change in tender condition is envisaged.
7	1	INSTRUCTIONS TO TENDERES (ITT)	ANNEXURE 2	ITT Annexure 2 / 2	Detailed engineering, equipment sizing and selection based on Sustainable Design, Energy efficiency and obtaining highest level of LEED Accreditation.	The tender is BOQ based item rate contract. Our bid shall be based on the equipment size, rating as mentioned in the BOQ. We presume that equipment selection based on Sustainable Design, Energy efficiency for obtaining highest level of LEED Accreditation is already considered in the BOQ.	Based on Definitive Design BOQ is provided. However the Contractor is responsible for the Performance as stipulated in the tender document and hence his Detailed Design / Shop Drawings shall comply to Energy efficiency required to obtain the highest level of LEED Accreditation.
8	1	INSTRUCTIONS TO TENDERES (ITT)	APPENDIX 6	ITT Annexure 2 / 4	Certificate from the Tenderer that all the contents of the Tender Documents have been carefully examined by the Tenderer and all the pages of Tenderer's proposal have been initialled or stamped.	We request you to provide format for the certificate.	There is no Specific format. This declaration need to be provided as mentioned in the clause, indicating that the Tenderer hereby duly certify that all the contents of the Tender Documents have been carefully examined by the Tenderer and all the pages of Tenderer's proposal have been initialled or stamped. Hence there is no change to the Tender Clause envisaged
9	1	INSTRUCTIONS TO TENDERES (ITT)	APPENDIX 6	ITT Annexure 2 / 7	Tenderer is required to confirm the proposed E&M inclusive of Fire protection equipment design will comply with specific design parameters of the KMRCL Metro System and also submit specific design data that is in absolute compliance with this Technical Specification.	Our bid shall be based on the equipment size, rating as mentioned in the BOQ as the bid is BOQ based item rate contract. Design verification and detailed engineering shall start after the award of contract. Similarly specific design data with respect to compliance with Technical Specification shall be submitted after the award of contract. Kindly confirm.	No change in tender condition is envisaged. Based on Definitive Design BOQ is provided. However the Contractor is responsible for the detailed engineering and Performance as stipulated in the tender document and hence his Detailed engineering / Shop Drawings shall comply to Specification requirements. Hence verification now or after award of contract is for the tenderer to decide.
10	1	INSTRUCTIONS TO TENDERES (ITT)	FORM OF TENDER APPENDIX 1 CONTRACT CONDITIONS	FOT Appendix 1 / 1	7. Value of Tenderer's Professional Indemnity Insurance (GCC Sub-Clause 15.1) - Total Contract Value	We request that the PII clause be deleted as the scope of work for contractor is limited to design verification only.	No change in tender condition is envisaged. Refer Reply for Sr. No.9 with regards to scope.
11	1	INSTRUCTIONS TO TENDERES (ITT)	CONTRACT KEY DATES AND ACCESS DATES	FOT Appendix 1A / 1	Section 1 - Key Dates - KD1 to KD3B	Key Dates - KD1 to KD3B relates to designing whereas; scope of work for contractor is limited to design verification only. We request to modify key dates KD1 to KD3B with respect to design verification & detailed engineering.	Refer Reply for Sr. No.9 with regards to scope. Hence there is No change in tender condition and Key dates are envisaged.
12	2	ELIGIBILITY CRITERIA (ECR)	PRO-FORMA SECTION 6	ECR/34	24 - Do you intend to engage the services of an independent professional designer for the purposes of undertaking the part design of accepted definitive design of the system or any of the sub-systems?	As contractors scope is limited to design verification only, the same shall be done inhouse by contractor and hence, services of an independent professional designer shall not be required. In view of above; we request to delete clause 24.	Your understanding is not correct. No change in tender condition is envisaged. Refer Reply for Sr. No.9.

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13	2	SPECIAL CONDITIONS OF CONTRACT (SCC)	48	SCC/19	(b) Price adjustment shall be applicable only to Items E2 to E7 of the Payment Schedule in Appendix E of Vol. 6.	We request you to provide items under E2 to E7 as the same are not mentioned in Appendix E.	(b) Price adjustment shall be applicable only to Items B to E of the Payment Schedule in Appendix E of Vol. 6. No price adjustment shall be applicable to the other Items in the Appendix E. Please refer item no. 4 of Addendum no. 1
14	2	SPECIAL CONDITIONS OF CONTRACT (SCC)	SCHEDULE 8	S8 / 1 to 5	Designer's Warranty	We request you to delete Schedule 8.as Designer's Warranty is not applicable here since contractors scope is limited to design verification .	The Scope of the E & M Contractor is clearly mentioned as "Design Verification, Detailed engineering, manufacture, delivery and storage at site, laying, installation, testing (including integrated testing and commissioning), Demonstration of Performance of System/ Equipment of E&M inclusive of Fire Protection system". Hence no change to the tender condition is envisaged.
15	2	Special Conditions of Contract			Labour Cess / BOCW	Kindly confirm whether Labour Cess / BOCW is applicable and percnatge.	Bidders need to judge the applicability of BOCW for the work. Any liabilities on account of BOCW at any stage shall be on part of bidder and the quoted price shall be inclusive of BOCW charges. If same is not applicable, the bidder needs to submit required undertaking/certificates. The KMRC shall make the deduction accordingly and deposit the amount to the concerned authorities
16	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.1 (6)	3 _ 37	Spare breakers with aggregate three phase current rating not less than 20% of the main bus bar current rating shall be provided. Spare space shall be provided on top of each switchboard to accommodate 20% spare breakers for future expansion.	Kindly confirm whether spare space provision can be made on the sides (along the length) instead of top of each switchboard.	No change in tender condition is envisaged.
17	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.1 (2)	3 _ 37	The LV main switchboards (LVP), Main distribution Boards (MDB) and Emergency Main Switch Board shall be fully type-tested assemblies (TTA) as defined in IEC61439-2, manufactured, factory assembled and tested by a recognized test laboratory such as ASTA or KEMA.	OEM's licensed partners or system house which are proven makes for U/G metro installtions may not have ASTA or KEMA certification In view of above we request you to accept other certification authority like ASEFA, ERDA etc.	Please refer item no. 6 of Addendum no.-1
18	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.1 (5)	3 _ 37	The switchboards designed for indoor use in the form of free standing, floor mounting,extendible, self contained, flush fronted cubicles and sectionalized as necessary to facilitate easy transportation and erection, containing all the equipment indicated on the Drawings and specified hereinafter.	TTA design panels are with hinged type doors and not with flush fronted cubicles. We request you to accept panels with hinged type doors.	Please refer item no. 7 of Addendum no.-1
19	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.1 (6)	3-37.	Fully withdraw able type MCCBs shall be provided for the feeders to EPS and sprinkler pumps system.	Kindly confirm that fully withdrawable type MCCBs need not be considered if the BOQ doesn't specifically calls for the same.	No change in Technical Specifications and tender condition is envisaged.
20	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.1 (9)	3-37.	The Switchboards shall be provided with front and back access and the maximum height shall not exceed 2.30 m. All relays and indicating instruments shall be at a height of at least 300 mm and not higher than 1.8 m above finish floor level. Operating handles / Push Buttons shall not be at a height of more than 1.8 m from the finished floor level. The clearance in front, back of all assemblies of switchgear and control gear shall be generally not less than 1.0 metres. The switchgears shall be considered in the fully drawn out condition for this purpose.	Kindly confirm that all ACB's shall be drawout type and other switchgears shall be fixed type.	No change in Technical Specifications and tender condition is envisaged.
21	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.2 (7)	3-38.	Panel doors shall be provided with Neoprene rubber gaskets. Panel door stoppers shall be provided and panel door shall be effectively earthed by flexible multi stranded wires.	We request you to accept Gasket as per TTA design which confirms to IEC-61439.	Please refer item no. 8 of Addendum no.-1
22	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.3 (1)	3-39.	The switchboard busbar shall be fully rated for operation in a 45°C ambient temperature. Fully rated means a continuous current rating according to the applicable Standards based on a rating equal or exceeding one hundred and twenty percent (120%) of the transformers self-cooled secondary current rating connected to the switchboard in parallel.	We request you to accept busbar as per TTA standards considering 45 degree Ambient Temperature as 120% formulae shall not be applicable here.	Please refer item no. 9 of Addendum no.-1
23	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.3 (5)	3-40.	The busbars shall be arranged in the sequence of Red-Yellow-Blue-Black counting from the left to right, top to bottom and front to back as viewed from the front. All busbars including droppers and termination to circuit breakers shall be suitably coded with permanent colour bands and alphanumeric markers.	Kindly confirm whether Phase sequence as per TTA standards i.e NRYB is acceptable.	Please refer item no. 10 of Addendum no.-1

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24	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.3 (8a)	3-40.	Busbars shall comply with the following requirement: (a) The minimum sectional dimension of copper busbar for a particular rating shall comply with the following requirement: 3 mm x 25 mm 200A and below 6 mm x 35 mm above 200A to 400A 6 mm x 50 mm above 400A to 600A 6 mm x 75 mm above 600A to 800A 6 mm x 100 mm above 800A to 1000A More than 1.6A per mm ² above 1000A More than 0.3A per mm ² at joints	We request you to accept busbar as per TTA standards considering 45 degree Ambient Temperature.	Please refer item no. 11 of Addendum no.-1
25	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.3 (8e)	3-40.	Switchboards shall be provided with two earthing terminals, one at each end, for the connection of sleeved Copper bars for earthing. The earthing bars shall be fixed at rear interior bottom portion throughout the length of the switchboard, bonding all gland plates, and other component parts of the switchboard to a main earth point adjacent to the intake position in accordance with BS 951 and BS 7430. All non-current carrying metallic components shall be permanently connected to earth.	Sleeving is not recommended in TTA Design Panel. Kindly confirm requirement.	Please refer item no. 12 of Addendum no.-1
26	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.4 (1)	3-41.	The incomer panels shall include a digital Voltmeter with MCB to register each of the three phase voltages and phase to neutral voltage via a seven position voltmeter selector switch.	Kindly confirm if voltmeter is available with inbuilt selector switch then a seven position voltmeter selector switch shall not be required.	Please refer item no. 13 of Addendum no.-1
27	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.5 (13)	3-43.	Over current and earth fault protection relays shall comply with BS 142 or IEC 60255. Incoming & Outgoing ACBs and MCCBs of rating 250A and above will be Zone selective interlocked (ZSI).	Kindly specify feeders which are to be provided with over current and earth fault protection relay. Zone Selective Interlocked (ZSI) feature is not available in MCCB.	No change in tender condition is envisaged. ZSI feature shall be considered for the MCCB rating 500A & above.
28	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.6 (16)	3-43.	Feeder circuit breakers shall be Moulded Case Circuit Breakers bolted to the bus with the exception of that feeding the EPS and Fire Pump System where withdrawable breakers (MCCB) shall be provided. In addition, the feeder breakers shall be equipped with three phase overcurrent trip devices having independent adjustable long-time, short-time and instantaneous characteristics. Padlock facility for two padlocks shall be provided for all feeder circuit breakers. The padlocks shall come complete with 3 keys. Earth fault relays shall be provided. Feeder circuit breakers of rating at 800A frame size and above shall be ACB type.	Kindly specify feeders which are to be provided with earth fault relay and withdrawable MCCB.	All feeders shall be provided with earth fault relay. MCCBs for EPS and Fire Pump System shall be withdrawable type breakers (MCCB).
29	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.6 (17)	3-43.	MCCB Utilization category: B	Utilization category : B is not possible for all ratings of MCCB. So we propose Utilization category : A for MCCB of all ratings.	Please refer item no. 15 of Addendum no.-1
30	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.6 (17)	3-43.	Rated short-time withstand current (Icw): kA as indicated in the Engineer's Drawings, Rated service short-circuit breaking capacity (Ics):100% of Icu=100% of Icw	Rated service short-circuit breaking capacity (Ics):100% of Icu=100% of Icw is not possible in MCCB. So we recommend Rated service short-circuit breaking capacity (Ics):100% of Icu=100% for MCCB.	Please refer item no. 15 of Addendum no.-1
31	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.4 (22)	3-44.	MCCBs of rating of 250A and below shall have over-current tripping mechanism of the thermal magnetic, temperature compensated type for ambient temperature of 25°C to 50°C and calibrated at 40°C to give time delay overload circuit protection and instantaneous short-circuit interruption.	As per the BOQ all MCCB's shall be with Microprocessor based release whereas as per specification MCCB's are with thermal magnetic. Kindly confirm requirement.	MCCBs of rating of 250A and below shall have over-current tripping mechanism of the thermal magnetic, temperature compensated type for ambient temperature of 25°C to 50°C and calibrated at 40°C to give time delay overload circuit protection and instantaneous short-circuit interruption.
32	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.6 (24)	3-44.	Where indicated on the drawings, provide MCCB with a permanent shunt trip unit which shall shunt trip the MCCB during an earth fault condition. The shunt trip unit shall be controlled by an earth fault current sensing device and static electronic circuitry providing an adjustable earth leakage tripping range between 1 to 5A and an adjustable tripping time of 0 to 5 seconds. The shunt trip coil shall operate on the a.c. supply as specified hereinafter. Provide an indicating lamp with lamp test and reset buttons to indicated MCCB tripped status on earth fault	Kindly specify whether earth fault protection or earth leakage protection is required in MCCB.	No change in tender condition is envisaged.
33	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.14 (13) & (17)	3-47 & 48.	Four Protection Current Transformers (three in panel, one in loose to be mounted in transformer neutral), a Restricted Earth Fault Relay and a Standby Earth Fault Relay as specified for the interface with high voltage switchgear.	Kindly confirm if relay is not specified in the BOQ then the relay and Four Protection CT need not be considered .	No change in tender condition is envisaged.

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34	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.15.1 (2)	3-49.	The distribution boards shall be of metal enclosed indoor, factory-built type corresponding principally to the IEC-Recommendations No. 61439, 60144 and 60947. A minimum protection of enclosure IP 54 (any other protection grade mentioned for DBs, in any drawing, to be superseded with IP 54) shall be provided. Distribution boards of 100A and above shall be provided with voltmeter and ammeter complete with selector switches. All distribution boards shall be provided with incoming and outgoing LED indication lights.	Distribution boards shall be PTTA type. We recommend IS - 8623 with IP-54 for Distribution Boards.	No change in tender condition is envisaged.
35	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.15.1 (2)	3-49.	Disturbution boards of 100A and above shall be provided with voltmeter and ameter complete with selector switches.All distribution boards shall be provided with incoming and outgoing LED indication lights	Kindly confirm if voltmeter and ameter requirement is not specifically mentioned in the BOQ then the same need not be considered.	No change in tender condition is envisaged.
36	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.13.2 (6)	3 _ 38	The switchboard panels shall be constructed of minimum 2 mm thick CRCA sheet steel. Gland plate thickness shall be minimum 3mm.	All load bearing members in the panels shall be constructed of minimum 2 mm thick CRCA sheet steel and non-load bearing members shall be constructed of 1.6 mm thick CRCA sheet steel. Kindly confirm.	Please refer item no. 16 of Addendum no.-1
37	6	BILLS OF QUANTITIES (BOQ)	A1.1.2 [c]	Appendix A / 90	All internal wiring within the Distribution boards must be with Copper Conductor, LSZH wires (conforming to BS 7211 and Specifications) for Normal Lighting and Socket Distribution Boards and with Fire Resistant / Survival wires (conforming to BS 7846) for Emergency Lighting Distribution Boards.	It is difficult to identify Emergency Lighting Distribution Boards as description in the BOQ is given as Type A to N. Kindly confirm whether all DB's internal wiring with Copper Conductor, LSZH wires (conforming to BS 7211 and Specifications) is acceptable.	DB's internal wiring with Copper Conductor, LSZH wires (conforming to BS 7211 and Specifications) is acceptable.
38	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.2.3.2.1 (a)	3 _ 58	Cables conforming to BS 7846: "Specification for 1100V fire resistant armoured cables having thermosetting insulation and low emission of smoke and corrosive gases when affected by fire LSZH type (Low smoke zero halogen) to withstand a minimum temperature of 950 deg C for 3 hours fire rating complying to BS: 6387 and with a life expectancy in excess of 100 years.	Cable manufacturers are not complying to the requirement of cable life expectancy in excess of 100 years. In underground installations such as DMRC cable life expectancy requirement is upto 20 yrs. Hence, we request you to accept life expectancy of cables upto 20 yrs.	Please refer item no. 18 of Addendum no.-1
39	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.15.1 (3)	3 _ 49	Each distribution board shall be provided with 20% spare breakers. The overall rating, incoming cable and upstream provision shall be such that a 20% load increase for future expansion can be accommodated without alteration to the distribution system.	We understand that 20% spare breakers are already considered in the DB breaker ratings and quantity given in the BOQ; Hence no space provision for future expansion need to be considered. Kindly confirm. In case 20% space provision is to be provided it shall be without breakers. Kindly confirm.	20% spare breakers are already considered in the BOQ. Panel design should be done accordingly.
40	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.1.15.2 (1)	3 _ 49	The distribution board enclosure (panels/doors) shall be made of CRCA steel sheets (minimum thickness 2 mm) and finished with epoxy-powder coating (minimum 60 micron) colour/shade to the Engineer' acceptance.	All load bearing members in the panels shall be constructed of minimum 2 mm thick CRCA sheet steel and non-load bearing members shall be constructed of 1.6 mm thick CRCA sheet steel & the final shade for the powder coat in interiors and exterior of the DB's shall be as per the manufacturer's standard colours. Kindly confirm.	Please refer item no. 17 of Addendum no.-1
41	3 - Part- 1 & 6	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS & BILLS OF QUANTITIES (BOQ)	2.3.4.3 & 1.29 (A)	3 _ 71 & Appendix A / 86	The internal earthing shall be of 50% copper run along the length of Bus Duct. The following rating (65 kA for 1 Sec) 4 Pole busduct in sandwich construction of copper bus bars with expansion joints, fire barriers including necessary supports and louvers for ventilation, fabricated out of extruded aluminium/ GI sheet painted with approved paint shade as per specification including 2 No. of 50 x 6 mm copper earthing conductor through out the length of the bus duct. (Phase sequence shall be matched).	As per the specification internal earthing shall be of 50% copper run along the length of Bus Duct whereas; as per BOQ busduct is 4 Pole. Kindly confirm whether busduct enclouser can be considered as an internal earth (in this case internal earthing material shall be 1.2mm thick CRCA sheet steel / GI / Extruded AL) or the same is required separately to be run alongwith RYBN buses (please specify size in case it is required).	No change in tender condition is envisaged.
42	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.3.4.2	3 _ 70	Bus bar shall be of high conductivity copper of 99.95% or more pure ETP grade. Rating of bus bar shall be as specified in drawings / schedule of quantities. Copper shall be silver plated in the entire length.	Copper busbars are normally tin plated. We request you to accept tin plated Copper Busbar instead of Silver plated.	No change in tender condition is envisaged.

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43	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.3.4.5	3 _ 71	Suitable name plate shall be provided for each piece equipment as required for easy identification of bus duct. Material of the name plate shall be Metallic, 3mm thick or approved equivalent. Letters shall be white on black background or as approved.	We request you to accept name plate 0.85mm thick instead of 3mm.	No change in tender condition is envisaged.
44	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.3.4.6	3 _ 71	RAL 7032 Grey Epoxy Paint or as approved by Engineer-in-charge.	We request you to accept Epoxy Polyester Powder Coated (RAL-7032) instead of Epoxy paint.	No change in tender condition is envisaged.
45	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.3.4.8	3 _ 72	Bus Duct configurations offered shall be CPRI / IEC approved Independent test house tested as per IEC61439-6. Copies of the all the test certificates mentioned in IEC61439-6 for said rating (as mentioned in BOQ & SLD) shall be submitted by successful tenderers at the time obtaining of vendor approval. These copies shall not be more than 5 years old.	Kindly confirm whether test certificates of similar or higher ratings shall be acceptable.	No change in tender condition is envisaged.
46	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS & BILLS OF QUANTITIES (BOQ)	2.3.4.3 & 2.3.4.12	3 _ 71 & 3 _ 72	The enclosure of Bus Duct system and Rising Mains shall be fabricated from 1.2mm thick CRCA sheet steel/GI/Extruded AL and shall be provided with a finish of RAL 7032 Grey Epoxy Paint or as approved by Engineer-in-charge. Min 1.6mm thick CRCA sheet steel /GI/Extruded AL	As per specification busduct enclosure thickness is 1.2 mm whereas as per BOQ it is 1.6 mm. Kindly confirm requirement.	The enclosure of Bus Duct system and Rising Mains shall be fabricated from 1.2mm thick CRCA sheet steel/GI/Extruded AL and shall be provided with a finish of RAL 7032 Grey Epoxy Paint or as approved by Engineer-in-charge.
47	6	BILLS OF QUANTITIES (BOQ)	A3.1.4 (L & ZB)	Appendix A / 401 & 406	FRP junction box	We request you to provide IP rating of FRP junction box.	>=IP65
48	6	BILLS OF QUANTITIES (BOQ)	A3.1.4 (S,T & V)	Appendix A / 404 & 405	Conduiting & wiring.....3 core x 4, 3 core x 6 & 4 core x 6 sq.mm, armoured, XLPE insulated, LSZH, copper conductor cable/wire as per BS 6724 and E & M specifications, including saddles, earthing etc. complete as required.	If wiring by an armoured cable is to be done as per the BOQ; then conduits may not be required. Kindly confirm requirement.	Conduit cost need not be included in Sr. No. (S,T & V) under A3.1.4
49	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.4.2 & 2.4.3	3 _ 74	Cable Trunking - Thickness & supports.	Clause 2.4.2 & 2.4.3 are contradictory with respect to the cable trunking thickness and maximum spacing between fixing support. Kindly confirm which clause shall prevail.	cable trunking thickness and maximum spacing between fixing support shall be as per clause 2.4.3
50	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.4.3	3 _ 74	At each joint in the trunking, continuity shall be maintained by means of copper links, not less than 25 x 3 mm/suitable size of GI strip to achieve an acceptable earth loop impedance level in compliance with BS 7671, fixed with brass nuts, bolts and serrated washers.	Kindly confirm whether continuity shall be maintained by means of copper links, not less than 25 x 3 mm OR suitable size of GI strip. Copper links are flexible (crosswired mesh) and may not come in size 25 x 3.	Please refer item no. 19 of Addendum no.-1
51	6	BILLS OF QUANTITIES (BOQ)	A1.1.4	Appendix A / 109	BOQ Sr. No. A to F :- Conduiting & wiring for in cable trunking /couduits/flexible conduits/raceway complete, as required, as per E & M specifications.	Length of Conduiting & wiring (Point wiring) in cable trunking / couduits / flexible conduits / raceway cannot be identified seperately from the BOQ and drawings. As the price difference between cable trunking / couduits / flexible conduits / raceway is very high; we request that above medium for wiring be seperated in the BOQ or any single medium of wiring (by conduit / trunking etc.) be specified with respect to the BOQ Sr. No.	Cost of Cable Trunking / Raceway are already considered in separate items in BOQ.
52	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.4.11.8	3 _ 80	All tunnel switched socket outlets shall be of the weatherproof type (IP 67) complete with integral RCCB and with a pad-lockable enclosed casing.	Switced socket outlet for tunnel cannot be identified in the BOQ. Kindly provide BOQ Sr. No. under which the same is to be considered. Maximum IP rating for switched socket outlets as mentioned in subhead A1.1.4 - Wiring & Accessories is IP65. Further none of the switched socket outlets are with breakers. Kindly confirm requirement.	Kindly refer to Sr. No. A1.1.4 (N) and similar items under Wiring & accessories in BOQ, Vol-6
53	6	BILLS OF QUANTITIES (BOQ)	A1.1.4	Appendix A / 109	Coduiting & wiring for primary / Secondary point (MCB to first point) for light / fan / exhaust fan / call bell point / industrial socket outlet / single phase 6 pin 6/16A socket outletetc.	From the BOQ description it is not clear whether cost of switch socket / MCB / industrial socket outlet etc.. is to be considered. Kindly confirm requirement.	It is clearly indicated as wherever cost of modular switch / faceplate etc. are required to be included, It is also mentioned clearly in BOQ items.
54	6	BILLS OF QUANTITIES (BOQ)	A1.1.4	Appendix A / 109	Wiring and Accessories	Requesting to provide specific application of point wiring (BOQ) item wise whether it is for light / fan / exhaust fan / call bell point so as to cost accordingly.	Tenderers to consider as per tender drawings.
55	6	BILLS OF QUANTITIES (BOQ)	W	Appendix A / 117	Conduiting & wiring for single phase 3 pin 16A industrial socket outlet in Tunnel with 3 core x 6 sq.mm, armoured, XLPE insulated, LSZH, copper conductor cable as per BS 6724 and E & M specifications, including saddles, earthing etc. complete as required.(inside tunnel)	Kindly confirm that single phase 3 pin 16A industrial socket outlet is not to be considered in this item and the same is seperately given under BOQ Sr. No. N.	Single phase 3 pin 16A industrial socket outlet already considered in separate BOQ item.
56	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.4.9.1	3 _ 79	The finishes for public areas shall be of matt-chrome and in back-of -house areas such as plant rooms, service corridors, etc. metal clad switches shall be provided. All lighting switches shall be rated at a minimum of 10A each.	As per specification the outer cover plate for modular switch / Socket shall be matt-chrome finish. Kindly specify material of construction whether PVC / SS / Al.	Material of the outer cover plate for modular switch / Socket shall be of PVC

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(INCLUDING INTEGRATED TESTING & COMMISSIONING), TRAINING OF PERSONNEL, DEMONSTRATION OF PERFORMANCE OF SYSTEM / EQUIPMENT OF ELECTRICAL AND MECHANICAL
(E&M) INCLUSIVE OF FIRE PROTECTION SYSTEM OF KOLKATA METRO EAST-WEST LINE PROJECT (PHASE-1)

Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
57	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.5.1.4	3 _ 82	All fixtures whether surfaced, pendant or recessed shall be independently supported from the building structure using supporting brackets or stainless steel suspension rods and in no case shall the ceiling system be used to support the weight of the fixture.	As a standard practice fixtures whether surfaced, pendant or recessed are supported from the building structure using supporting brackets or MS / GI suspension rods and in no case false ceiling system is used to support weight of the fixture. We request to accept MS/GI suspension rod instead of SS suspension rod and in no case false ceiling system be used to support weight of the fixture. Kindly confirm.	All fixtures whether surfaced, pendant or recessed shall be independently supported from the building structure using supporting brackets or GI suspension rods and in no case shall the false ceiling system be used to support the weight of the fixture.
58	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.5.1.5	3 _ 82	All light fittings shall be earthed. That is, an independent earth wire shall be provided to connect the metal casing to the earth terminal at the light fitting. All circuits for exit and emergency lighting shall be installed in G.I. conduit or trunking and supplied from the emergency power supply (EPS) system.	In light fixtures Control gear in all luminaires are earthed and only outdoor luminaires have metal body earthing. Kindly confirm.	No change in tender condition is envisaged.
59	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.5.3 (b)	3 _ 89	Luminaires shall not have any labels showing the manufacturer's name or trademark visible on the outside. Labels inside luminaires or light shrouds shall not be of the self-adhesive type.	Light fixture manufacturers provide there logo either embossed or screen printed on the housing of luminaire to ensure that fitting installed is of a specific brand. This practice is highly appreciated for maintenance/service requirements. Self adhesive type product sticker is inside the luminaire. As a standard practice of manufacturers we request to accept the above.	No change in tender condition is envisaged.
60	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.5.4.1	3 _ 89	Unless otherwise specified light fittings shall be constructed of 0.8mm thick zinc anneal sheet steel or better.	Thickness of sheet metal as per specification is 0.8mm. Generally luminaires are manufactured in 0.5mm thick sheet metal. Luminaire becomes heavy and creates load on ceiling in case of 0.8mm thickness. Hence we request to accept luminaires in 0.5mm thickness.	Please refer item no. 20 of Addendum no.-1
61	3 - Part- 1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	2.5.4.2	3 _ 90	The aluminium thickness shall be 1.0 mm minimum, and be finished in an anodised specular finish with a minimum buildup of 25 micrometers.	As standard practice thickness of reflector is 0.6mm instead of aluminium thickness of 1.0 mm minimum. We request to accept the same.	Please refer item no. 21 of Addendum no.-1
62	6	BILLS OF QUANTITIES (BOQ)	A1.1--1.01,1.06,1.12		A1.1--1.01,1.06,1.12	Kindly provide Short circuit breaking Capacity (kA) of Incomer MCCB and Busbar for Battery Charger DB, Sump Pump DB & Emergency DB panels as the same is not mentioned in the BOQ.	The same shall be selected based on Design Verification & Detailed Engineering which is under the scope of E&M Contractor.
63	6	BILLS OF QUANTITIES (BOQ)	A1.1.1-Item NO. 1.01 to 1.15		A1.1.1-Item NO. 1.01 to 1.15	Please confirm the form of Separation for LV Main Switchboard, Sub main Switchboard and Local Electricals Panel Item no. 1.01 to 1.15	The main switchboards(LVP, MDB, GCP & EMSB) will be of form 4b type 5 and remaining panels will be of Form 3b as mentioned in Technical Specification (Sr. No. 2.1.13.2, Page-3-38)
64	6	BILLS OF QUANTITIES (BOQ)	15.01 & A3.2.15.15.01	15.01 & A3.2.15.15.01	DB-160/260	In DB-160/260, rating of outgoing starters and Soft starters not specified. Kindly provide the same.	No change in tender condition is envisaged. Attached Tender drawings provide sufficient information.
65	6	BILLS OF QUANTITIES (BOQ)	A1.1--1.15		Normal Power DB Incomer 160A TPN MCB	In Normal Power DB Incomer 160A TPN MCB is mentioned. Please confirm whether MCB or MCCB and specify kA rating.	Please refer item no. 22 of Addendum no.-1
66	6	BILLS OF QUANTITIES (BOQ)	A1.1--1.16		Emergency Sub Main Lighting Panel short ckt breaking Capacity (KA) of Incomer	Kindly provide short circuit breaking Capacity (kA) of Incomer in Emergency Sub Main Lighting Panel as the same is not mentioned in the BOQ.	Short circuit breaking Capacity (kA) of Incomer in Emergency Sub Main Lighting Panel is 35kA. Refer Sr. No. (m) under Item A1.1.1 in Vol-6
67	6	BILLS OF QUANTITIES (BOQ)	A1.1--15.01		DB-160/260	In Local Motor Control Panel DB160/260 : the short ckt (KA) of Incomer is 35KA and the short ckt rating of Busbar and O/G starter MCCB is 85KA. Please confirm requirement. Also starters Rating (KW/HP) is not Specified.	Short circuit breaking Capacity (kA) of Incomer, outgoing and busbar would be 35kA.
68	6	BILLS OF QUANTITIES (BOQ)	A3.1--1.01,1.04, 1.07, 1.08,1.09, 1.10, 1.13, 1.14, 1.15, 1.17 & 1.19		Short circuit breaking Capacity(KA) of Incomer MCCB and Busbar	The Short circuit breaking Capacity (KA) of Incomer MCCB and Busbar is not mentioned in Battery Charger DB, Tunnel Power DB, Emergency Lighting DB Type-EPDB, ITESS & XPRESS, Sump Pump DB, Emergency Lighting DB Type-EDB, Normal Power DBs & Emergency DB (For S&T) panel.	Refer Sr. No. (m) under Item A1.1.1 in Vol-6. The same shall be selected based on Design Verification & Detailed Engineering which is under the scope of E&M Contractor.
69	6	BILLS OF QUANTITIES (BOQ)	A3.2.15.01	Appendix A/459	DB160/260	In Local Motor Control Panel DB160/260 : Short ckt (KA)of Incomer is 35KA, short ckt rating of Busbar and O/G starter MCCB is 85KA & 50KA. Please confirm requirement and specify starters Rating (KW/HP).	Short circuit breaking Capacity (kA) of Incomer, outgoing and busbar would be 35kA.
70	6	BILLS OF QUANTITIES (BOQ)	A3.1--1.20,1.21	Appendix A/310	Emergency Sub Main Lighting panel	Emergency Sub Main Lighting panel Incomer and busbar KA rating is 85KA whereas outgoing MCCB is 35KA, kindly confirm requirement.	Please refer item no. 23 of Addendum no.-1

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Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
71	6	BILLS OF QUANTITIES (BOQ)	A3.1.5	Appendix A /415	Poles & High mast	As per BOQ foundation for poles is not to be considered and the same shall be paid in other items; whereas in case of High Mast foundation is not mentioned. Kindly confirm whether foundation is to be considered as there is no separate item in the BOQ for the same.	Please refer item no. 32 of Addendum-1 and Clause 2.14.1, Page-3/109, Vol-3, Part-1
72	6	BILLS OF QUANTITIES (BOQ)	General		Platform light fixtures	Kindly confirm whether platform light fixtures shall be mounted on lighting bus trunking or raceway / tray. If the fixture are to be mounted on raceway then the same is considered under subhead Wiring and Accessories OR Cables, Cable Trays & Steel work.	Refer Sr. No. "E" under Indoor Lighting in Sealdah & Phoolbagan BOQ in Vol-6
73	3, Part-1	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	Tech Specs 5.7.7	3-142	Fire pumps shall be UL/FM approved make.	Only main electric driven Hydrant pump & sprinkler pump shall be UL / FM approved. As Jockey pump does not have UL/FM Certification it shall be non UL/FM approved. Kindly confirm that the fire pumps will be UL or FM approved and not both.	Fire pumps shall be UL/FM approved make for all Hydrant, Sprinkler, Standby and Jockey Pumps also.
74	6	BILLS OF QUANTITIES (BOQ)	A.1.2.8.01	Appendix A/135	Galvanized Steel, BS 1387, Class C Pipes (conforming to E&M Specifications) with all accessories (Grooved D.I Fitting & coupling to be used) including tees, elbows, reducers, union, flanges, rubber gaskets, GI nuts bolts, screwed adapter, washer including to fixing floor / wall / Tunnel with approved structural GI supports such as clamps, hangers (using anchor fastners) as per specification. This further includes (1) GI pipe sleeve of suitable higher size shall be provided wherever the pipes are crossing the walls/floors and sealing the sleeves with glass wool in between & fire sealant compound at either end all as per Project Manager's requirements including cutting holes by core cutting machine and chases in brick, R.C.C work and making good the same to original conditions complete in all respects. (2) Painting with two or more coats of synthetic enamel paint of approved shade as per pipe colour code over two coats of primer (3) Painting of legends with direction arrows complete as per specifications.	The BOQ calls for sealing the sleeves with glass wool & fire sealant compound. Request you to kindly quantify this item and have a separate line item for glass wool & fire sealant.	No change in tender condition is envisaged.
75						We propose to use threaded/ welded malleable fittings for pipe dia 15 mm dia to 50 mm dia & Grooved fittings for pipe diameter 65 mm dia and above only. Kindly Confirm.	No change in tender condition is envisaged.
76	6	BILLS OF QUANTITIES (BOQ)	A.1.2.8.02	Appendix A / 137	Ductile iron cement Lined (BS EN 545 Class K12) pipes, embedded in earth must conform to E&M Specifications with all fittings (Ductile iron BS 4772 Class K12 must conform to E&M Specifications) like couplings, bends, elbows, tees, flanges, CAF gaskets etc., including welding as required. This also includes necessary excavation in all kinds of soil (including hard rock) up to the required depth and providing 150 mm thick sand layer all around the pipes, refilling, ramming, removal and disposal of surplus earth complete in all respects as per the specifications. This further includes provision of corrosion protection by wrapping two layers of 400 microne thick polythene sheet over two coats of bitumen.	Kindly confirm the depth of excavation & type of soil.	>1 m as per IS.
77	6	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS	A.1.2.9.11; Specs clause 5.12.46	Appendix A / 143	Orifice Plate (Brass) complete with all necessary accessories and all respect as described in E&M Specifications	BOQ calls for Brass Orifice plate and as per specification orifice plates are SS. Kindly confirm requirement.	Kindly follow as per BOQ
78	6	BILLS OF QUANTITIES (BOQ)	A.1.2.10.02.	Appendix A / 147	Following types of Fire Hydrant Valves conforming to IS : 5290 and E&M Specifications having female instantaneous type connection with matching flange, gaskets, nuts and bolts complete in all respects.	Can we consider Stainless steel Hydrant valves with PVC blank cap instead of Gun metal MOC ?	As per Specification, no change in tender condition is envisaged.
79	6	BILLS OF QUANTITIES (BOQ)	A.1.2.10.04	Appendix A / 147	Standard size Gun metal 63 mm diameter short branch pipe with nozzle, conforming to IS 903 and E&M Specifications.	Can we consider Stainless steel Branch pipe instead of Gun metal MOC ?	As per Specification, no change in tender condition is envisaged.

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Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
80	6	BILLS OF QUANTITIES (BOQ)	A.1.2.10.07, 10.08, 11.02		Stainless steel fire hose cabinet	We propose to use anodised aluminium / GI hose cabinets instead of stainless steel MOC. Kindly confirm .	As per BOQ, no change in tender condition is envisaged.
81	6	BILLS OF QUANTITIES (BOQ)	A.1.2.12.04 (a)	Appendix A / 154	Fire protective clothing & breathing apparatus : Set of protective clothing containing 2 nos. -----Qty 2 Nos	The unit of measurement should be Set instead of Nos. Kindly confirm.	Unit of measurement is set, each set containing 2 nos. each of items i, ii, iii, iv, vi, vii & viii
82	6	BILLS OF QUANTITIES (BOQ)	A 3.2 :13.01	Appendix A / 448	INERT GAS FLOODING SYSTEM : Inert Gas Flooding System at Signal Equipment Room, Telecom Equipment Room, UPS-1, UPS-2, Auxiliary Substation Room & Traction Substation Room must contain Cylinders of Inert gas conforming to specification with manifold as per Drawing including but not limited to the following components: System for Room Volumes (V) are followings: - Signal Equipment Room : 200 m3< V <400 m3; - Telecom Equipment Room : 200 m3< V <400 m3; - UPS-1: 200 m3< V <400 m3; - Auxiliary Substation Room (ASS) : 400 m3< V<700 m3; - Traction Substation Room (TSS) : 1000 m3<V<1500 m3;	Kindly provide Capacity / Volume for UPS -2.	Please refer item no. 31 of Addendum no.-1
83	6	BILLS OF QUANTITIES (BOQ)	Appendix E	Appendix E / 1	The terms of payment shall be as follows : A) For Schedule X (i.e Supply): 1. 10% Mobilization Advance interest free non-recoverable basis. 2. 5% on account of Design Verification , Detail Engineering & submission of working drawing for E&M system of entire scope of work. 3. 65% Delivery of material /equipment at site. 4. 15% in account of completion of Pre-commissioning, Integrated Testing, Operational Acceptance 5. 5 % on Taking over of the whole works and all installation. B) For Schedule Y (i.e Installation, Testing, Commissioning & Handover): 1. 15% Pre-Installation tests, inspection of equipment and Site preparations, Installation, post Installation Inspection and Partial Acceptance Testing. 2. 70% Installation with complete fixing & wiring, System Acceptance Testing, Interface testing with ISMS (installed by ECS Contractor) Integrated Testing, Commissioning; Operational Acceptance Testing and Demonstration of the performance of the TVS System and Equipment. 3. 5% Operation & Maintenance Manuals. 4. 5% Training of Operation & Maintenance Personnel. Retention 5%. Spares, Special Tools & Maintenance Tools : As and when required at actuals and when delivered.	We request you to issue us a single SITC order and the terms of payment shall be as follows : 1. 10% Mobilization Advance interest free non-recoverable basis. 2. 5% on account of Design Verification , Detail Engineering & submission of working drawing for E&M system of entire scope of work. 3. 65% Delivery of material /equipment at site on pro rata basis 4. 15% Installation of material / equipment at site on pro rata basis 5. 5 % on Pre-commissioning, Integrated Testing, Operational Acceptance Taking over of the whole works and all installation.	Appendix E is revised & mentioned in Addendum no.-1
84	3 - Part- 1 & 6	EMPLOYERS REQUIREMENTS TECHNICAL SPECIFICATIONS & BILLS OF QUANTITIES (BOQ)	General		General	For Phoolbagan, Sealdah Crossover Intermediate Vent Shaft Building & Sealdah station BOQ items are similar and technical specifications are same. Hence all above queries and the reply / clarification shall apply to the BOQ of Phoolbagan, Sealdah Crossover Intermediate Vent Shaft Building & Sealdah station. Kindly confirm.	Confirmed
85	6		BOQ		BOQ	We request you to provide BOQ in editable MS excel soft copy for our working.	Editable MS excel soft copy is not available & the same can not be provided.
86	2		ECR		ECR	We request you to provide volume 2 - ECR in editable soft copy for our working.	The same may be considered after receiving official request

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Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
87	3 Part -1		2.1.6.4	Page 3 of 221 (3-33)	Tunnel lights are provided within the tunnels and shall be spaced at not more than 15 metres interval and with minimum specified illumination level. The half portion of tunnel lighting circuit shall be supplied from nearest station & remaining half portion from adjacent station.	Please mention the Lux level to be maintain inside the tunnel	Minimum 10 lux
88	Vol-3 Part 1		Exit Signage Criteria	Page 3-96	The dimension of exit lights for the public areas shall be complete with fire retardant perspex panels and casing matching to the powder coated galvanized steel support to RAL 7012, 30% gloss. The exit lights shall be single sided or double sided with or without directional arrows to suit the fire escape requirements of architectural layouts.	Kindly mention the dimension of Exit signage system	Refer BOQ for catalogue No.
89	Vol-3 Part 1		ITESS/XPESS	Page 3-100	The housing and assembly of the two direction sign shall be suitable for tropical tunnel environment and shall be designed to IP65 rating, fire resistant, LSOH, corrosion resistant and able to operate under fire conditions. The housing shall be stainless steel/aluminium type.	As per specification, Housing is made by stainless steel . We suggest Aluminium which is latest technology and easy to fabricate. If Stainless steel only required kindly mention the Grade for the same	The housing shall be stainless steel/aluminium type. There is no change to the Tender clause.
90	Vol-3 Part 1		ITESS/XPESS	Page 3-100	The design of the ITESS shall ensure that each activated directional arrow is uniformly lit and clearly visible from the track at a minimum distance of 48 meters, taking into consideration the ambient light level within the tunnel.	Kindly mention the Sign required Internal lit or externally lit.	Kindly see the clause no.2.11 of Volume 3 part 1
91	Vol-3 Part 1		ITESS/XPESS	Page 3-100	ITESS shall be mounted up to 12m from the HW/TW unit and shall be installed at the opposite side of the platform (tunnel lighting)	We presume all the signage system inside the tunnel shall be wall mounted and for station it shall be Hanging or wall mounted type. Kindly Confirm	Confirmed. Refer to Tender drawings for details.
92	Vol-3 Part 1		2.1.13 Main Switchboards (LVP, MDB and EMSB)	Page 3-37	The LV main switchboards (LVP), Main distribution Boards (MDB) and Emergency Main Switch Board shall be fully type-tested assemblies (TTA) as defined in IEC 61439-2, manufactured, factory assembled and tested by a recognized test laboratory such as ASTA or KEMA. Certified true copies of all the full type test reports / certificates shall be submitted.	We understand LVP, MDB & EMSB are Fully TTA Panel. We presume GCP (generator Control panel) is not required Fully Type Tested .	Please refer item no. 6 of Addendum no.-1
93	Vol-5 Drawings		2.1.14.4 (MCCB)	Page No 3-39 & 41 (point no.22)	MCCBs of rating of 250A and below shall have over-current tripping mechanism of the thermal magnetic, temperature compensated type for ambient temperature of 25°C to 50°C and calibrated at 40°C to give time delay overload circuit protection and instantaneous short-circuit interruption. The operating characteristic shall be such that the time delay on overload tripping is inversely proportional to the overcurrent up to a threshold value of approximately seven times the rated current at 40°C and the tripping setting shall be adjustable. Protection for MCCBs of rating above 250A shall be Microprocessor based.	As per General notes of SLD, All MCCB installed shall be completed with Electronic type adjustable thermal overload , current limiting type & instantaneous trip unit. We presume upto 250A thermal magnetic type & above Electronic type as per specification please confirm.	Please follow as mentioned in Technical Specification.
94	Volume 3 Part 1		6. Interface Matrix	Page 3-221	C-3 (Civil Contractor scope) Providing inputs regarding the locations of installations /equipment . Supplying & Installing the E&M UPS	We understand Supply & Installation of UPS is not in E&M scope. Please clarify.	Albeit Supply & Installation of UPS is not under E&M scope, necessary coordination with PS contractor need to be done for smooth functioning of the overall system.
95	Vol-3 Part 1		2.1.15.2 (1)	Page 3-49	The distribution board enclosure (panels/doors) shall be made of CRCA steel sheets(minimum thickness 2 mm) and finished with epoxy-powder coating(minimum 60 micron) colour/shade to the Engineer' acceptance.	This clause shall be applicable for all load bearing members. However internal partitions which are load bearing members shall be as per manufacturer standard.	Please refer item no. 17 of Addendum no.-1
96	Vol-3 Part 1		2.1.14.2 (8c)		Busbar shall be supported by non-hygroscopic, non-flammable unbreakable and non-deteriorating polyester fibre insulator at 250 mm internal maximum.	Busbar Support shall be placed as per type tested design.	No change in tender condition is envisaged.
97	Vol 3 Part 1		5.7.7	3-142	Pump Construction		

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Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
					Fire pumps shall be UL/FM approved make.	We propose TAC approved pumps. Kindly confirm.	As per Specification, no change in tender condition is envisaged.
						Are diesel engine pumps to be considered or 100% power back up will be available for the electrical driven pumps ? Kindly confirm.	As per BOQ and Specification, No Diesel engine driven considered.
98					Separate control panels for each pumps are shown in the drg.	We suggest one single control panel for one single fire pump room. Kindly confirm.	Refer BOQ, Single control panel is considered.
99					a) Hose Reel pipes Galvanized steel, BS1387, Class B(for all sizes)	We propose Galvanized Iron Heavy duty ("C" Class) pipes as per IS :1239 for sizes 15mm to 150 mm dia and IS : 3589 for Sizes above 150mm. For Under ground pipe can we propose above mentioned pipes with Pyokte coal tar pipe protection. Kindly confirm.	No change in tender condition is envisaged.
100					Drums should be die cast light alloy	We propose hose reel drum as per IS : 884, Side plate powder Coated finish red. Threaded Inlet connection. Outlet connection for hose can be rotate for left and right direction. Waterways made Seamless trbing. Operating pressure: 150 PSI Max. Flow rate: 16GPM at 100 PSI. Kindly confirm.	No change in tender condition is envisaged.
101					The landing valves shall be constructed of gunmetal screw bonnet, bronze spindle. Such valves shall have a purpose made fitting comprising a 64mm bore gunmetal valve, with BS Table 'C' flanged or BSP screwed inlet, 64mm instantaneous female coupling outlet fitted with a removable brass cap secured by a stainless steel chain, 165mm diameter hand wheel, 64 mm bore renewable valve washer for screw down valves, 22 mm minimum diameter spindle, tested to 2070kPa and marked with the manufacturer's name or mark.	We propose landing valves as per ISI 5290 Type A marked hose. Sizes available are:-i) 1 1/2" (38mm), ii) 2 1/2"(63mm), & iii)3". Its inlet is Flanged or BSPT/NPT threaded. Its outlet is Female instantaneous or male BSPT/NPT threaded. Kindly confirm.	No change in tender condition is envisaged.
102	General				Short Branch pipe is missing with landing valve	We propose one Short branch pipe with each landing valve. It is ISI marked. Its inlet connection is 2 1/2" Male Instantaneous and outlet is Solid Jet Nozle. Its material can be Gun Metal, Aluminium alloy or Stainless Steel. Its operating pressure is 150 PSI Max and is naturally polished. Kindly confirm.	Refer BOQ. No change to the tender condition is envisaged.
103	General				Fire Hoses as shown in the drg.	Fire hose, each of 15 mtrs length and with male and female instantaneous coupling.	Refer BOQ. No change to the tender condition is envisaged.
					Drg No : UG1-WSA-GEN-DWG-NME-0064	Can we provide 2 nos of 15 mtrs length.	Refer BOQ. No change to the tender condition is envisaged.
					65mm dia x 30 mtr long high Quality heavy duty rubber lined	Fire Hoses as per IS 636 Type A white colour hose. Its jacket is made up of 100% polyster for extra strength. It has a special quality EPDM rubber as internal lining to withstand heat and polluted water. It is heat and abrasion resistant. Kindly confirm.	Refer BOQ. No change to the tender condition is envisaged.
104	General			Flexible drops for Sprinklers	We propose UL listed Flexible drops for false ceiling sprinklers. Kindly confirm.	No change to the tender condition is envisaged.	
105	General			Carbon dioxide Gas suppression System - Panel and Total Flooding	Kindly inform us that need to be considered Inert (CO2) gas System or Chemical Gas Suppression (FM200 or Novec1230)	Refer BOQ, Inert Gas considered for Total Flooding System & CO2 for Panel protection System.	
106				Make List	Kindly provide the Make list for the following as the same is not mentioned in the specification, 1) MAP, SAP, RP 2) All detectors, Devices 3) LHS Cable 4) ITB (Junction Boxes) 5) Pipes 6) Valves 7) Hydrant valves & Accessories. 8) Hose reels 9) Fire Hoses. 10) Sprinklers, Alarm valves, Motorised valves, Sprayers. 11) Pumps.	Refer GCC Clause 1.1.6.16	

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Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
107	Volume 6 Price Schedule is not available . Please Provide the BOQ						PDF copy already provided
108	Approved makes are not given. Kindly provide the same.						Refer GCC Clause 1.1.6.16
109	AUTOCAD drawings are not provided in the tender documents. For cable length measurements autocad drawings are required. Please provide						Albeit cable length measurement may not be necessary in case of BOQ based tender, Grid lengths are shown in tender drawings for indication.
110	Volume 1 - ITT		C18.1	17	<u>Tender Security:</u> In the case where the Tenderer is a JV or consortium, the Bank Guarantee for Tender Security shall be from JV/Consortium and not from individual members except that a local member of the JV/Consortium is permitted to furnish the tender Security with an assurance from the other JV/Consortium members to back such a Security.	We understand that: In case of Consortium / JV between an Indian Company and a Foreign Company, the local i.e the Indian Company can furnish the Bank Guarantee for the full value of tender security in its individual name. Kindly Confirm	Any member of the JV or Consortium is permitted to furnish the tender Security with an assurance from the other JV or Consortium members to back such a Security.
111	Volume 1 - FOT		Clause No 8 of appendix 1	Appendix 1 - Contract Conditions	<u>Amount of Third Party Insurance:</u> INR 0.5 Million for any one incident, with the number of incidents unlimited.	It is suggested- To specify Total / Maximum Value' (Amount) for the ' Third Party Insurance' with unlimited no of incidents. In the absence of such a limit, the liability would be considered unlimited. Insurance Companies generally do not provide cover for unlimited liability. Please clarify.	No change in tender condition is envisaged.
112	Volume 1 - FOT		Clause No 14 of appendix 1	Appendix 1 - Contract Conditions	Penalty for system Failure leading to stoppage of trains for more than 30 minutes - Deductions equal to loss of total revenue during that period.	It is suggested- This is an open ended clause. Total penalty/LD and/or any other debits should not exceed 10 % of the Contract value.	No change in tender condition is envisaged.
113	Vol 2 - ECR		1.11.1 T10	6	Bidder should have experience in execution of E&M works in Underground metro stations of required value	It is suggested- Bidder should have experience of E&M works in any large infrastructure project like Metro , Airports, Ports , large commercial complex etc of required value	Please refer item no. 34 of Addendum no.-1
114	Volume 2 - GCC		2.2	18	<u>Access to and Possession of Site:</u> For any delay in handing over of site, Contractors shall be entitled to only reasonable extension of time and no monetary claims whatsoever shall be paid or entertained on this account.	It is suggested that - In the case of a significant delay in handing over of site , The contractor should be entitle to compensation for overstay or cost associated with catching up of the milestones. Kindly confirm.	No change in tender condition is envisaged.
115	Volume 2-GCC		4.18	31	<u>Electricity, Water & Gas:</u> The contractor shall be responsible for making his own arrangement at his own cost to obtain supply for water, electricity or gas for the works.	Please clarify- Whether electricity & water for testing & commissioning purpose will be provided by the employer or the same has to be arranged by the contractor.	No change to tender clause is envisaged. The Contractor shall be responsible for the temporary as well as testing & commissioning Electricity, Water at his cost.
116	Volume 2-GCC		4.21	31	<u>Sheds, Stores & Yards:</u> It shall be the responsibility of the contractor to provide at his own expense the sheds, store houses and yards for both permanent & temporary works .	We understand that - Adequate space required for the sheds, Stores & yards will be provided by the employer free of cost . Kindly confirm.	No change to the tender condition is envisaged. Contractor to provide his own as per GCC clause 4.21.
117	Volume 2-GCC		6.2	41	<u>Rates of Wages and Conditions of Labour:</u> During the Contract Period no extra amount in this regard shall be payable to the Contractor, for whatsoever reason including any revision of rates payable to the labour due to revision of rates payable in Minimum Wages Act	We Suggest that - The contractor should be entitled for any increase in wages payable due to 'revision of rates in Minimum Wages Act' after submission of the tender. Kindly confirm	No change in tender condition is envisaged.
118	Volume 2-GCC		6.6	42	<u>Facilities for Staff and Labour:</u> The Contractor shall provide and maintain all necessary accommodation and welfare facilities as stipulated in the Employer's Requirements for his (and his Sub-contractor's) staff and labour. The Contractor shall also provide the facilities specified in the Employer's Requirements, for the Employer's and Engineer's personnel.	We understand that - Adequate space required for the accomodation and welfare facilities will be provided by the employer free of cost . Kindly confirm.	No change in tender condition is envisaged.
119	Volume 2-SCC		7	5	<u>Mobilization Advance:</u> Non Recoverable mobilization advance @ 10% of the contract price will be given on submission of an advance bank guarantee for an equal amount. Advance bank guarantee shall remain valid till 28 days after final taking over certificate.	It is suggested that - The amount of the advance bank guarantee should be reduced periodically on the basis of Pro-rata billing. Kindly confirm	No change in tender condition is envisaged.
120	Not Used						

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Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
121	Volume 2-SCC & Vol 1 ITT		25 & Cl 7 of Appendix 1	11 & Appendix 1	<u>Professional Indemnity Insurance:</u> 1.The Professional Indemnity Insurance shall be valid from the date of LOA untill issue of Performace Certificate for the whole of the works . 2. Value of the Professional Indemnity will be 100 % of the Contract value.	It is suggested that - 1. The professional Indemnity insurance should be valid till issue of Taking over Certificate and not Performance Certificate. 2. PI should be for only 10 % of the Contract value to cover part design works. kindly Confirm.	No change in tender condition is envisaged.
122	Volume 2- SCC		48	17	<u>Price Variation:</u> The price variation formula specifies the weightage for Fixed component as 0.4 for payments in INR and 0.8 for payments in foreign currency.	We suggest that - The weightage for fixed component in the price variation formula should be reduced to 0.2 for both payments in INR and in Foreign currency. The weightage for other elements should be increased proportionately so that the sum of the weights is 1.	No change in tender condition is envisaged.
123	Vol 6				Document not available	Please make Volume 6 avaiable for us to seek queries	PDF copy already provided
124						Contractor shall be reimbursed for any kind of damages of all the material that are once installed at site. The value of the reimbursement shall be calculated with respect to the BOQ rate or preveling the market rate ,which ever is higher.	No Change in tender condition is envisaged.
125						In case of E&M Contract all BOQ rates shall be divided into the following :-BOQ Rates shall be seprate for 1.Supply of material at stores/site, 2. Installation at site 3. Testing & Commissioning.	Separate rates need to be quoted for Supply & Installation. Refer Schedule X & Y in Vol-6 of Contract Document.
126						Payment terms shall be as follows 1.100% against supply of material. 2.100% against installation at site. 3.100% against testing & commissioning.	As per Payment Schedule E in Vol-6 of Contract Document. Please refer item no. 29 of Addendum no.-1
127						Staff shall be deployed as per requirement & Site Access. Pl. confirm. If the manpower will be ideal due to non availability of Site Access, employer shall pay cost for manpower. Pl. confirm.	Refer Access dates in Vol-1 for site accessibility. Please refer item no. 24 of Addendum no.-1
128						In case of contract work is delayed due to other contractors, price escalation shall be paid to contractor, Pl. confirm.	No change in tender condition is envisaged.
129						As we know that the specified Contract is a Design Built Contract ,for which requirement for Auto-Cad Drawings is must for considerations and evaluations of various equipments quantity of Tunnel Ventilation System. Pls do provide the same	The CAD drawings can be provided to the successful bidders subject to the submission of Confidential Agreement.
130						Kindly Confirm Earthing to be used will be of copper or G.I?	Please follow as per lay out Drawings provided
131						Scope of CSD to be clarify.Pls confirm	CSD is not under the scope of E&M contractor. Though the necessary information/ inputs/interface in the form Autocad drawings to be provided to the other contractor responsible for CSD.
132						For the smooth work flow kindly provide us the soft copies of BOQ ,Annexures and Appendix.	Soft copy of BOQ will be provided to the successful tenderer if required. Other Annexures and Appendices which have copy rights, only PDF copies will be provided. However if tenderer requires for bid submission the same can be provided upon request.
133					List Of Makes	Within respect to the Tender documents List of Makes is not provided .Do provie the List of Make .Pls Confirm	Please refer GCC Clause 1.1.6.16
134						If List of Make is not provided pls Confirm that makes proposed by the contractor shall be consider finally .Pls Confirm	

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Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
135	2		1.11.1	ECR/5 & ECR/39	1.Financial Standing & Basis of Evaluation.	Please confirm if the firm or Joint Venture is able to qualify the criteria & requirement of financial resource through Working Capital then Credit Line substantiated by a letter from the bank & other financial resources is not required. Pls Confirm.	No change to the specification clause is envisaged
136	2		1.11.1	ECR/6	Experience Record T8	In Understanding to the works with similar scope and nature as other experience are for 5 years whether the same we should consider for 5 years .Pls Confirm	The query is not clear.Please follow the relevent tender condition.
137	2		1.11.1	ECR/39	Basis of evaluation	Providing information on current contract commitments for contract under extension may not be feasible as the completion date of contract cannot be envisaged. In view of this, such contract shall not be considered for referred clause for T1. Please confirm.	T1 refers to liquidity requirement. Please follow the tender condition.
138	2		2.2	GCC/18	Access to and possession of the Site	If reasonable EOT is provided the employer shall provide the escalation of prices.Pls Confirm	Please refer to GCC Clause 8.4 and SCC Clause 48
139	2		2.2	GCC/18	Permit ,License or Approvals	To obtain permit ,License and approvals from Local Authorities for the subject project involves considerable expenditure which costs to the employer.Therefore obtaining the permits,License and approvals shall provide reasonable assistance to employer in getting the same required during the execution of the contract.Please Confirm	It is Contractor's responsibility to obtain the permit/licences, etc. by submitting directly to proper authority. However, the Employer/Engineer will provide all technical assistance possible. Hence there is no change to the specification clauses is envisaged
140	2		4.1	GCC/20	General Obligations	Electricity ,water etc for testing and commissioning shall be provided by the employer.Please Confirm	Please refer GCC Clause 4.18. No change to the tender condition is envisaged.
141	2		4.1	GCC/21	General Obligations	The employer shall provide overall security of the site and personal ,record of the personal moving at the site,security of the equipments kept at site for execution should be provided by the employer.Please Confirm	The contractor shall be responsible for any security issues as mentioned in GCC clause 4.27. Hence no change to the tender condition is envisaged.
142	2		4.1(f)	GCC/21	General Obligations	Diversion of any service and facilities required for the purpose of work shall not be in the scope of contractor .Please Confirm.	The contractor shall be responsible as mentioned in GCC clause 4.1. Hence no change in the tender condition is envisaged.
143	2		4.16	GCC/29	Safety of works	The contractor's shall provide safety of their own works i.e light,guard etc. but overall safety shall be provided by the employer free of cost	No change to the tender condition is envisaged.
144	2		4.21	GCC/31	Stores,Shed,Yards	We request to provide covered and secured place for site office approximately 1000 sq.mtrs,material stores approx 10000 sq.mtrs and labour camp approximately 2000sq mtrs at all the stations .The electrical,water and sanitary connection points for office ,stores and site shall also be provided by the client free of cost.Please Confirm	No change to the tender condition is envisaged. E & M Contractor to provide his own as per GCC clause 4.21.
145	2		4.26	GCC/32	Contractors to keep site clear	The contractor shall clear,remove wreckage ,rubbish or temporary works which is under his scope of work and same shall be stored at one location within the site.These rubbish etc shall be cleared etc from site by the system wide contractors.Please Confirm	No change to the tender condition is envisaged. E&M contractor to clear his debris, rubbish and all Constructional Plant, surplus material and Temporary Works regularly as stated in GCC clause 4.26. The contractor shall also follow the requirement of SHE manual and SHE conditions of contract of the tender document.
146	2		6.7	GCC/42	Health & Safety	Necessary hygiene required for the site work shall be provided by the employer free of cost.	No change to the tender condition is envisaged.
147	2		8.5	GCC/50	Liquidated Damages for Delay	LD to be imposed in case last key date delayed subject to EOT and not for intermediate key date	No change to the tender condition is envisaged.
148	2		10.1	GCC/53	Completion of outstanding works and remedying defect	DLP of the complete system shall be recommended from the date of first take over certificate/ROD in case of part take over .Please Confirm	No change to the tender condition is envisaged.
149	2		10.9	GCC/55	Performance Certificate	Performance certificate shall be issued to the contractor upon completion of defect liability period .If not issued by the employer the reason must be provided by the employer 90 days in Advance so as to take necessary action.Please Confirm	No change to the tender condition is envisaged.
150	2		11.3	GCC/58	Application for interim payment certificate	The contractor shall submit more than one IPC and payment in amonth .Pls confirm	No change to the tender condition is envisaged.
151	2		12.1	GCC/65	Variation	If any items addition or deletion after the award of contract these work as a variation or extra item please clarify	No change to the tender condition is envisaged.

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152	2		15.1	GCC/74	Insurance for Design	We undersand that this is a Boq based tender and the contractor scope of work is limited and therefore submission of any professional indemnity insurance shall not be applicable to the contractor. Damage to material ,machinery and works due to fire,theft etc.Validity required till the material is delivered at site.Kindly confirm the above mention validity criteria is acceptable to the employer.	No change to the tender condition is envisaged.
153	2		8	SCC/6	Defect Liability	Space to establish maintainance office and store to be provided to contractor free of cost .Kindly Confirm	No change to the tender condition is envisaged.
154	2		53	SCC/21	Contract Price	In case item quoted in Foreign Currency at tendering stage are procured from within India during execution, then also payment shall be made in quoted currencies without any clarification or financial impact. Please confirm.	No change to the tender condition is envisaged.
155	2		53	SCC/21	Contract Price	All contract shall be quoted without Custom / Excise Duty / VAT / CST in case same is paid or applicable in part or full, the same shall be reimbursed at actual and the same shall prevail for any statutory variation in case of EOT of contract completion period. Please confirm. It is also to confirm that Taxes and Duties shall be reimbursed in case of the quantity of the material not measured due to Wastage, pilferage, loss etc. as the subject quantity has been procured only for the project. Therefore, duties payable on respective quantities shall also be reimbursed.	No change to the tender condition is envisaged.
156	2		53	SCC/21	Contract Price	Concessional duty shall be payable and the same shall be reimbursed as evaluation is without custom duty. Please confirm.	No change to the tender condition is envisaged.
157	2		53	SCC/21	Contract Price	Service Tax shall be reimbursed in case it is applicable. Please confirm. VAT / CST shall be reimbursed in case it is applicable. Please confirm.	No change to the tender condition is envisaged.
158	2		53	SCC/21	Contract Price	Only concessional / full custom duty shall be reimbursed as paid at actual.	No change to the tender condition is envisaged.
159	2		53	SCC/21	Contract Price	Any deemed export benefit shall not be availed by the contractor . Therefore, any type of custom duty / excise duty / VAT / CST paid in full / part / concessional to be reimbursed to the contractor at actual. In case full custom duty or excise duty is paid same shall be reimbursed. Any increase in cost due to new taxes or change is existing durng extended contract period, same shall be reimbursed to the contractor. Reimbursement of Taxes and Duties shall be payable withiin 21 days from the date of submission of documents. Plase confirm. It is also to confirm that Taxes and Duties shall be reimbursed in case of the quantity of the material not measured due to Wastage, pilferage, loss etc. as the subject quantity has been procured only for the project. Therefore, duties payable on respective quantities shall also be reimbursed.	No change to the tender condition is envisaged.
160	2		53	SCC/21	Contract Price	For Custom Duty Reimbursement Bill of entry & challan is required & Excise Duty Reimbursement Excise Invoice & challan is required. Any other documents is not required. Please Confirm.	No change to the tender condition is envisaged.
161	6		12.03	Appendix-A.1.1 & A1.2	Portable Fire Extinguisher of 4.5 Kg. capacity, carbon dioxide type with cylinder with CO2 gas- Pressure Gauge	Pressure gauges are not tecnically applicable. No manufacturer provieds. Please delete and confirm.	No change to the tender condition is envisaged.
162	6		14.01 (v)	Appendix-A/168	Standby NiCl. Batteries for 24 hours power supply & Battery Charger.	Kindly approve the supply of Lead acid battery as well since in UL Listed panel is having and inbuilt Lead acid battery charger in it.	No change to the tender condition is envisaged.
163	3, Part-1		5.7.7	3-142	Fire Pumps - Mechanical Seals	These pumps shall come with Gland Packing and not mechanical seals. Please clarify.	Refer Specification, Pump glands shall be stuffing box gland type considered.
164	3, Part-1		5.7.7	4-142	Motors - Fire Pump Bearing Life	Most manufacturers offer Bearing with 40,000 Hrs operation life. Please confirm.	Refer UL/FM
165	3, Part-1		2.4.3.1(O)	3 of 76	Cable trunking	As per the spec. the space factor for cable installed in cable trunkingas shall not exceed 45%. Kindly amend the space factor into 75%.	No change to the tender condition is envisaged.

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166	3, Part-1		2.12	3 of 102	Tunnel Light fixtures	It is mentioned in the specification that the IP Rating of tunnel light is IP65 whereas in BOQ no light fixture has been mentioned for tunnel. Please confirm which tunnel light fixture shall be used for this project.	Please refer item no. 35 of Addendum no.-1
167	3, Part-1		2.1.13.2 & 2.2.8,9,10	3 of 38 part 2 pg 126	Minimum fault level for LV panels	The fault level mentioned in technical specs for LV Panels is minimum 50ka in volume 3 part 1 whereas in volume 3 part 2 it has been mentioned 35ka,50ka,65ka,85ka for different current ratings. Kindly confirm which one to consider.	This item is to define the minimum level at which internal arc testing to be done. This will vary as per actual fault level (Mentioned in relevant SLD) of different stations & ventilation shaft building.
168	3, Part-1		2.1.13.6 (28)	3 OF 44	MCCB Specification	As per the technical specs, there should be total discrimination between ACBs and MCCBs upto the design fault level of the downstream devices and rating of MCCB & ACB is clearly defined in BOQ, so please confirm which is to be considered.	Discrimination chart would be verified by the Contractor & commercial implication, if any shall be included in the quoted rates.
169	3, Part-1		2.1.12.6 (16)	3 OF 43	MCCB Specification	Earth fault protection shall be inbuilt feature of MCCB for incoming feeders. Kindly confirm.	No change to the tender condition is envisaged.
170	3, Part-1		2.1.12.6 (24)	3 OF 44	Switch Boards/panels	All TP MCCB's shall have external neutral for neutral overload protection and earth fault sensing. Kindly confirm.	Confirmed. This would be applicable only wherever TPN breakers are mentioned in BOQ & SLD
171	3, Part-1		2.1.13.1 (7)	3 OF 37	Switch Boards/panels	As per the technical specs, 20% spare space shall be provided but as per SLD all sub main panels and DB shall have 20% spare circuit and 20% empty space module. Which is to be flowed kindly confirm.	20% spare breakers are already considered in BOQ. Panel shall be designed accordingly.
172	3, Part-1		2.3.4.3	3 of 71	PAINT FINISH: RAL 7032 Grey Epoxy Paint or as approved by Engineer-in-charge	In place of Ral 7032 grey Epoxy paint, ANSI 49 Gray shall be used. Kindly confirm.	No change to the tender condition is envisaged.
173					Spares, Special Tools and Test Equipment.	Since this item is a cost to tender & forms a reasonable amount in addition to the BOQ. Request to Provide List of Spares, which shall form a common platform for bidding for all competitors.	No change to the tender condition is envisaged.
174	3, Part-1		2.1.13.3 (8e)	3 of 40	Earthing Busbar	The size of Earthing bus bar shall be as per Panel manufacturer Design. Please confirm.	As per manufacturer's design but conforming to the Specification clauses
175	3, Part-1		2.1.13.3 (4 & 7)	3 of 40	Busbar Insulation and identification	As per Panel manufacturers it is not required to provide Bus bar insulation as the panels are designed and type tested without Bus bar insulation. If it is mandatory to provide Busbar Insulation then please provide Specification for the same. Please confirm whether Paint shall be used for Busbar Identification or not.	Agreed. As per manufacturer's recommendation and duly Type tested
176	3, Part-1		2.1.13.3 (8e)	3 of 40	r) Selection of ACB, MCCB and MCB shall be of same make. Total Discrimination must be available between the various elements of switchgear (ACB, MCCB, MCB etc) selected. Supplier must provide test certificates from acceptable, accredited and reputed laboratories to prove the same, if so desired by Employers Representative. In view of Standardisation and Uniformity, mixing of two series of switchgear (even from the same manufacturer) for either MCCB or ACB will not be permitted.	Since Rating of ACB/MCCB is clearly written in BOQ, so any variation to achieve total discrimination will be provided on extra cost.	Discrimination chart would be verified by the Contractor & commercial implication, if any shall be included in the quoted rates.
177	3, Part-1		2.1.13.3 (8e)	3 of 40	Moulded Case Circuit Breakers	Kindly clarify whether total discrimination is required upto designed fault level or its value of downstream CB?As two are entirely different concepts.	Upto the design fault level
178					Distribution Boards	Discrimination shall be achieved upto the E&M scope of work panels provided in the contract	Total discrimination between the LVP and various load points need to be achieved.
179					Distribution Boards	Civil work for the installation of Panels like, foundation, masonry, chequered plate shall be in civil scope of work. Kindly confirm	Foundation of E&M equipments, chequered plates, if any, shall be under civil scope, however E&M equipments need to be properly protected against damage since it is the responsibility of E & M Contractor. Minor masonry work including finishing of the foundation for E&M equipment after erection shall be the responsibility of E&M contractor
180	6			Appendix-A 106	cable tray Perforated	The wrap around type is mention but the details are not provided. Kindly provide.	Refer clause 2.4.4 in Vol-3, Part-1

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CLARIFICATIONS TO PRE - BID QUERIES

DESIGN VERIFICATION, DETAILED ENGINEERING, MANUFACTURE, SUPPLY, DELIVERY AND STORAGE AT SITE, LAYING, INSTALLATION, TESTING AND COMMISSIONING
(INCLUDING INTEGRATED TESTING & COMMISSIONING), TRAINING OF PERSONNEL, DEMONSTRATION OF PERFORMANCE OF SYSTEM / EQUIPMENT OF ELECTRICAL AND MECHANICAL
(E&M) INCLUSIVE OF FIRE PROTECTION SYSTEM OF KOLKATA METRO EAST-WEST LINE PROJECT (PHASE-1)

Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
181	3, Part-1		5.4.1	3 -122	Analogue Addressable Automatic Fire Alarm System	Please confirm the location of installation of LINE TYPE Detectors, As mentioned in specification it is required to be installed in tunnels where train are stabled after revenue hours and shall be provided in tunnels for both the lines where train need to be stabled at end stations only. is it only required in tunnel end stations, Kindly confirm.	LINE TYPE Detectors are not part of this BOQ
182	3, Part-1		5.4.5	3 -123	Analogue Addressable Automatic Fire Alarm System	Please confirm the location of MAP to be install. In Specification it is mentioned in Firemen staircase. But as per our previous experience it is in Station control room. Please provide the drawing showing location of MAP.	Location are confirmed in drawings
183	3, Part-1		5.4.6	3 -123	Analogue Addressable Automatic Fire Alarm System	for Quantification of no's of SAP, MIMIC, MAP & Repeater panels Please provide the drawings with their location.	Refer to the drawings
184	3, Part-1		5.4.11 (b)	3 -124	Analogue Addressable Automatic Fire Alarm System	In Specification it is mentioned that Fire alarm signal shall be sent to ISMS via ITB. Please confirm if ITB is hardwired interface with ISMS through Fire Relay modules to give signal to ISMS.	Yes. Hardwired interface between FAS (through Zone/Relay/Control Module) and others Systems under ISMS.
185	3, Part-1		5.4.13	3 -124 (c)	Feature of the Main Alarm Panel	LED indication for mentioned equipment is not possible but if required they can be interfaced with Fire alarm panel through relay module and data can be shown in panel as well as at GUI. Please confirm.	No change to the tender condition is envisaged.
186	3, Part-1		5.4.16	3 -129	Interface Terminal Board (ITB)	Please confirm if ITB is required for third party hardwired interface through fire relay modules.	Yes. Hardwired connection between Fire Alarm Modules to ITB (including cabling, termination along with separate housing or JB under FAS vendor) and ITB to ISMS (cabling & termination) under respective ISMS vendor.
187	3, Part-1		5.4.22	3-131	Optical smoke and beam detector	Operating temperature of -20 to +70 degrees is not applicable in any area. kindly let us know if the devices can be accepted as per the temperature norms of UL listing.	No change to the tender condition is envisaged.
188	3, Part-1		5.4.24	3-133	Multi sensor type detector	Operating temperature of -20 to +70 degrees is not applicable in any area. kindly let us know if the devices can be accepted as per the temperature norms of UL listing.	No change to the tender condition is envisaged.
189	3, Part-1		2.1.13.2 (9)	3 of 38	Switchgear shall be in fully drawout condition LVSB	ACB shall be EDO but rest all switchgear shall be fixed mounted on fixed type enclosure module.	No change to the tender condition is envisaged. Refer to the Tender drawings for details.
190	3, Part-1		2.2.(8, 9, 10) BOQ Appendix A	TS Pg 126 BOQ Pg 86	Fault current rating Busbar	Fault current rating for busbar are different in technical space and BOQ	Please follow BOQ
191	3, Part-1		2.1.13.2 BOQ Appendix A	3 of 38 BOQ Pg 86	Fault current rating LV Panels	The Fault level mentioned in technical specs for LV panel is minimum 50ka in volume 3 part 1 whereas in BOQ it is Different so kindly confirm which is to be considered and for how much time. Please confirm.	This item is to define the minimum level at which internal arc testing to be done. This will vary as per actual fault level (Mentioned in relevant SLD) of different stations & ventilation shaft building.
192	3, Part-2		2.2.(10) BOQ appendix A	TS Pg 126 BOQ Pg 86	Earthing Size Busduct	earthing size required for busbar is 400 sqmm as per technical specs whereas in boq 1.29 (A) it is 300 sqmm which is to be considered. Kindly confirm	Please follow BOQ
193	3, Part-1		2.1.13.1 (7)	3 of 37	Spare in LV Panel	As per technical specs 20% spare is to be considered, kindly clarify where this spare is additional from the qty provided in BOQ, Please clarify	This item is already included in the BOQ
194	General				UPS & DG	By the tender document we suppose that UPS, D.G and their relevant accessories are not a part of ENM Tender	UPS & DG are not in the scope of E&M Tender
195	3, Part-2		5.13	3-176	Panel Gas Flooding	We understand that provision of Co2 gas flooding System to be provided. The prices for the CO2 gas flooding system should be include in the price of LV Panels. Pls amend a new break up in BOQ & Confirm.	No change to the tender condition is envisaged.
196	General		Price Break up		Fire sealant	Fire Sealing for Electrical services are not defined in the BOQ. Pls confirm.	Fire sealant is not a BOQ part. The cost shall be included in the quoted rates.

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Sr. No.	VOLUME	SECTION	CLAUSE No. / Sub Head / BOQ Sr. No.	PAGE No.	DESCRIPTION	QUERY	CLARIFICATION
197	General		Price Break up		Cables	We understand all cable should be considered with a different Head in BOQ so that no issue should rise in pertaining to the measurement for the cables.	Cables of different sizes are included in the BOQ as separate items.
198	2	T10		ECR/6	<p>Minimum construction experience, as prime contractor, management contractor, or subcontractor, in the following key activities: Detailed Engineering, Manufacture, Supply, Installation, Testing and commissioning of E&M works inclusive of Fire protection system of UG metro transit projects completed in last 10 years ending 31.03.2016 of any of the following value:-</p> <p>a) One work costing not less than INR 480 million. or b) Two works costing not less than INR 300 million each. or c) Three works costing not less than INR 240 million each.</p>	<p>Minimum construction experience, as prime contractor, management contractor, or subcontractor, in the following key activities: Detailed Engineering, Manufacture, Supply, Installation, Testing and commissioning of E&M works inclusive of Fire protection system of UG metro transit in any <u>Govt./Govt.Undertaking</u> projects completed in last 10 years ending 31.03.2016 of any of the following value:-</p> <p>a) One work costing not less than INR 480 million. or b) Two works costing not less than INR 300 million each. or c) Three works costing not less than INR 240 million each.</p> <p>AND</p> <p>The contractors should have executed any project successfully related to Fire Protection System in last 10 Years ending 31.03.2016 of any of the following value</p> <p>a) One work costing not less than INR 50 million each. or b) Two works costing not less than INR 30 million each. or c) Three works costing not less than each INR 20 million each.</p>	Please refer item no. 34 of Addendum no.-1