

KOLKATA METRO RAIL CORPORATION LTD

ADDENDUM NO. 1

CONTRACT: UG-E&M (R)

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 for Underground Section of Kolkata Metro East-West Line (Phase -1)

Date 28TH JANUARY 2017

SL NO.	Reference Clause	Original Clause	Addendum Clause
1.	NIT point 5, Key details, Page-NIT/3	Date & Time of Submission of Tender 15.00 Hours on 24 th January 2017	15.00 Hours on 28 th February 2017
2.	NIT point 5, Key details, Page-NIT/3	Date & Time of Opening of Tender 15.30 Hours on 24 th January 2017	15.30 Hours on 28 th February 2017
3.	Clause- C2.6, Page- ITT/12, Volume-1	The Form of Tender shall be completed and signed by a duly authorised and empowered representative of the Tenderer. If the Tenderer comprises a consortium or a joint venture the Form of Tender shall be signed by the Representative, authorized in the Joint Venture / Consortium agreement to act on behalf of them. Signatures on the Form of Tender shall be witnessed and dated. Copies of relevant powers of attorney shall be attached. The Form of Tender shall be submitted on Rupees 200/- Stamp Paper.	The Form of Tender shall be completed and signed by a duly authorised and empowered representative of the Tenderer. If the Tenderer comprises a consortium or a joint venture the Form of Tender shall be signed by the Representative, authorized in the Joint Venture / Consortium agreement to act on behalf of them. Signatures on the Form of Tender shall be witnessed and dated. Copies of relevant powers of attorney shall be attached.
4	Clause-48, Page- SCC/19, Volume-2	(b) Price adjustment shall be applicable only to Items E2 to E7 of the Payment Schedule in Appendix E of Vol. 6.	(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.
5.	Vol 2, SCC Add at Page- SCC/22	-----	56. Additional Clause: BOCW (Building and Other Construction Works): 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 Employer shall make the deduction accordingly and deposit the amount to the concerned authorities.
6.	Clause- 2.1.13.1 (2), Page-37, Vol-3, Part-1	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.	The LV main switchboards (LVP), Main distribution Boards (MDB), Generator Control Panel (GCP) 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/KEMA/ASEFA/ERDA/CPRI/LOVAG etc. Certified true copies of all the full type test reports/certificates shall be submitted.
7.	Clause- 2.1.13.1 (5), Page-37, Vol-3, Part-1	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.	The switchboards designed for indoor use in the form of free standing, floor mounting, extendible, self-contained cubicles with hinged type doors and sectionalized as necessary to facilitate easy transportation and erection, containing all the equipment indicated on the Drawings and specified hereinafter.
8.	Clause- 2.1.13.2 (7), Page-38, Vol-3, Part-1	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.	Panel doors shall be provided with gaskets, conforming to IEC-61439. Panel door stoppers shall be provided and panel door shall be effectively earthed by flexible multi stranded wires.
9.	Clause- 2.1.13.3 (1), Page-39, Vol-3, Part-	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.	The switchboard busbar shall be fully rated for system load for operation in a 45°C ambient temperature.

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10.	Clause-2.1.13.3 (5), Page-40, Vol-3, Part-1	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.	The busbars shall be arranged in the sequence as per TTA standard conforming to IEC 61439. All busbars including droppers and termination to circuit breakers shall be suitably coded with permanent colour bands and alphanumeric markers.
11.	Clause-2.1.13.3 (8a), Page-40, Vol-3, Part-1	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	Busbars shall comply with the following requirement: (a) The minimum sectional dimension of copper busbar for a particular rating shall comply as per BS EN 61439-1 .
12.	Clause-2.1.13.3 (8e), Page-40, Vol-3, Part-1	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.	Switchboards shall be provided with two earthing terminals, one at each end, for the connection of 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.
13.	Clause-2.1.13.4(1), Page-41, Vol-3, Part-1	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.	The incomer panels shall include a digital Voltmeter with MCB to register each of the three phase voltages and phase to neutral voltage via an in-built selector switch.
14.	Clause-2.1.13.4(2), Page-41, Vol-3, Part-1	The incoming feeders shall also include current transformers connected to a digital Ammeter via an Ammeter selectors Switch provide a load current reading of each incoming line.	The incoming feeders shall also include current transformers connected to a digital Ammeter via an in-built selectors Switch to provide a load current reading of each incoming line
15.	Clause-2.1.13.6(17), Page-43, Vol-3, Part-1	<ul style="list-style-type: none"> Utilisation Category: B 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 	<ul style="list-style-type: none"> Utilisation Category: A Rated short-time with stand current (Icw): kA as indicated in the Engineer's Drawings, Rated service short-circuit breaking capacity (Ics):100% of Icu.
16.	Clause-2.1.13.2(6), Page-38, Vol-3, Part-1	The switchboard panels shall be constructed of minimum 2 mm thick CRCA sheet steel. Gland plate thickness shall be minimum 3mm.	The switchboard panels shall be constructed of CRCA sheet steel (load bearing members shall be constructed of minimum 2 mm thick CRCA sheet steel and non-load bearing members shall be constructed of minimum 1.6 mm thick CRCA sheet steel). Gland plate thickness shall be minimum 3mm.
17.	Clause-2.1.15.2(1), Page-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's acceptance. The enclosure shall be completed with hinged doors and to be provided with standardized key	The distribution board enclosure (panels/doors) shall be constructed of CRCA sheet steel and finished with epoxy powder coated (minimum 60 micron) colour/shade to Engineer's acceptance. The load bearing members shall be constructed of minimum 2 mm thick CRCA sheet steel and non-load bearing members shall be constructed of minimum

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	Vol-3, Part-1	lock and 3 sets of keys shall be provided for each distribution board. All DB doors shall be provided with separate latches in addition to the door locks.	1.6 mm thick CRCA sheet steel). Gland plate thickness shall be minimum 3mm CRCA sheet steel. The enclosure shall be completed with hinged doors and to be provided with standardized key lock and 3 sets of keys shall be provided for each distribution board. All DB doors shall be provided with separate latches in addition to the door locks.
18.	Clause-2.2.3.2.1 (a), Page-58, Vol-3, Part-1	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.	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 of at least 20 years.
19	Clause-2.4.3, Page-74, Vol-3, Part-1	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.	At each joint in the trunking, continuity shall be maintained by means of copper links, not less than 25 x 3 mm to achieve an acceptable earth loop impedance level in compliance with BS 7671, fixed with brass nuts, bolts and serrated washers.
20.	Clause-2.5.4.1, Page-89, Vol-3, Part-1	Unless otherwise specified light fittings shall be constructed of 0.8mm thick zinc anneal sheet steel or better.	Unless otherwise specified light fittings shall be constructed of minimum 0.5mm thick zinc anneal sheet steel or better.
21.	Clause-2.5.4.2, Page-90, Vol-3, Part-1	The aluminium thickness shall be 1.0 mm minimum, and be finished in an anodised specular finish with a minimum build -Up of 25 micrometers.	The aluminium thickness shall be 0.5 mm minimum, and be finished in an anodised specular finish with a minimum build-up of 25 micro-meters.
22.	A1.1-A1.15, Page-xx, Vol-6	Normal Power DB Incomer 160A TPN MCB	Normal Power DB Incomer 160A TPN MCCB with 35kA rating. Refer Sr. No. (m) under Item A1.1.1 in Vol-6
23.	A3.1--1.20,1.21, Page-xx, Vol-6	Emergency Sub Main Lighting panel	Emergency Sub Main Lighting panel Incomer, outgoing MCCB and busbar KA rating is 35KA.

24.	Appendix 1A, Page-FOTAppendix 1A/1 & 2, Vol-1	Section 1 - Key Dates - KD1 to KD3B CONTRACT UG-E&M(R) FORM OF TENDER APPENDIX 1A CONTRACT KEY DATES AND ACCESS DATES <u>Section 1 - Key Dates</u>					Section 1 - Key Dates - KD1 to KD3B CONTRACT UG-E&M(R) FORM OF TENDER APPENDIX 1A CONTRACT KEY DATES AND ACCESS DATES <u>Section 1 - Key Dates</u>																																																																																																																
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25.	Clause- 11.6, Page- GCC/59, Vol-2	Retention Money: NOT USED	Retention money equal to 10% of the amount due to the contractor from each on account payment will be retained, so as to maintain a reserve in the hands of employer equal to 5% of the contract price. The retention money shall be held by the employer and no interest of whatsoever nature and type will be payable by employer in respect of retention money. The full amount of retention money shall become due to the contractor on the date of issue of Taking Over Certificate.																																																																									
26.	Clause- 9, Page- SCC/6, Vol- 2	Retention Money : (GCC 11.6) Not used	Retention Money : GCC Clause 11.6 is retained																																																																									
27.	Clause- 7, Page- SCC/5, Vol- 2	<p style="text-align: center;">Mobilisation Payment (GCC 11.2.1)</p> <p>Replace this clause with:-</p> <p>“Non-recoverable mobilization payment will be given as per the Payment schedule; therefore no recoveries from the bills will be made as stipulated in GCC. Mobilisation Payment as stated in Appendix FT-1 to the Form of Tender will be paid interest free in the respective currencies against submission of separate Bank Guarantees for the equivalent amount of mobilization payment in respective currencies as per format given in schedule to the SCC from an Indian Schedule bank</p>	<p style="text-align: center;">Mobilisation Payment (GCC 11.2.1)</p> <p>Replace this clause with:-</p> <p>“Non-recoverable mobilization payment will be given as per the Payment schedule; therefore no recoveries from the running bills will be made as stipulated in GCC. Mobilisation Payment as stated in Appendix FT-1 to the Form of Tender will be interest free in the respective currencies against submission of separate Bank Guarantees for the equivalent amount of mobilization payment in respective currencies as per format given in schedule to the SCC from a Scheduled Commercial bank in India (excluding Cooperative Banks) or</p>																																																																									

		<p>(excluding Cooperative Banks) or from a schedule Foreign Bank as defined in Section 2(e) of RBI Act 1934 read with Second Schedule. Such Bank Guarantee shall remain valid till 28 days after final taking over certificate.</p> <p><u>The Mobilisation Payment shall be paid within 45 days after completion of the following activities:</u></p> <ul style="list-style-type: none"> • Signing of the Contract Agreement • Receipt of the Contractor's written request by the Employer • Submission of the Performance Guarantee • Submission of Mobilisation Payment Bank Guarantee in respective currencies • Submission of Designer's warranty with PII and Contractor's warranty <p>The Banker's Guarantee against advance payment shall be returned to the Contractor immediately after completion of the Whole of the Works and Taking over Certificate.</p>	<p>scheduled foreign bank as defined in Section 2(e) of RBI Act 1934 read with Second Schedule. Such Bank Guarantee shall remain valid till 28 days after final taking over certificate.</p> <p><u>The Mobilisation Payment shall be paid within 45 days after completion of the following activities:</u></p> <ul style="list-style-type: none"> • Signing of the Contract Agreement • Receipt of the Contractor's written request by the Employer • Submission of the Performance Guarantee • Submission of Mobilisation Payment Bank Guarantee in respective currencies • Submission of Designer's warranty with PII and Contractor's warranty <p>The Bank Guarantee against the payment shall be returned to the Contractor immediately after completion of the Whole of the Works and issue of Taking over Certificate.</p>																																
28.	Clause- 24, Page- SCC/10, Vol-2	<p>Amount of Performance Guarantee (GCC Clause 4.2.1)</p> <p>i) Performance Guarantee for an amount of 10% of the Contract Price of respective currencies (comprising of Schedule X and Schedule Y) is required.</p> <p>ii) The Bank Guarantee shall be valid up to 28 days after completion of latest Defects Liability Period for whole of the works.</p> <p>iii) No additional performance security will be required to be submitted if the variation is within 25% of the original contract value.</p>	<p>Amount of Performance Guarantee (GCC Clause 4.2.1)</p> <p>i) Performance Guarantee for an amount of 10% of the Contract Price of respective currencies (comprising of Schedule X and Schedule Y) is required.</p> <p>ii) The Bank Guarantee shall be valid up to 28 days after completion of latest Defects Liability Period for whole of the works.</p> <p>iii) No additional performance security will be required to be submitted if the variation is within 10% of the original contract value.</p>																																
29.	Appendix E, Vol-6	<p>Payment Schedule</p> <p style="text-align: center;"><u>APPENDIX E</u> <u>PAYMENT SCHEDULE</u></p> <table border="1"> <thead> <tr> <th></th> <th>Description</th> <th>Schedule-X (Appendix-A) Excepting spares (in Appendix- G1 to G7)</th> <th>Schedule-Y (Appendix-B) Excepting Appendix- D2 & D3</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Mobilisation Payment (Non-Recoverable)</td> <td>10 % (ten percent) of total value of Schedule-X</td> <td>-</td> </tr> <tr> <td>B</td> <td>Interim payment on account of finalization of Design verification, Detailed Engineering & submission of working drawings for E&M System for the entire scope of work</td> <td>5% (Five percent) value of total of Schedule-X as would be signed and certified in respective Interim Payment Certificates</td> <td>-</td> </tr> </tbody> </table>		Description	Schedule-X (Appendix-A) Excepting spares (in Appendix- G1 to G7)	Schedule-Y (Appendix-B) Excepting Appendix- D2 & D3	A	Mobilisation Payment (Non-Recoverable)	10 % (ten percent) of total value of Schedule-X	-	B	Interim payment on account of finalization of Design verification, Detailed Engineering & submission of working drawings for E&M System for the entire scope of work	5% (Five percent) value of total of Schedule-X as would be signed and certified in respective Interim Payment Certificates	-	<p>Payment Schedule</p> <p style="text-align: center;"><u>APPENDIX E</u> <u>PAYMENT SCHEDULE</u></p> <table border="1"> <thead> <tr> <th></th> <th>Description</th> <th>Schedule-X (Appendix-A) Excepting spares (in Appendix- G1 to G7)</th> <th>Schedule-Y (Appendix-B) Excepting Appendix- D2 & D3</th> <th>Appendix-D2, Appendix-D3, Appendix-G1, Appendix-G2, Appendix-G3, Appendix-G5, Appendix-G6 & Appendix G7</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Mobilisation Payment (Non-Recoverable)</td> <td>10 % (ten percent) of total value of Schedule-X</td> <td>-----</td> <td>-----</td> </tr> <tr> <td>B</td> <td>Interim payment on account of finalization of Design verification, Detailed Engineering & submission of working drawings for E&M System for the entire scope of work</td> <td>5% (Five percent) value of total of Schedule-X as would be signed and certified in respective Interim Payment Certificates</td> <td>-----</td> <td>-----</td> </tr> <tr> <td>C</td> <td>Interim payment on account of</td> <td>70% (Seventy percent)</td> <td>-----</td> <td>-----</td> </tr> </tbody> </table>		Description	Schedule-X (Appendix-A) Excepting spares (in Appendix- G1 to G7)	Schedule-Y (Appendix-B) Excepting Appendix- D2 & D3	Appendix-D2, Appendix-D3, Appendix-G1, Appendix-G2, Appendix-G3, Appendix-G5, Appendix-G6 & Appendix G7	A	Mobilisation Payment (Non-Recoverable)	10 % (ten percent) of total value of Schedule-X	-----	-----	B	Interim payment on account of finalization of Design verification, Detailed Engineering & submission of working drawings for E&M System for the entire scope of work	5% (Five percent) value of total of Schedule-X as would be signed and certified in respective Interim Payment Certificates	-----	-----	C	Interim payment on account of	70% (Seventy percent)	-----	-----
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						delivery of material/equipment at site	value of the material/equipment in Schedule-X as would be supplied/measured and certified in respective Interim Payment Certificates		
		C	Interim payment on account of delivery of material/equipment at site	65% (Sixty Five percent) value of the material/equipment in Schedule-X as would be supplied/measured and certified in respective Interim Payment Certificates	-				
		D	Interim payment on account of completion of installation		70 % (seventy percent) value of the items of works executed in Schedule-Y as would be installed and certified in respective Interim Payment Certificates			75 % (Seventy Five percent) value of the items of works executed in Schedule-Y as would be installed and certified in respective Interim Payment Certificates	-----
		E	Interim payment on account of completion of pre-commissioning testing, Commissioning, Integrated testing, Operational Acceptance testing and Demonstration of the performance of the system and Equipment	15% (fifteen percent) value of the items of works executed in Schedule-X as would be certified in respective Interim Payment Certificates	25% (twenty five percent) value of the items of works executed in Schedule-Y as would be measured and certified in respective Interim Payment Certificates		15% (fifteen percent) value of the items of works executed in Schedule-X as would be certified in respective Interim Payment Certificates	25% (twenty five percent) value of the items of works executed in Schedule-Y as would be measured and certified in respective Interim Payment Certificates	-----
		F	Payment On Taking Over of the whole works and all installations	5% (five percent) value of the items of works finally executed in Schedule-X on issue of taking over certificate	5% (five percent) value of the items of works finally executed in Schedule-Y on issue of taking over certificate				100% payment for items of works in Appendix D2
		G							100% payment for items of works in Appendix D3
		H							100% payment for items of works in Appendix G1, Appendix G2, Appendix G3, Appendix G5, Appendix G6 & Appendix G7
		<p>Notes:</p> <ol style="list-style-type: none"> The Five (5) percent of the Project Cost (Cost A1.1 to A3.1, A1.2 to A3.2 plus Cost B1.1 to B3.1, B1.2 to B3.2 shall be released after taking over of the whole works. 100% payment for items of works in Appendix G1, Appendix G2, Appendix G3, 							

		<p>Appendix G5, Appendix G6 & Appendix G7 shall be made on actual delivery and on satisfactory completion of all obligations.</p> <p>3. 100% payment for items of works in Appendix D2 shall be made on satisfactory completion of all obligations of training of personnel and delivery of Training Manuals.</p> <p>4. 100% payment for items of works in Appendix D3 shall be made on satisfactory completion of all obligations of Delivery of Operation Manuals & Maintenance manuals.</p> <p style="text-align: right;">SIGNATURE OF TENDERER</p>	<p>Notes: Retention Money in accordance with GCC Clause 11.6 will be retained from each on account payment (except A) due to the contractor. The full amount of the Retention Money shall become due to the contractor on the date of issue of Taking over certificate.</p> <p style="text-align: right;">SIGNATURE OF TENDERER</p>
30.	<p>Clause-12.4, Page-GCC/65,66 and 67, Vol-2</p>	<p>Variation Procedure:</p> <p>The Engineer shall, as soon as practicable after receipt of proposals under Clauses 12.2 and / or 12.3, respond with approval, rejection or comments.</p> <p>If the Engineer instructs or approves a Variation, he shall proceed in accordance with Clause 3.5 to agree or determine adjustments to the Contract Price, Time for Completion and Schedule of Payments.</p> <p>After receipt of proposal, it will be the prerogative of the Employer, whether to instruct and proceed ahead with the variation or drop the proposal in part or full. In that case, no cost of preparing and submitting the proposal will be payable to Contractor. In case, the design part of variation has been completed on submission of same to the Engineer, the Employer decides to abandon the variation; only cost for design to the extent of work done will be paid to the Contractor.</p> <p>The Employer shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in the design, character, position, site quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution or thereof or to order any additional works to be done or any works not to be done and the Contractor will not be entitled to any compensation for any increase/reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order.</p> <p>The quantities of items shown in the Bill of Quantities (BOQ) are approximate, and liable to vary during the actual execution of the work. The Contractor shall be bound to carry out and complete the stipulated work as instructed by the Engineer, irrespective of the magnitude of variations at the rates mentioned below.</p> <p>Unless otherwise specified in the Special Conditions of Contract, the accepted variation in quantity for each individual item of works in the Contract would be up to 25% at the accepted rate (s) for individual items without any rate adjustment.</p> <p>The tenderer may note that the variation in quantities shall be guided as under</p> <ul style="list-style-type: none"> i) Individual items of works in the contract shall be operated with variation of plus or minus 25% and payment would be made as per the agreement rate, without any adjustment. ii) Quantities operated in excess of 125% but up to 140% of the agreement quantity of the 	<p>Variation Procedure:</p> <p>The Engineer shall, as soon as practicable after receipt of proposals under Clauses 12.2 and / or 12.3, respond with approval, rejection or comments.</p> <p>If the Engineer instructs or approves a Variation, he shall proceed in accordance with Clause 3.5 to agree or determine adjustments to the Contract Price, Time for Completion and Schedule of Payments.</p> <p>After receipt of proposal, it will be the prerogative of the Employer, whether to instruct and proceed ahead with the variation or drop the proposal in part or full. In that case, no cost of preparing and submitting the proposal will be payable to Contractor. In case, the design part of variation has been completed on submission of same to the Engineer, the Employer decides to abandon the variation; only cost for design to the extent of work done will be paid to the Contractor.</p> <p>The Employer shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in the design, character, position, site quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution or thereof or to order any additional works to be done or any works not to be done and the Contractor will not be entitled to any compensation for any increase/reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order.</p> <p>The quantities of items shown in the Bill of Quantities (BOQ) are approximate, and liable to vary during the actual execution of the work. The Contractor shall be bound to carry out and complete the stipulated work as instructed by the Engineer, irrespective of the magnitude of variations at the rates mentioned below.</p> <p>Unless otherwise specified in the Special Conditions of Contract, the accepted variation in quantity for each individual item of works in the Contract would be up to 25% at the accepted rate (s) for individual items without any rate adjustment.</p> <p>The tenderer may note that the variation in quantities shall be guided as under</p> <ul style="list-style-type: none"> i) Individual items of works in the contract shall be operated with variation of plus or minus 25% and payment would be made as per the agreement rate, without any adjustment. ii) Quantities operated in excess of 125% but up to 140% of the agreement quantity of the concerned item,

		<p>concerned item, shall be paid at 98% of the agreement rate for that item in this contract.</p> <p>iii) Quantities operated in excess of 140% but up to 150% of the agreement quantity of the concerned item shall be paid at 96% of the agreement rate for that item in this contract</p> <p>iv) Variation in quantities of individual items beyond 150% would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the agreement rate for that item in this contract.</p> <p>v) The variation in quantities as per the above formula will apply only to the Individual items of the BOQ in the contract and not on the overall contract value.</p> <p>vi) Execution of quantities beyond 150% of the overall agreemental value shall not be permitted and, if found necessary, should be only through fresh tenders or by negotiating with existing contractor.</p> <p>vii) If there shall be more than 25% variation in any item/s of BOQ, then quantity beyond 125% of the item/shall be executed after getting written approval of the Employer.</p> <p>viii) For decrease beyond 25% for individual items or 25% of contract agreement value, payment may be made on actual quantity executed and no further claim of contractor will be entertained.</p>	<p>shall be paid at 98% of the agreement rate for that item in this contract.</p> <p>iii) Quantities operated in excess of 140% but up to 150% of the agreement quantity of the concerned item shall be paid at 96% of the agreement rate for that item in this contract</p> <p>iv) Variation in quantities of individual items beyond 150% would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the agreement rate for that item in this contract.</p> <p>v) The variation in quantities as per the above formula will apply only to the Individual items of the BOQ in the contract and not on the overall contract value.</p> <p>vi) Execution of quantities beyond 150% of the overall agreemental value shall not be permitted and, if found necessary, should be only through fresh tenders or by negotiating with existing contractor.</p> <p>vii) If there shall be more than 25% variation in any item/s of BOQ, then quantity beyond 125% of the item/shall be executed after getting written approval of the Employer.</p> <p>viii) For decrease beyond 25% for individual items or 25% of contract agreement value, payment will be made on actual quantity executed at agreement rate and no further claim of contractor will be entertained.</p> <p>ix) The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1% of the total original agreement value.</p>
31.	A 3.2 ;13.01, Bill of Quantity, Vol-6	<p>System for Room Volumes (V) are followings:</p> <ul style="list-style-type: none"> - 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; 	<p>System for Room Volumes (V) are followings:</p> <ul style="list-style-type: none"> - Signal Equipment Room : 200 m3< V <400 m3; - Telecom Equipment Room : 200 m3< V <400 m3; - UPS-1 & UPS-2 : 200 m3< V <400 m3; - Auxiliary Substation Room (ASS) : 400 m3< V<700 m3; - Traction Substation Room (TSS) : 1000 m3<V<1500 m3;
32.	A 3.1.5 W (j), Bill of Quantity, Page- Appendix A / 415, Vol-6	Foundation bolts manufactured from special steel along with nuts, washers, anchor plates and templates	Suitably designed Foundation for the High Mast with Foundation bolts manufactured from special steel along with nuts, washers, anchor plates and templates
33	Vol 2, GCC 1.5 & SCC Schedule 1 CONTRACT AGREEMENT 1.1 Contract Documents (Reference GCC Clause 1.4).	<p>Priority of Documents</p> <p>The documents forming the Contract are to be taken as mutually explanatory of one another. If there is an ambiguity or discrepancy in the documents, the Engineer shall issue any necessary clarification or instruction to the Contractor, and the priority of the documents shall be unless otherwise specified in the Special Conditions of Contract, as follows:</p> <ul style="list-style-type: none"> (a) Contract Agreement; (b) Letter of Acceptance; (c) Tender NIT and ITT, Form of Tender (FOT) with Appendix 1 & Priced; Appendix 2 to FOT; (d) Pricing Document; (e) General Specification; 	<p>Priority of Documents</p> <p>The documents forming the Contract are to be taken as mutually explanatory of one another. If there is an ambiguity or discrepancy in the documents, the Engineer shall issue any necessary clarification or instruction to the Contractor, and the priority of the documents shall be unless otherwise specified in the Special Conditions of Contract, as follows:</p> <ul style="list-style-type: none"> (a) Contract Agreement; (b) Letter of Acceptance; (c) Tender Addendum & Corrigendum (d) Tender NIT and ITT, Form of Tender (FOT) with Appendix 1 & Priced; Appendix 2 to FOT; (e) Pricing Document; (f) Employer 's Requirements;

		<p>(f) Employer 's Requirements;</p> <p>(g) Special Conditions of Contract including Schedules;</p> <p>(h) General Conditions of Contract;</p> <p>(i) Design Calculations and drawings;</p> <p>(j) Safety, Health and Environment (SHE) Manual;</p> <p>(k) Contractor's Proposal ; and</p> <p>(l) [Any other documents shall be added here];</p>	<p>(g) General Specification;</p> <p>(h) Special Conditions of Contract including Schedules;</p> <p>(i) General Conditions of Contract;</p> <p>(j) Design Calculations and drawings;</p> <p>(k) Safety, Health and Environment (SHE) Manual;</p> <p>(l) Contractor's Proposal ; and</p> <p>(m) Approved Subcontractors' List</p> <p>(n) [Any other documents shall be added here];</p>
34.	<p>Vol 2, Eligibility Criteria, GCC SCC, 1.11.1 Page ECR/6</p> <p>Vol 2, Eligibility Criteria, GCC SCC, Proforma Section 3, 17d. Page ECR/21</p>	<p>T₁₀</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 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>Has the tenderer executed</p> <p>a) One similar E&M project work completed for UG stations for rail transit system costing not less than INR 480 million during last ten years ending 31.03.2016. or Two similar E&M project works completed for UG stations for rail transit system costing not less than INR 300 million each during last ten years ending 31.03.2016. or Three similar E&M project works completed for UG stations for rail transit system costing not less than INR 240 million each during last ten years ending 31.03.2016.</p>	<p>T₁₀</p> <p>Minimum construction experience, as prime contractor, management contractor, or subcontractor, in the following key activities in the following key activities:</p> <p>Detailed Engineering, Manufacture, Supply, Installation, Testing and Commissioning of E & M works inclusive of Fire Protection System of MRTS/Airports/Large infrastructure Projects/ Railway works completed during last 10 years ending 31.03.2016 of any of the following value:</p> <p>(i) One work costing not less than - INR 480 Million Or (ii) Two works costing not less than – INR 300 Million each Or (iii) Three works costing not less than – INR 240 Million each</p> <p>Has the tenderer executed</p> <p>One similar E&M project work inclusive of Fire Protection System completed for MRTS/Airports/Large infrastructure Projects/Railway costing not less than INR 480 million during last ten year ending 31.03.2016. Or Two similar E&M project work inclusive of Fire Protection System completed for MRTS/Airports/Large infrastructure Projects/Railway costing not less than INR 300 million each during last ten year ending 31.03.2016. Or Three similar E&M project work inclusive of Fire Protection System completed for MRTS/Airports/Large infrastructure Projects/Railway costing not less than INR 240 million each during last ten year ending 31.03.2016.</p>

	Vol 2, Eligibility Criteria, GCC SCC, BASIS OF EVALUATION	<p>T₁₀</p> <p>One similar E&M project work completed for UG stations for rail transit system costing not less than INR 480 million during last ten year ending 31.03.2016.</p> <p>or</p> <p>Two similar E&M project works completed for UG stations for rail transit system costing not less than INR 300 million each during last ten year ending 31.03.2016.</p> <p>or</p> <p>Three similar E&M project works completed for UG stations for rail transit system costing not less than INR 240 million each during last ten years ending 31.03.2016 (Q.17d).</p> <p>> 1 work of INR 480 million or 2 works of INR 300million each or 3 works of INR 240 million each = PASS</p> <p>< 1 work of INR 480 million or 2 works of INR 300million each or 3 works of INR 240 million each = FAIL</p>	<p>T₁₀</p> <p>One similar E&M project work inclusive of Fire Protection System completed for MRTS/Airports/Large infrastructure Projects/Railway costing not less than INR 480 million during last ten year ending 31.03.2016.</p> <p>Or</p> <p>Two similar E&M project work inclusive of Fire Protection System completed for MRTS/Airports/Large infrastructure Projects/Railway costing not less than INR 300 million each during last ten year ending 31.03.2016.</p> <p>Or</p> <p>Three similar E&M project work inclusive of Fire Protection System completed for MRTS/Airports/Large infrastructure Projects/Railway costing not less than INR 240 million each during last ten year ending 31.03.2016 (Q.17d).</p> <p>> 1 work of INR 480 million or 2 works of INR 300 million each or 3 works of INR 240 million each = PASS</p> <p>< 1 work of INR 480 million or 2 works of INR 300million each or 3 works of INR 240 million each = FAIL</p>
35	Clause- 2.12, Page- 3-102, Vol- 3, Part-1	Tunnel lights shall be of IP 65 weatherproof type with housing material compliance to SFSRTS and NFPA 130 i.e. low smoke halogen-free type and of non-combustible materials	Tunnel lights shall be of IP 67 weatherproof type with housing material compliance to SFSRTS and NFPA 130 i.e. low smoke halogen-free type and of non-combustible materials

Sandeep Kumar

Chief Electrical Engineer, KMRCL