

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
1	Part 2 / Section VI / Appendices	Appendix 6	1. List of likelihood vendor for TVS Equipment and Materials 2. List of likelihood vendor for VAC Equipment and Materials 3. List of likelihood vendor for SCADA Equipment and Materials 4. List of likelihood vendor for Electrical Equipment and Materials	Product-specific deviations of the approved makes shall be acceptable which are not impacting performance.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
2	Part 2 / Section VII / Sub-Section B / TVS Works / Manufacturer Eligibility, Quality Assurance & Quality Control	2.2.1	Qualifications of Fan Manufacturer: The fan shall be the product of a manufacturer who has produced industrial grade fans of the types and duties required for the Contract with minimum quantity of 50% supplied for at least five years for subway transit systems or highway tunnels, with period ending on bid submission date.	Kindly allow subsidiary company of foreign company who has already supplied fans for more than 5 years for rail tunnels / highway tunnels / heavy industrial application.	Refer Addendum - 01.	Yes
3	Part 2 / Section VII / Sub-Section B / TVS Works / Manufacturer Eligibility, Quality Assurance & Quality Control	2.2.5	Fans shall be statically and dynamically balanced according to ISO 14694/21940 or AMCA 204-05. All fans shall be of minimum class BV-3 for ≤75kW and BV-4 for >75kW motor rating, as per AMCA 204-05 definition or G2.5 as per ISO 21940. A complete spectral analysis shall be carried out to determine each type of fan assembly’s resonant frequencies including frame and anti-vibration mountings.	Kindly clarify which type of spectral analysis is required. For most of approved fan manufacturers, there is no standard practice to measure resonant frequencies.	Refer Addendum - 01.	Yes
4	Part 2 / Section VII / Sub-Section B / TVS Works / Fan Fabrication: Products and material	2.4.4	Impeller hub and blades shall be fabricated of aluminium alloy castings (ASTM B686) or forgings (ASTM B247) or steel (ASTM A-588, Grade A and A-151, 1020 hot rolled), suitable for the specified performance and environment.	Kindly accept equivalent standards such as EN AC-ALSi9Mg.	Tender Condition Prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
5	Part 2 / Section VII / Sub-Section B / TVS Works / Fan Fabrication: Products and material	2.4.4	However, if heterogeneous material is adopted by fan manufacturer for their blades which is approved and certified to deliver the specified performance and reliability, the same can be proposed to the Employer/Engineer NOTICE OF NO OBJECTION.	Please provide details of third party agency which will approve & certify performance and reliability of impeller blade with heterogeneous material.	It is the responsibility of the fan manufacturer to produce valid certifications at the time of vendor approval.	No
6	Part 2 / Section VII / Sub-Section B / TVS Works / Fan Fabrication: Products and material	2.4.5	Fan rotating components shall be designed such that no measured or calculated stress level shall exceed 60 percent of the component’s materials yield strength at design temperature. Fan blades shall not vary in weight by more than 2 percent.	Since blades are manufactured by casting process, kindly allow weight variation of not more than 7 percent.	Tender Condition Prevails.	No
7	Part 2 / Section VII / Sub-Section B / TVS Works / Fan Fabrication: Products and material	2.4.7	Flanges shall comply with the standards as per DIN. The welded flanges shall have a minimum thickness of 8mm.	Kindly allow flange thickness same as fan housing thickness.	Tender Condition Prevails.	No
8	Part 2 / Section VII / Sub-Section B / TVS Works / Fan Fabrication: Products and material	2.4.9	All hardware, fan casing, supports and all steel components required to assemble the fans shall be hot_x0002_dipped galvanized to ISO 1461. The thickness of the hot-dip galvanization for any component, should be not less than 70 microns at any point. Certificates shall be submitted with regard to the resistance of hot dip galvanization for 250°C for the period of two hour without any signs of smoke emission or emission of any other toxic gases.	Kindly accept equivalent standards for Hot dip galvanising such as ASTM A123	Tender Condition Prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
9	Part 2 / Section VII / Sub-Section B / TVS Works / Fan Fabrication: Products and material	2.4.12	The separated external terminal boxes for power supply and control devices should be manufactured in IP65.They shall be reinforced as required and flanged for connection to the system ductwork. All casings and flanges shall be continuously welded. The external terminal boxes shall be placed at 1.5m from the finished floor level. The contractor shall obtain the Notice of No Objection from the Employer/Engineer for every External Terminal box location and mounting angle.	External terminal box shall be welded to the casing	This can be proposed by the fan manufacturer at the time of vendor approval subject to NONO from Engineer/Employer.	No
10	Part 2 / Section VII / Sub-Section B / TVS Works / TVF, Jet Fans and OTEF fan motor requirement	2.7.1.4	It is the contractor’s responsibility to ensure that all imported motors shall have the necessary BIS certification as per govt. of India ruling. Three-phase induction motors intended to be installed in Indian territory shall be at least IE2 efficiency class compliance and be certified by BIS (Bureau of Indian Standards) to IS 12615.	Kindly do not make BIS certification compulsory for high temperature (smoke extraction) fans.	Refer Addendum - 01.	Yes
11	Part 2 / Section VII / Sub-Section B / TVS Works / TVF, Jet Fans and OTEF fan motor requirement	2.7.1.6	Motor winding shall be vacuum pressure impregnated for all motors. Motors shall be totally enclosed squirrel cage induction, fan cooled guarded to IP55 as defined in IEC 60034 with Class H insulation, impregnated with non-hygroscopic oil-resistant insulating varnish. Design ambient condition of the motor shall be 45 deg. Particulars of all motors shall be submitted for Notice of No Objection.	Kindly also accoot Totally Enclosed Air Over motors.	Tender Condition Prevails. Please refer to Part-02, Employer’s Requirements, TVS Technical Specifications, 2.7.	No
12	Part 2 / Section VII / Sub-Section B / TVS Works / TVF, Jet Fans and OTEF fan motor requirement	2.7.5	Motor shall be compatible with VFD/VSD based starter and it should be vacuum pressure impregnation winding and Insulated bearing on non-drive end. VFD / VSD driven motors shall comply to IEC 60034-25	Insulated bearing housing cover should also be acceptable. Bearing shall be as per motor manufacturer standard	Tender Condition Prevails.	No
13	Part 2 / Section VII / Sub-Section B / TVS Works / TVF, Jet Fans and OTEF fan motor requirement	2.7.8	An auxiliary marshalling box (motor feedback signals like temperature monitoring etc.) electrically and mechanically separated from the power supply terminal boxes, shall be securely mounted on the motor frame for marshalling all small wiring for motor control or monitoring.	Separate terminal box shall be welded on the fan casing for the termination of control cables.	This can be proposed by the fan manufacturer at the time of vendor approval subject to NONO from Engineer/Employer.	No

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14	Part 2 / Section VII / Sub-Section B / TVS Works / TVF, Jet Fans and OTEF fan motor requirement	2.7.9	The power factor of motors shall not be less than 0.85 lagging at the operating condition. For multi-speed fans, the requirement shall be achieved at both high speed and low speed operating condition.	Power factor of 0.85 will be achieved at the motor rated speed	Tender Condition Prevails.	No
15	Part 2 / Section VII / Sub-Section B / TVS Works / TVF, Jet Fans and OTEF fan motor requirement	2.7.10	TVF & OTEF fan motor bearings shall be designed for 1,00,000 hours operating service (L10 life, Anti-Friction Bearing Manufacturer's Association) and provided with a grease outlet connection for in service lubrication.	Kindly accept 40,000 hours L10 life as per Motor manufacturer's standard	This can be reviewed during Design Verification and Validation stage.	No
16	Part 2 / Section VII / Sub-Section B / TVS Works / TVF, Jet Fans and OTEF fan motor requirement	2.7.13	Termination boxes of adequate size shall be die cast aluminium alloy or cast iron diagonally split type and suitably gasket to prevent ingress of moisture and dirt.	Terminal Box will be made in Mild Steel & welded external to the casing.	Tender Condition Prevails.	No
17	Part 2 / Section VII / Sub-Section B / TVS Works / Submittals	2.8.1.9.a	Curves or tables of the octave band sound-power-level at in-duct condition and fan casing breakout noise at static pressure corresponding to specified and 85 percent of specified airflow capacity with decibels (dB re 10-12 watt: lowest sound persons of excellent hearing can discern) as ordinate versus octave-band centre frequency from 63Hz to 8kHz as abscissa shall be plotted. For reversible fans for both directions of airflow. Separate curves to be plotted for multi-duty fans.	Sound data shall be as per AMCA 300 or equivalent standard.	Tender Condition Prevails.	No
18	Part 2 / Section VII / Sub-Section B / TVS Works / Submittals	2.8.2.2	Composite curve for each size of motor plotted with abscissa as kilowatt output and ordinates as: Current in amperes, Speed in revolutions per minute, Efficiency in percent, Power factor in percent, Torque in Nm, speed in revolutions per minute and ordinates as: Motor current in amperes, Motor torque in Nm, Fan torque in Nm, Motor acceleration from standstill to synchronous speed in seconds.	Kindly accept as per manufacturer's standard practice.	Tender Condition Prevails. All data as mentioned in tender clause shall be submitted.	No
19	Part 2 / Section VII / Sub-Section B / TVS Works / Testing by Manufacturer	2.9.1.2	All type of fans Test shall be conducted in AMCA Accredited Laboratory. AMCA Accredited Laboratory Certification shall be submitted.	Kindly accept fan testing to be conducted at fan manufacturer's factory.	Tender Condition Prevails.	No
20	Part 2 / Section VII / Sub-Section B / TVS Works / Testing by Manufacturer	2.9.1.3	Air performance test shall be as per AMCA 210 for Axial fan and AMCA 250 for jet fans.	Kindly allow performance test as per equivalent standard such as ISO 5801 for axial fan.	Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
21	Part 2 / Section VII / Sub-Section B / TVS Works / Testing by Manufacturer	2.9.1.12	The vibration tests shall be done according to AMCA 204-05 standard with limiting values for all type of fans. The vibration signatures shall be taken on the motor mounting plate and on casing of the fan in the horizontal, vertical and axial direction. The vibration tests shall also be conducted for all duty points.	Vibration Test shall be carried out for one fan of each type. This shall be done in FAT and as per approved procedure. All the fans shall be balanced as per AMCA 204/ISO 21940 G2.5 / ISO 14694	Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
22	Part 2 / Section VII / Sub-Section B / TVS Works / Installation methods	2.10.5	The Contractor shall provide a 6-mm thick silicone gasket between all adjacent companion flanges; width of gasket shall be same as flange width. Gaskets shall be capable of withstanding an ambient temperature of 250-degree C for two hour without degradation of sealing ability and without emitting toxic or noxious fumes. If all joints are airtight under operating pressure, gasket may be avoided, subject to Notice of no objection by the employer.	Kindly also accept ceramic fibre tape of required thickness instead of silicone gasket.	Any proven materials that meet the prescribed fire rating or above can be considered subject to NONO from Engineer/Employer.	No
23	Part 2 / Section VII / Sub-Section B / TVS Works / Damper and Damper Actuators / Products and Materials - General Requirement	3.4.8.3	All screws, bolts, nuts, washers, expansion anchors, and/or other hardware required to complete the installation shall be fabricated of SS 316L; and all intermediate supports, framing members, and hardware required for assembly/installation of the damper shall be fabricated of stainless steel AISI 316 L. All mounting members needed to install each damper in its respective opening shall be furnished and installed by the Contractor.	Kindly accept fixings, nut, washer & set screws in SS316 instead of SS316L.	Tender Condition Prevails.	No
24	Part 2 / Section VII / Sub-Section B / TVS Works / Damper and Damper Actuators / Products and Materials - General Requirement	3.4.8.7	The damper frames and other components made of steel shall be of stainless steel AISI 316L and shall not be painted.	Kindly note that only blade and damper frame are from SS316L. Other components shall be from SS316. Joining angle shall also be of SS316.	Tender Condition Prevails.	No
25	Part 2 / Section VII / Sub-Section B / TVS Works / Damper and Damper Actuators / Products and Materials - General Requirement	3.4.8.9	Screens mounted on damper module frame shall be one-inch mesh No. 10 U.S.S. gauge stainless steel SS316L wire.	Kindly allow SS316 wire mesh instead of SS316L.	Tender Condition Prevails.	No

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26	Part 2 / Section VII / Sub-Section B / TVS Works / Damper and Damper Actuators / Products and Materials - General Requirement	3.4.8.11	Damper operator (Actuators) mounting brackets shall be fabricated of not less than 6mm thick stainless steel Type 316L and shall be bolted to the mounting surface.	Kindly allow SS 316 mounting brackets instead of SS 316L.	Tender Condition Prevails.	No
27	Part 2 / Section VII / Sub-Section B / TVS Works / Damper and Damper Actuators / Actuators	3.4.10.6	Tunnel ventilation system damper actuators whereby fail-safe position is specified by the Employer’s Drawings shall be furnished with spring-return devices capable of driving the dampers to their fail-safe positions within a period of 10 seconds after the actuators are fail-safe	Kindly allow a period of 15-30 seconds for the dampers to return to their fail-safe position depending upon the torque.	Refer Addendum - 01.	Yes
28	Part 2 / Section VII / Sub-Section B / TVS Works / Damper and Damper Actuators / Damper Installation at Site	3.5.7	The Connection between two modules shall be used minimum 3mm thickness stainless steel grade 316L channel.	Kindly allow SS 316 connection instead of SS 316L.	Tender Condition Prevails.	No
29	Part 2 / Section VII / Sub-Section B / TVS Works / Sound Attenuators	5.3.2	The sound attenuators shall be classified as non-combustible in accordance with ISO 1182 or ASTM E84 Class A. The sound attenuators for TVFs and OTEFs shall be designed to withstand an airstream of 250°C for a minimum of 2 hour and maintain structural integrity and air tightness. Entire Sound Attenuator should be fire rated for 250 degC for the period of 2 hours as per BS 476 Part 24. Valid test certificate from the accredited laboratory should be provided for the fire rated sound attenuators.	Kindly allow equivalent standard as recommended by manufacturer.	Tender Condition Prevails.	No
30	Part 2 / Section VII / Sub-Section B / TVS Works / Sound Attenuators	5.3.11	All nuts, bolts and similar items shall be made of SS 304L.	Kindly accept nuts, bolts and similar items of SS304 instead of SS304L.	Tender Condition Prevails.	No
31	Part 2 / Section VII / Sub-Section B / TVS Works / OTE Sliding Plate Dampers	6.4	All nuts, bolts and similar items shall be made of SS 304L.	Kindly accept nuts, bolts and similar items of SS304 instead of SS304L.	Tender Condition Prevails.	No
32	Part 2 / Section VII / Sub-Section B / TVS Works / OTE Sliding Plate Dampers	6.5	Stainless steel grade 304L bird Mesh shall be provided.	Kindly accept SS304 bird Mesh instead of SS304L	Tender Condition Prevails.	No
33	Part 2 / Section VII / Sub-Section B / TVS Works / Arrangements and Supports	7.2.7	Structural support shall be provided for installation of Cone by the contractor. All support structure shall be made of Mild Steel with Hot dip Galvanised Coating with minimum 70Micron thickness. All nuts, bolts and similar items shall be made of SS 304L.	Kindly allow nuts, bolts and similar items to be of SS 304 instead of SS 304L.	Tender Condition Prevails.	No
34	Part 2 / Section VII / Sub-Section B / TVS Works / Nozzle Details	8.2.2	Lifting lug, Parting flange, flow straightener, Top/bottom sheet, side sheet, jointing sheet, End flange shall be made up of SS-316. Stiffeners shall be used as necessary to prevent deformation of the nozzles due to high pressure airflows.	As per clause 8.1.2 Nozzles shall be of 2.5 mm thick SS304 sheets, whereas, in clause 8.2.2 SS 316 is mentioned. Kindly clarify the MOC of Nozzle.	Refer Addendum - 01.	Yes
35	Part 2 / Section VII / Sub-Section B / TVS Works / Nozzle Details	8.2.4	The equipment designed, manufactured and installed so as to achieve a service life of 30 years. The Contractor shall submit the life certificate.	Nozzle being a non-rotating item, its life depends on servicability, surrounding atmosphere and operating parameters.	Tender Condition Prevails.	No
36	Part 2 / Section VII / Sub-Section C / VAC Works /Air Handling Units	4.3	Product Certification with Reference Standard	Kindly allow equivalent standard as recommended by manufacturer.	Tender Condition Prevails.	No
37	Part 2 / Section VII / Sub-Section C / VAC Works /VAC Fans / Technical Requirement / General Description	5.5.1.d	Motor speed shall not exceed 1500 rpm.	Kindly allow motor speed as per manufacturer's selection.	Tender Condition Prevails.	No
38	Part 2 / Section VII / Sub-Section C / VAC Works /VAC Fans / Technical Requirement / Vane Axial Flow Fans & Mixed Flow Fan	5.2.2.1.c	Vane Axial fan and Mixed flow axial fan shall have Minimum 72% fan total efficiency or fans shall be selected with an AMCA high-energy efficiency classifications fan whichever is higher	Kindly allow efficiency as per fan manufacturer's most efficient fan selection.	This can be reviewed during Design Verification and Validation stage.	No
39	Part 2 / Section VII / Sub-Section C / VAC Works / Acoustic Treatment and Sound Attenuator	10.3.1.e	The splitter-type sound attenuator shall be rectangular in section with flanges on both ends. Outer casing shall be made of a minimum 1.2 mm thick galvanised steel with 275GSM while the internal partition shall be made of not less than 0.8mm thick perforated stainless steel (SS-304L).	Kindly allow internal partition to be of SS304 instead of SS304L.	Tender Condition Prevails.	No

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40	Part 2 / Section VII / Sub-Section D	2.2	2.2. Manufacturer Eligibility criteria 2.2.3. The contractor shall have valid type test certificate from accredited testing body of VDE/ ASTA/ASEFA/ KEMA/DEKRA or type test reports by an accredited testing body such CPRI/ERDA or any other NABL accredited testing laboratory according to the required panel rating, The valid certificate shall be submitted to obtain NONO from Employer/Engineer.	We understand that OEM / License partner / Vendor shall have valid type test certificate from.....Kindly confirm.	Refer Addendum - 01.	Yes
41	Part 2 / Section VII / Sub-Section D	2.3	2.3.10. The circuit breakers shall be used to protect the main circuits against short circuits and earth faults.	In line with clause 2.4.6 all breakers wherever specifically mentioned in the BOQ for Earth fault protection; shall be with a separate earth fault module. Kindly confirm.	Tender Condition Prevails.	No
	Part 2 / Section VII / Sub-Section D	2.4	2.4.6. The distribution boards shall consist of MCCB as incomer and required number of MPCBs/MCB with earth fault module as the outgoing.		Tender Condition Prevails.	No
42	Part 2 / Section VII / Sub-Section D	2.6	2.6. Busbars 2.6.2. Busbars shall be made of tinned electrolytic grade hard drawn high conductivity copper with purity of 99% complies with latest standard of BS EN 13601:2021.	We request to accept Busbars tinned electrolytic grade / bare copper / sleeved copper / etc.. as per type tested design of the OEM / license partner.	Tender Condition Prevails.	No
43	Part 2 / Section VII / Sub-Section D	2.6	2.6. Busbars 2.6.6. Bus bars shall arrange throughout the panel, air insulated and equipped with heat shrinkable insulation sleeves at all busbars non-contact points.		Tender Condition Prevails.	No
44	Part 2 / Section VII / Sub-Section D	2.6	2.6. Busbars 2.6.3. Bus bar material shall have current density of minimum 1Amps per sq.mm and temperature rise limitations that adhere to IEC 61439- 1&6 standard and necessary calculations shall be obtained NONO from the Employer/Engineer.	OEM / License partners have type tested assemblies with busbar sizing as per IEC 61439. Hence minimum current density of 1 Amps per sq.mm may not be applicable. Kindly confirm.	Tender Condition Prevails.	No
45	Part 2 / Section VII / Sub-Section D	2.6	2.6. Busbars 2.6.9. All bolted (Punched) bus joints shall be silver plated, or tin plated, and all joints shall be securely tightened for each size of hardware.	Kindly allow busbars holes be either drilled / punched as requirement of punched hole / double split cast brass clamps shall create monopoly of particular OEM / License partner thereby leading to abnormal increase in cost.	Tender Condition Prevails.	No
46	Part 2 / Section VII / Sub-Section D	2.6	2.6. Busbars 2.6.10. The connection between buses and terminal pads shall made using high tension class, stainless steel SS304 bolt, nut and washer. and the electrical compound paint shall be sprayed at contact point between buses and terminal pad.	Requesting to accept Bolt, nut washer shall be GI / SS / etc.. as per the type tested design of OEM / License partner.	Tender Condition Prevails.	No
47	Part 2 / Section VII / Sub-Section D	2.6	2.6. Busbars 2.6.11. Busbar supports shall be properly segregated,.....The busbar supports shall be supplied from the OEM or OEM authorized vendor.	Kindly accept Bus bar supports of reputed make with proven track record / as per the type tested design of OEM / License partner.	Tender Condition prevails. All the products shall be on the basis of technical compliance and NONO from Employer/Engineer.	No
48	Part 2 / Section VII / Sub-Section D	2.9	2.9.2. Multifunctional meter b) The sampling rate of the MFM shall be at least 64 samples per cycles along with monitoring individual harmonic up to 31st. and Accuracy classes of 0.2s (Voltage, Current, Power Factor, frequency, active power) and 0.5s for reactive energy.	Accuracy class (Clause 2.9.1 d) of Kilowatt Hour Meters (kWh) is 0.5s for active energy parameters measurement whereas; for Multifunction meter its is 0.2s. We request to accept 0.5s accuracy class for unision acrosss all measuring instruments.	Tender Condition Prevails.	No
49	Part 2 / Section VII / Sub-Section D	2.9	2.9.3. Instrument Transformers c) The current transformer shall not be employed as both a protective device and instrument, And Accuracy Class of the current transformers for tariff metering shall be 0.5 and panels indicating instruments shall be 1.0.	Accuracy class of current transformer shall be same as that of indicating / measuring instruments. Kindly confirm.	Tender Condition Prevails.	No
50	Part 2 / Section VII / Sub-Section D	2.12.	d) Lamps shall be well ventilated, and the design shall permit replacement of lamp lens and bulbs from the front of the unit. and the Ingress protection of IP 65.	In LED indicating lamp replacement of lamp lens and bulbs shall not be possible. Whole unit may be replaced.	Tender Condition Prevails.	No
51	Part 2 / Section VII / Sub-Section D	2.14	2.14. Mimic panels/Mimic stickers. a) Mimic panels shall be provided for all damper panels and requirements shall comply with IS11954:1987.Mimic diagram/stickers shall be provided for all main TVS, and VAC panels, the details shall obtain NONO from Employer/Engineer.	As per clause 2.14.a) Mimic diagram/stickers are required for all main TVS, and VAC panels. All these panels are 'Smart Panels' with HMI. Hence, mimic diagram / stickers may not be required. As per clause 2.14.a) Mimic panels shall be provided for all damper panels (and OTEF Panel as per BOQ). All incoming and outgoing breakers are with ON, OFF & TRIP indication lamp; so any fault is easily visible to operator. Hence, Mimic panel may not be required.	Tender Condition Prevails.	No

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52	Part 2 / Section VII / Sub-Section D	2.16	2.16.1. General e) The short-circuit capacity shall be ICU=ICS=ICW=100% and ICW value shall be declared for 50kA/ 1 sec and circuit breakers are of utilisation category B.	We observe that the ACB in BOQ are 25kA, 36kA and 50kA. Kindly confirm requirement.	Refer Addendum - 01.	Yes
53	Part 2 / Section VII / Sub-Section D	2.17	2.17.2. MCCBs shall meet the following requirements: d. The breaker selection based on ambient of 50 Degrees Celsius and the utilization category shall be A and B appropriate.	As utilization category shall not be A and B (both). We request to accept category A which suits the application. The clause may be modified for clarity as "d. The breaker selection based on ambient of 50 Degrees Celsius and the utilization category shall be A and OR B as appropriate.	Refer Addendum - 01.	Yes
54	Part 2 / Section VII / Sub-Section D	2.17	2.17.2. MCCBs shall meet the following requirements: g. All incomer MCCB’s shall have front adjustable electronic/microprocessor-based releases with LCD/LED display and RS 485/Ethernet communication, adjustment in the range of 40 – 100% for nominal overloads and 2 – 10 times of rated current for short circuit faults. MCCB’s shall have releases with earth Fault Protection features, wherever and as indicated in Bill of quantities /SLD.	All breakers in the panel shall be with interlocking. Without switching off the breaker; the panel door shall not open. Hence, LCD/LED display shall not be visible / accessible. There is a substantial increase in cost if LCD / LED display is added to MCCB. We request to accept MCCB without LCD / LED display.	Tender Condition Prevails.	No
55	Part 2 / Section VII / Sub-Section D	2.17	2.17.2. MCCBs shall meet the following requirements: g. All incomer MCCB’sMCCB’s shall have releases with earth Fault Protection features, wherever and as indicated in Bill of quantities /SLD. as per the NFPA standards.	Kindly confirm that the Earth fault protection can be thru a separate module. A separate Earth fault protection module shall not affect the functionality.	Tender Condition Prevails. MCCB with in-Built Earth Fault Features	No
56	Part 2 / Section VII / Sub-Section D	2.17	2.17.2. MCCBs shall meet the following requirements: g. All incomer MCCB’sAll incomer and outgoing ACB / MCCB’s in the essential panels shall not be required to have earth fault protection of equipment with automatic disconnecting system as per the NFPA standards.	We observe that all incomers in essential panels are with earth fault protection. Please clarify.	Refer Addendum - 01.	Yes
57	Part 2 / Section VII / Sub-Section D	2.17	2.17.2. MCCBs shall meet the following requirements: i. Clear indication of type of fault when tripped shall be indicated for all MCCB’s. (Only applicable for Microprocessor based MCCB through LCD/LED display)	MCCB LCD / LED display shall be with MCCB inside the panel. Display shall not be visible outside the panel. We request to accept MCCB without display.	Tender Condition Prevails.	No
	Part 2 / Section VII / Sub-Section D	2.26	2.26.6. Each panel shall be provided with rubber mats of ribbed surface complying with the BS EN61111:2009 or equivalent Indian standards to laid in front or rear side of the switch boards.	Kindly confirm that Rubber / Insulating mat shall be paid separately in BOQ item No. 6.1 (Sr. No. 571).	Yes, please refer to BOQ.	Yes
58	Part 2 / Section VII / Sub-Section D	2.26	2.26.18. Rubber Mats shall be laid in front and at the rear side of each panels with ribbed surface, The rubber mat thickness shall be suitable to voltage rating and complying to IS15652:2006 latest standard, each of same length as the switchboard and min. width of not less than 1m or the width of the space between the front or back of the switchboard to the adjacent wall.		Yes, please refer to BOQ.	Yes
59	Part 2 / Section VII / Sub-Section D	2.27	2.27.3. Field Testing The panels shall be field inspected and tested after installations, feeders are terminated, and the room is secure. Testing shall be conducted by third party on the following items, not more than 4 weeks before equipment is energized.	Kindly confirm that if the contractor can comply to experience for testing and commissioning as per clause 2.27.3. Field testing can be done by contractor themselves in co-ordination with OEM / License partner.	Tender Condition Prevails.	No
60	Part 2 / Section VII / Sub-Section D	2.28	2.28.1. Smart panels c) The panels shall be complete with an industrial grade managed Ethernet switch with required no of ports for the internal star network and at least 2 ports available for connection with external ethernet ring network for ISMS.	Kindly confirm that an Un-manged switch can be provided instead of manged Ethernet switch without affecting the functionality.	Tender Condition Prevails.	No
61	Part 2 / Section VII / Sub-Section D	2.28	2.28.1. Smart panels f) Free software for comprehensive project life cycle operation, control and monitoring, testing, commissioning, and maintenance shall be provided.	Software can be provided for a limited period. Kindly confirm no. of years.	Minimum 10 years from the date of commissioning.	No
62	Part 2 / Section VII / Sub-Section D	2.28	e) In the case of MCCB connectivity, its recommended not to exceed 8 Modbus slaves for one Modbus master, This will ensure a better response time. However, energy meters shall be separately connected to Modbus server. All Ethernet communications interfaces shall be compliant to device profile web service (DPWS) for discovery on the local area network (LAN)	As per clause 2.28.e) Kindly confirm that outgoing MCCB (not more than 8 Nos.) shall be connected by 1 Nos. starlink thru RS 485 and eventually connect to the Ethernet switch.	This may be discussed at the time of Design Verification and Validation.	No
63	Part 2 / Section VII / Sub-Section D	2.28	2.28.1. Smart panels h) Unless otherwise specified,..... I/C: ACB/MCCB - Ethernet (onboard)	As per clause 2.16.1.m).i. All ACB shall be communicate through Ethernet (TCP/IP)/RS 485 port. As per table in clause 2.28.1.h) I/C: ACB/MCCB shall have Ethernet (onboard). We request to accept ACB / MCCB with separate module for Ethernet communication or communication thru RS 485 converted and connected to Ethernet switch in compliance to clause 2.28.1.e).	Tender Condition Prevails.	No
64	Part 2 / Section VII / Sub-Section D	3.2	3.2. Manufacturer eligibility criteria. 3.2.4. The cables shall be manufactured in an established factory with inhouse NABL accredited lab setup have certification of Quality management system (ISO 9001) & (ISO 14001) Environmental management system. The valid certificate shall be submitted to obtain NONO from Employer/Engineer.	All eligible cable manufacturers may not have inhouse NABL accredited lab setup. Hence we request that manufacturer can test cable at third party lab (NABL accredited) on request if they don’t have in house NABL accredited lab setup.	Refer Addendum - 01.	Yes
65	Part 2 / Section VII / Sub-Section D	3.4	3.4.2. Conductors a) All fire survival cables shall have at least three layer of Glass mica tapes (2 layers over the conductor and 1 layer over the insulation), with at least 25% overlap of individual tapes and thickness of Glass mica tape shall not be less than 0.1 mm(100Micron)	As per BS 7846; Glass mica tapes is two (2) layered. We request you to accept cables as per BS 7846.	Tender Condition Prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
66	Part 2 / Section VII / Sub-Section D	3.4	3.4.6. Armouring b) Above the armour heat separator tape shall be provided with minimum 2 layer of 100 microns for fire survival cables (preferably Fibre Glass Tape) and suitable binder tape of 100 microns for non-Fire survival cables.	Heat separator tape may not be required over armour for fire survival cables. We request you to accept cables as per BS 7846.	Tender Condition Prevails.	No
67	Part 2 / Section VII / Sub-Section D	4.1	4.1.2. General requirements c) Hot dipped galvanized cable trays and supports used within damp environment shall be protected with an approved coating. All cable tray sizes 450mm and above shall be heavy-duty with return flange. All cable tray below 450mm shall be standard configuration.	Kindly confirm that BOQ item No. 8.1- Perforated type cable tray (450mm and above) shall be with return flange as per clause 4.1.2.c.	Yes, Tender Condition Prevails.	No
68	Part 2 / Section VII / Sub-Section D	4.1	4.1.2. General requirements g) Cable tray for SCADA works: Cable tray shall be perforated full wrap around type not less than 1.5mm thickness mild steel hot dip galvanised finish, All the cable trays shall be of heavy duty with return flange type.	All other trays (Price centre E) are 2 mm thick and 450 mm and above are with return flange. SCADA trays are 1.6 mm thick and all sizes with return flange. We request to make necessar changes / modification so that all trays are of same thickness and with or without return flange to manage, order and install inventory efficiently.	Tender Condition Prevails.	No
69	Part 2 / Section VII / Sub-Section D	4.2	4.2.2. Technical requirements of Rigid galvanic conduits. b) These shall be galvanized steel with minimum wall thickness of 1.6mm up to 32mm dia. and 2.0mm for sizes above 32mm dia., electric resistance welded (ERW), electric threaded type, with both ends screwed having perfectly circular tubing	Conduit thickness shall be as per tolerance mentioned in IS 9537. Kindly confirm.	Tender Condition Prevails.	No
70	Part 2 / Section VII / Sub-Section D	4.2	4.2.4. Modular Switch & Socket Outlets a) Modular Switch and socket outlets for 240V AC supplies shall be 6A and 16A universal pin, 3 pin simplex type shutter protected pin pattern complete with single pole switch and shall comply with IEC 60884-1 or equivalent. 6/16A sockets shall be connected in the form of ring circuits.	BOQ Sr. No. 13.1 to 13.8 outlet point are for non-essential loads; hence ring circuit may not be required. Normally in UG stn ring circuits are only used for tunnel light / power points. Kindly confirm requirement.	Tender Condition Prevails.	No
71	Part 2 / Section VII / Sub-Section D	5.5	5.5. Service conditions e) VSD shall be rated for IP 54 with either by standalone enclosure or panel enclosure.	We understand that VSD unit can be IP2x / IP1x / etc.. and standalone enclosure or panel enclosure housing the VSD shall be IP54 rated. Kindly confirm. Installing an IP54 VSD in standalone enclosure or panel enclosure rated IP54 doubles the enclosure size and makes the installation prone to heat dissipation issues.	Tender Condition Prevails.	No
72	Part 2 / Section VII / Sub-Section D	6.3	6.3.3. Physical Specifications c) The integrated starter must be enclosed up to IP54 with standalone enclosure or panel enclosure.	We understand thatsoft starter can be IP2x / IP1x / etc.. and standalone enclosure or panel enclosure housing the soft starter shall be IP54 rated. Kindly confirm. Installing an IP54 soft starter in standalone enclosure or panel enclosure rated IP54 doubles the enclosure size and makes the installation prone to heat dissipation issues.	Tender Condition Prevails.	No
73	Part 2 / Section VII / Sub-Section E / ISMS / Scope Works	2.14	Scada system shall analyze data & give the report for asset Management, Inventory Management, Energy Management, Condition base Monitoring & Generate Statics Reports on the type of Component & equipment Failure in the station.	We understand that asset healthiness data will be provided by field equipment/devices. We understand energy data will be communicated by suitable devices on open protocol. We understand ERP integration will be available for inventory management.	Yes, Tender Condition Prevails.	No
74	Part 2 / Section VII / Sub-Section E / ISMS / Scope Works	2.19.2	Data Transfer Between OCC&BOCC SCADA System and Station SCADA System via Communication Backbone Network	We understand that Backbone Network will be provided by signaling and Telecom vendor	Tender Condition Prevails. Communication Backbone Network shall be provided by System wide contractor as per Part 2 Appendix 2.	No
75	Part 2 / Section VII / Sub-Section E	3	3. Selection criteria for ISMS SCADA contractor 3.1.3 All the works under the ISMS SCADA System shall be carried out by the ISMS SCADA Contractor till completion of DLP & CAMC.	ISMS SCADA shall be executed by ISMS SCADA Contractor but DLP & CAMC may be executed by the contractor / SCADA contractor. Kindly confirm.	Tender Condition Prevails.	No
76	Part 2 / Section VII / Sub-Section E / SCADA / Programmable Logic Controller (SIL-2PLC)	4.1.1	PLCs shall be supplied by a manufacturer of international reputre with a proven track record of similar installation application and sil level minimum to SIL-2 with Primary & Secondary Geographically separated hot standby arrangement as per IEC 61508:2010/latest version to meet the system architecture requirement of the station ISMS system.	We are providing SIL -2 System which complies to railway standard.	Tender Condition Prevails.	No
77	Part 2 / Section VII / Sub-Section E / SCADA Software	4.2.10	Changes to the configuration possible during operation early detection of faults and integrated diagnostics options.	Kindly Explain the requirement of Early detection of fault feature	The PLC Modules shall have the following Early detection faults features, Self test at Module start-up, Continuous built-in runtime self-test, Module & Channel Diagnostics, Communication status and overall system health etc.	No
78	Part 2 / Section VII / Sub-Section E / SCADA Software	4.1.17	All the PLC Components (CPU, IO Modules,etc).Ethernet Switches, Powersupplies, (Both Bulk & rack Power Supply etc shall be conformal coated.	Kindly reconfirm the requirement of Conformal coating for Ethernet Switches, and Non SIL IO Modules as the same is not mentioned in the detailed Specification.	Tender Condition Prevails. Conformal Coating to be considered for all CPU, IO Modules (SIL and Non-SIL), Power Supply (Bulk and Rack Power Supply) and Ethernet Switches.	No
79	Part 2 / Section VII / Sub-Section E / SCADA Software	5.1.4	Server shall have Active Directory Services which shall help to hardening the Workstations and Services, patch Management,Window Management, , Firewall Management, and Active Management of the entire ISMS SCADA System.	Kindly Elaborate the Hardening Requirement.	Tender Condition Prevails. Server shall have Active Directory Services to comply the requirement.	No
80	Part 2 / Section VII / Sub-Section E / SCADA Software	5.11.1.12	Should Support Pover Over Ethenet (POE,IEEE 802.3af) and Operating Temperature	Kindly Confirm the Number of POE Ports with Combination required for each Switch. And the Operating Temperature requirement	Refer Addendum - 01.	Yes

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
81	Part 2 / Section VII / Sub-Section E / SCADA Software	5.11.1.13	Layer 3 Switch shall have IP Version 6 (IPv6).	Kindly confirm the requirement of IPV6 Compliance in Layer 3 Switch	Tender Condition Prevails.	No
82	Part 2 / Section VII / Sub-Section E	5.14	5.14 CCTV Camera CCTV Cameras shall be provided in TVS & VAC Panel rooms for live monitoring. It should be integrated with the SCADA System.	CCTV is a separate package; hence contractors responsibility shall be limited to CCTV integration with the SCADA system. CCTV supply and installtion shall be by other contractor. Kindly confirm.	Tender Condition Prevails. CCTV Cameras mentioned in BOQ shall be in the scope of TVS/VAC Contractor.	No
83	Part 2 / Section VII / Sub-Section E / SCADA Software	5.14	CCTV Camera: Operating Environment	Operating Temperature of CCTV from Major OEM Products shall be :65 Deg. Request you to kindly accept the same.	Refer Addendum - 01.	Yes
84	Part 2 / Section VII / Sub-Section E	5.15	5.15 Office Chair Office chairs shall have adjustable arms and adjustable headrests. Chairs shall have fabric upholstered cushion seat	Furniture is a separate package; hence providing chair shall be by other contractor. Kindly confirm.	Tender Condition Prevails. Office Chairs mentioned in BOQ shall be in the scope of TVS/VAC Contractor.	No
85	Part 2 / Section VII / Sub-Section E / SCADA Software	5.16.17	All the PLC Components (CPU, IO Modules,etc).Ethernet Switches, Powersupplies, (Both Bulk & rack Power Supply etc shall be conformal coated.	Kindly reconfirm the requirement of Conformal coating for SMPS, As the same is not mentioned in the Detailed Specification of SMPS.	Tender Condition Prevails. Conformal Coating to be considered for all CPU, IO Modules (SIL and Non-SIL), Power Supply (Bulk and Rack Power Supply) and Ethernet Switches.	No
86	Part 2 / Section VII / Sub-Section E / SCADA Software	6.2.18	The SCADA shall support superior fault tolerance; shall be configured for high availability architecture to operate in a redundant hot standby configuration. To achieve this level of reliability, there shall be two servers: one is dedicated as the primary server and the other acts as the standby server. If the primary server encounters a problem/failure, the standby server automatically assumes Control and reconnects controllers and clients within 5 seconds without loss of data minimized to this period.	We understand this server configuration required at OCC/BOCC Level only	Yes, Tender Condition Prevails.	No
87	Part 2 / Section VII / Sub-Section E / SCADA Software	6.2.18	The historian shall be Provided for monitoring of historical data and storge capacity for at least 5 - Year period	As per OCC/BOCC architecture there is no separate historian station, so historian license will be loaded in main primary/backup server only	Refer Addendum - 01.	Yes
88	Part 2 / Section VII / Sub-Section E / SCADA Software	6.2.23	Historian Server	Historian Server is not Included in the BOM. Kindly Confirm the requirement.	Refer Addendum - 01.	Yes
89	Part 2 / Section VII / Sub-Section E / SCADA Software	6.5.10	HMI Degree of protection :Minimum IP 65	The Degree of protection of HMI Display from Major OEM shall be: IP 65 for Front Panel & IP 20 for Rear Panel., Request you to kindly accept the same.	Refer Addendum - 01.	Yes
90	Part 2 / Section VII / Sub-Section E / SCADA Software	6.5.10	HMI Operating Conditions : Maximum up to 70 Deg C and 0-95% Rh	Operating Temperature of HMI from Major OEM Products shall be : 50 Deg, Request you to kindly accept the same.	Refer Addendum - 01.	Yes
91	Part 2 / Section VII / Sub-Section E / ISMS Works / Sensor Requirements	7.10.2	Switch shall have SS316L wetted parts for flameproof switches, proof pressure of 10 bar, and burst pressure of 20 bar Minimum.	Kindly allow SS316 wetted parts instead of SS316L.	Tender Condition Prevails.	No
92	Part 2 / Section VII / Sub-Section E / ISMS Works / Sensor Requirements	7.11.2	Level sensor shall have SS316L wetted parts for flame proof transmitter, proof pressure of 10 bar & burst pressure of 20 bar minimum. The accuracy shall be ±0.25% or better. The total error band shall be ±0.5% or better	Kindly allow SS316 wetted parts instead of SS316L.	Tender Condition Prevails.	No
93	Part 2 / Section VII / Sub-Section E / SCADA Software	8.3.5	There shall be aonther shielding of Annealed bare Copper Braid.The Copper Braid shielding shall have minimum 85 % coverage.The Annealed copper Braid shall be atleast 0.15 mm thickness .	Kindly reconfirm the requirement of Copper Braided cables (Non FS & Signal Cables).	Tender Condition Prevails.	No
94	Part 2 / Section VII / Sub-Section E / SCADA Software	15.2.5	Spare Management	Kindly Provide the List of Spares to be Maintained for Uniformity	Tender Condition Prevails. Kindly Refer Part II, Chapter 20	No
95	Part 2 / Section VII / Sub-Section E / SCADA Software	15.3	Supply and Installation of Hardwares	Kindly Reconfirm the requirement of Industrial Grade Tablet with Internet Connectivity for O&M Staff- 11 Tablets,Firewall. Etc for Web and Mobile App, as the same is not detailed in the BOQ	Tender Condition Prevails. Kindly refer the Bill of Quantities in Price Centre A (General Requirement)	No
96	Part 2 / Section VIII / Employer's Drawings / 05 - TVS &VAC ISMS IO List	Page 267-288	In Page No: '267-288-Mentioned as Light House Secondary PLC(Instead of Boat Club Secondary PLC IO's).	Boat Club Secondary PLC IO List seems to be mentioned as Light House Station Secondary PLC in Page No 267 to 288 of detailed IO List, As the Light House Secondary PLC IO's are different and already mentioned in Pg No:13 to 19. Kindly confirm.	Refer Addendum - 01.	Yes
97	Part 2 / Section VIII / Employer's Drawings / 05 - TVS &VAC ISMS IO List	Page 1-468	Soft IO Type- RS- 485. Ethenet. But as per the Technical Specification (Part 2 / Section VII / Sub-section E) Clause, 4.2.8, it is mentioned as the PLC Processor ability to receive and map signals from third party system over Modbus RS-485 Protocol, BACnet, Modbus TCP I/P and Profinet.	As per the IO List the Soft IO's are only Modbus RS-485 / TCP I/P. Kindly reconfirm to select the required Communication Modules/Gateway Modues.	The PLC shall be compatible as per Clause 4.2.8.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
98	Part 3 / Section IX	14.9	When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price.	We request you to accept Bank Guarantee of equivalent amount at the onset of the project. In lieu of this we request not to retain payments from our IPC's.	Tender Condition Prevails.	No
99	Part 3 / Section X / Particular Conditions / Part-B: Specific Provisions	16	1.5 Priority of Documents	Please re-confirm priority of documents as it specifies Employer's requirements supersedes Bill of Quantity, but there is discrepancy between specifications, drawings and BOQ.	Refer Addendum - 01.	Yes
100	Part 3 / Section X	52	Individual BOQ items can be varied to any extent till the overall variation is within +/- 25% of the contract price. I. Only when the variation exceeds +/- 25% of the overall contract price, the rates for excess/additional quantities of all the items which caused such variation shall be arrived as per below A. II. when the variation considered is a Non BOQ item, the rates for such quantities of all the items which caused such variation shall be arrived as per below A.	We request you to accept new rate or price shall be applicable if quantity variation of any item varies beyond +/- 25% of BOQ quantity.	Tender Condition Prevails.	No
101	BOQ - Price centre E	BOQ Item No. 3	3- LV Switchboards / MCC's / Distribution Boards	A single unit / set as a whole comprising of all breakers, meters, spares, other items etc. can be quoted for each particular panel. We observe that in BOQ unit rate of each and every components of panel is to be quoted. OEM / Licensed partners / vendor are reluctant to offer price break-up of panel component wise as sought in the BOQ. Hence, request you to accept a unit rate of panel as a whole instead of price for each and every components.	Tender Condition Prevails.	No
102	BOQ - Price centre E	BOQ Item No. 3	3- LV Switchboards / MCC's / Distribution Boards	On comparing BOQ and drawings we observe that breaker ratings, breaking capacity, VFD rating, type of breaker (MCCB / MPCB), Busbar breaking capacity, spares, qty of outgoing breakers, etc. are not matching.	Refer Addendum - 01.	Yes
				In BOQ we observe that busbar breaking capacity rating is not matching with incomer (eg. BOQ item no. 3.4, 3.8 etc.). Similarly, different breaking capacities are used in same panel.	Refer Addendum - 01.	Yes
				As per BOQ, Breaking capacity of RCBO, MCB are 25kA and as per specification breaking capacities are 10kA and 30/100/300 mA (eg. BOQ item no. 3.9, etc.).. Kindly confirm requirement.	Refer Addendum - 01.	Yes
				We observe mismatch / discrepancies in BOQ panel description when comapred with drawings. Kindly confirm whether BOQ or drawings to be followed and shall prevail over the other.	Refer Addendum - 01.	Yes
103	BOQ - Price centre E	BOQ Item No. 3.1.1	3.1.1- Incomer: 1) Motorized MCCB of 320A,4P,415V and 25kA. Having microprocessor based trip unit with adjustable over load, adjustable short circuit and adjustable earth fault with LCD/LED display and provision for remote tripping, Start/stop push button for MCCB	All breakers in the panel shall be with interlocking. Without switching off the breaker; the panel door shall not open. Hence, LCD/LED display shall not be visible / accessible. There is a substantial increase in cost if LCD / LED display is added to MCCB. We request to accept MCCB without LCD / LED display.	Tender Condition Prevails.	No
104	BOQ - Price centre E	BOQ Item No. 3.1.1.	2) Surge protection device (SPD) Type-II with inbuilt fuse suitable to withstand required short circuit current	We request to accept SPD with external fuse.	Tender Condition Prevails.	No
105	BOQ - Price centre E	BOQ Item No. 3.1.5	3.1.5- 100A,TPN MCCB, 415V,25kA with suitable space provision for 44kW VFD unit with bypass Starter (Soft Starter)and 3 no's of 32A TP MCCB for AHU, .Having Thermal magnetic trip unit with adjustable protection against over load, short circuit. And LED indication lamps for ON,OFF,TRIP and Start/stop,Emergency stop push buttons.	Kindly confirm on the following: 1) Space provision shall be for both VFD and soft starter. 2) Kindly confirm whether only space provision for xxx no's of 32A TP MCCB to be considered. 3) As breakers are described in similar fashion in all the other panels; your clarification on above Sr. No. 1 & 2 shall be applicable to all other panels.	Refer Addendum - 01.	Yes
		BOQ Item No. 3.1.6	3.1.6- 63A,TPN MCCB, 415V,25kA with suitable space provision for 30kW VFD unit with bypass Starter (Soft Starter)and 2 no's of 32A TP MCCB for AHU, .Having Thermal magnetic trip unit with adjustable protection against over load, short circuit. And LED indication lamps for ON,OFF,TRIP and Start/stop,Emergency stop push buttons.		Refer Addendum - 01.	Yes
106	BOQ - Price centre E	BOQ Item No. 3.1.13	Spare 3.1.13- 100A,TPN MCCB, 415V, 25kA. Having Thermal magnetic trip unit with adjustable protection against over load, short circuit, earth fault. And LED indication lamps for ON,OFF,TRIP.	All outgoing MCCB in panel are without earth fault protection. Hence, spare MCCB's with earth	Refer Addendum - 01.	Yes
		BOQ Item No. 3.1.14	3.1.14- 63A,TPN, MCCB, 415V, 25kA. Having Thermal magnetic trip unit with adjustable protection against over load, short circuit, earth fault. And LED indication lamps for ON,OFF,TRIP.		Refer Addendum - 01.	Yes

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
100	BOQ - Price centre E	BOQ Item No. 3.1.15	3.1.15- 32A,4P MCCB, 415V, 25kA. Having Thermal magnetic trip unit with adjustable protection against over load, short circuit, earth fault. And LED indication lamps for ON,OFF,TRIP.	fault protection may not be required. Kindly confirm.	Refer Addendum - 01.	Yes
		BOQ Item No. 3.1.16	3.1.16- 16A,TP, MPCB, 415V, 25kA. Having Thermal magnetic trip unit with adjustable protection against over load, short circuit, earth fault. And LED indication lamps for ON,OFF,TRIP.		Refer Addendum - 01.	Yes
107	BOQ - Price centre E	BOQ Item No. 3.9, 3.12, 3.13, 3.16 etc..	3.9 & 3.12 Incomer: 1) 630A,4P,415V,25kA, Motorized MCCB	We observe that the incomer rating is very high as compared to BOQ item no. 3.10, 3.11, etc..	All ratings are as per the design. Please follow the BOQ.	Yes
108	BOQ - Price centre E	BOQ Item No. 3.9 to 3.16	Outgoing feeders: 32A,4P ,RCBO, 415V, 25 / 16 kA, . Having Thermal magnetic trip unit with adjustable protection against over load, short circuit, earth fault And LED indication lamps for ON,OFF,TRIP. kWh Meter shall be considered and shall be based on circuit wise (Cooling)	We request to accept MCCB instead of RCBO on account of following reasons. It shall not affect functionality and protections. 1) RCBO is not a standard product manufactured in India by Switchgear OEM's (widely used in Europe). It is imported and a long lead item. 2) RCBO shall create a monopoly of a particular make and shall abnormally influence prices. 3) The same functionality can be achieved with MCCB at a reasonable cost and shall make inventory managment easier for O&M. 4) If some of the protections are salvaged with 10kA breaking; a combination of MCB & RCCB or MPCB & RCCB / ELCB shall incur fractional cost.	Refer Addendum - 01.	Yes
109	BOQ - Price centre E	BOQ Item No. 3.9 to 3.16	Outgoing feeders: 32A,4P ,RCBO, 415V, 25 / 16 kA, . Having Thermal magnetic trip unit with adjustable protection against over load, short circuit, earth fault And LED indication lamps for ON,OFF,TRIP. kWh Meter shall be considered and shall be based on circuit wise (Cooling)	We observe that all outgoing are with kWh Meters. Total energy parameters can be accessed at incomer hence; kWh meter at every outgoing can be avoided.	Tender Condition Prevails.	No
			Spare: 32A,4P ,RCBO, 415V, 25kA, . Having Thermal magnetic trip unit with adjustable protection against over load, short circuit, earth fault And LED indication lamps for ON,OFF,TRIP. kWh Meter shall be considered and shall be based on circuit wise (Cooling)		Tender Condition Prevails.	No
110	BOQ - Price centre E	BOQ Item No. 3.12 to 3.14	Outgoing feeders: 32A,4P ,RCBO, 415V, 25 kA, Spare: 32A,4P ,RCBO, 415V, 16kA,	In panel 3.12 RCBO, spare kA rating is not matching with outgoing. In panels 3.13 & 3.14 RCBO breaking capacity is 16kA and all other VRV panels it is 25kA.	Refer Addendum - 01.	Yes
111	BOQ - Price centre E	BOQ Item No. 3.17	3.17.4- OUT GOING FEEDERS 3.17.5- 200A,TP MCCB,415V,36kA. 3.17.8- SPARE:- 3.17.9- 200A,240V,10kA,4P,MCCB, 10A Contactor along.....	Spare feeder is not matching with the outgoing (kA, contactor,..etc)	Refer Addendum - 01.	Yes
112	BOQ - Price centre E	BOQ Item No. 3.18	Outgoing feeders: 3.18.5- 630A,TP MCCB,415V,36kA. Having, 3.18.6- 32A 4P, MCCB, 415V,36kA,Having, Spare: 3.18.11- 630A 4P, MCCB, 415V,16kA, Having, 3.18.12- 32A 4P MCCB, 415V,16kA,Having,	In panel 3.18, spare kA rating and poles are not matching with outgoing.	Refer Addendum - 01.	Yes
113	BOQ - Price centre E	BOQ Item No. 3.19	Outgoing feeders: 3.22.6- 250A,TP MCCB,415V,36kA. Having, Spare: 3.22.13- 250A,TP MCCB,415V,25kA.Having,	In panel 3.19, spare kA rating is not matching with outgoing.	Refer Addendum - 01.	Yes
114	BOQ - Price centre E	BOQ Item No. 3.26	Outgoing feeders: 3.26.5- 400A,TP MCCB,415V,50kA. Having, 3.26.6- 200A,TP MCCB,415V,50kA. Having, Spare: 3.26.12- 400A,TP MCCB,415V,25kA. Having, 3.26.13- 200A,TP MCCB,415V,25kA.Having,	In panel 3.26, spare kA rating is not matching with outgoing.	Refer Addendum - 01.	Yes
115	BOQ - Price centre E	BOQ Item No. 7.1, 7.2 & 7.3	CABLES (xxxxxxx type Cable) and Termination includes gland with shrouds, lugs, necessary earthing arrangements.....	We request to provide cable termination as a separate quantified BOQ item. OR Kindly arrange to provide cable schedule panel wise so as to arrive at cable termination quantity.	Cable termination can be arrived from Electrical drawings.	Yes
116	BOQ - Price centre E	BOQ Item No. 12	12- Wiring & Accessories	Kindly confirm that BOQ item no. 12.1 to 12.17 does not include wiring as BOQ description is for various types of switches only.	Yes, Tender Condition Prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
117	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.1. v)	AHU Enclosure / Cabinet Housing: AHU casing sections shall mount on bolted base frame. The base frame shall be made of hot dip galvanized steel 5 mm thick with an 80 Micro powder coating.	We request you to accept base frame of 2 mm thick thickness, as per manufacturer's recommendation.	Tender condition prevails.	No
118	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.2. a)	Air Filters: Pre filters & Fine filters shall be provided for AHU and should meet ISO 16890, EN779 & ASHRAE 52.2 requirements to classify under particular grade The institute manufacturing the filter shall be quality management certified as per ISO 9001-2015	We request you to also accept equivalent standards	Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
119	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.2. c)	Panel type Pre-filter: ii. Filter shall be of minimum 50 mm depth with G4 rating efficiency 90%.	We request you to accept filter depth of 44 mm, as per OEM standards.	Tender condition prevails.	No
120	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.2. c)	Panel type Pre-filter: iv. The filter frame shall be of anodized aluminium extruded metal	We request you to also accept moisture resistant cardboard with fitted Aluminum frame	Tender condition prevails.	No
121	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.2 . d)	V-bank type fine filter: iii. Filter shall be of 292 mm depth with F7 rating efficiency of minimum 80%	Filter efficiency is F7 /MERV A 13A / ePM1 60%	Tender condition prevails.	No
122	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.2 . d)	V-bank type fine filter: iv. Filter frame end panels and strut supports shall be constructed by HIPS (high impact polystyrene) to enhance rigidity. All-plastic construction fully incinerable	We request you to also accept Filter frame in ABS with aerodynamic radial design for best performance and having Eurovent Energy Class of A+	Tender condition prevails.	No
123	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.2. g)	V-bank type fine filter: The filter OEM shall submit test report(s) of prefilter and bag filter offered from International thirdparty test laboratory as per design standard of EN779:2012	OEM will provide inhouse certificate of quality for the filters. Kindly allow.	Tender condition prevails.	No
124	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.2. h)	V-bank type fine filter: Inhouse test certificate for the all-filter media shall be submitted	Manufacturer test certificate can be provided	Tender condition prevails.	No
125	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.3. d)	Direct Expansion Coils: Manufacturing of copper tubes shall comply with ASTM B280-16/ASTM B 68/JIS H3300. It shall have inner grooved type for better heat transfer.	We request you to also accept Plain copper tubes.	Tender condition prevails.	No
126	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.5. b)	Drain Pan: The drain pans shall be of double skin wall construction i.e., inner skin and outer skin shall be fabricated with minimum 1.0 mm thick SS 316.	We request you to accept SS 304 drain pan skin instead of SS 316.	Tender condition prevails.	No
127	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.7.1. i)	Plug Fan: The impeller shall be backward curved type made up of high-performance composite material (Zamid technology/equivalent). The material should have high metallic strength. System should ensure maximum rigidity when the fans are operating at high speed and are subject to large centrifugal forces. Impeller shall be manufactured in single shot injection moulding tool.	We request to accept Impeller to be of mild steel with polyester powder coating finish, Impeller shall be manufactured by sheet metal form.	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
128	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.7.1. j)	Plug Fan: The Impeller cone shall be designed for optimum air flow. The Cone and casing shall be made up of GSS material with 275 GSM zinc coating. The whole unit shall be fastened on base frames with suitable spring suspension. All support steel frames of fan shall be hot dip galvanized with PR12 polyester powder coating finish with minimum of 100 microns.	Impeller will be as per OEM standard. plug fan does not have casing. Inlet cone shall be made up GSS material with 220 GSM zinc coating. All support steel frames of fan shall be MS with polyester power coating with approx. 80 microns.	Tender condition prevails.	No
129	Part 2 / Section VII / Sub-Section C / VAC Works / Air Handling Units	4.4.7.2. j)	Plug Fan AC motor: The Motor bearings shall be designed for an average life of at least 1,00,000 hours. (L10 life, ISO 2008-2007, Anti-Friction Bearing Manufacturer's Association). All Motor bearings shall be self-lubrications type.	Kindly allow L 10 life - 50000 hours, as per manufacturer's standards.	This can be reviewed during Design Verification and Validation stage.	No
130	Part 2 / Section VII / Sub-Section C / VAC Works / VAC Fans	5.5.2.2 l	Motor bearings shall be designed for an average life of at least 1,00,000 hours (L10 life, ISO 281-2007 and Anti-Friction Bearing Manufacturer's Association) All the bearing shall be self-lubrications type.	Motor vendors are complying bearing life to a max of 50000 hours. Kindly allow.	This can be reviewed during Design Verification and Validation stage.	No
131	Part 2 / Section VII / Sub-Section C / VAC Works / VAC Fans	5.5.1 k	Optimal fan outlet velocity and blade angle shall be selected for Vane Axial Flow Fans and Mixed Flow Fan to reduce the velocity pressure, motor KW without affecting the efficiency and same shall be submitted to Employer/Engineer for NONO	Fan outlet velocity will be selected based upon fan applications but due to higher static pressure, Optimal outlet velocity cannot be achieved and full fan capaci cannot be utilised. Kindly allow.	Tender condition prevails.	No
132	Part 2 / Section VII / Sub-Section C / VAC Works / VAC Fans	5.5.2.1 c	Vane Axial fan and Mixed flow axial fan shall have Minimum 72% fan total efficiency or fans shall be selected with an AMCA high-energy efficiency classifications fan whichever is higher.	As per the Fan Capacity and Static, kindly allow fan total efficiency as per manufacturer's best possible selection.	This can be reviewed during Design Verification and Validation stage.	No
133	Part 2 / Section VII / Sub-Section C / VAC Works / VAC Fans	5.5.2.1 f	MS material with hot dip galvanization PR12 polyester powder coating or equivalent can be used for higher thickness casing and mounting feet subject to NONO Engineer/ Employer.	Kindly also accept MS Casing with only PR12 coating, as the Clearance between Impeller & casing is very low and hot dip galvanization can cause uneven deformation in casing.	Tender condition prevails.	No
134	Part 2 / Section VII / Sub-Section C / VAC Works / VAC Fans	5.5.7 d	The average motor bearing life shall be at least 1,00,000 hours,	Propeller fans can comply to a range of 40000 hours. Kindly allow.	This can be reviewed during Design Verification and Validation stage.	No
135	Part 2 / Section VI / Sub-Section B / Appendices	5.18	Key & Non-Key Personnel – Qualification Criteria	We request you to accept any Engineering Graduate, as SCADA engineers should possess a range of skills, including not only electrical and electronic expertise but also mechanical and IT knowledge.	This can be mutually agreed with the successful bidder at the time of signing the contract based on the candidate's experience and qualification. Tender Condition Prevails.	No
136	Part 2 / Section VII / Sub-Section E / ISMS	4.1.18	The Useful life of PLC Components (CPU, IO Modules etc.) shall be 15 years. OEM shall provide the certificate.	As per manufacturer's recommendations the PLC and components has 10 years of useful life. Kindly allow.	Tender condition prevails.	No
137	Part 1/ Section IV-B/ Pricing Schedule/ BOQ / Price centre F - ISMS Works	Sl. no. 18	11- ISMS PLC, Remote I/O and It's Sub-components and Mounting Panel	The quantity of Communication Modules (CM) in the PLC unit configuration is missing. There seems to be shortage of Serial Communication Modules.	All quantities are as per the design. Please follow the BOQ.	No
138	Part-1 / Section – I / Instruction to Bidders (ITB)	27.11	The Employer shall prepare a record of the opening of Price Bids that shall include, as a minimum: the name of the Bidder, the Bid Price,(per lot if applicable), including any discounts, and alternative Bids.The Bidder’s Representative who are present shall be requested to sign the record. The omission of a Bidder’s Signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.	As stated in clause 27.11; we request to invite / inform the bidder giving sufficient time (at least 2-3 days) prior and allow the bidder to be present and witness the financial bid opening.	Tender condition prevails. Bid opening is online and can be witnessed by all Bidders.	No
139	Part-1 / Section – II / Bid Data Sheet (BDS)	27	On opening the financial bid, the system will automatically generate the Comparative Statement of total prices quoted by the bidders and the same can be viewed by bidders. However after Financial bid evaluation, actual position of bidders will be published in CPP portal.		Tender condition prevails. Bid opening is online and can be witnessed by all Bidders.	No
140	Part-1 / Section – II / Bid Data Sheet (BDS)	18.9	Add a new Sub-Clause 18.9 The Amounts and Currencies of the Specified Provisional Sums shall be as follows: 2.b) Independent Safety Assessor for SIL – 2 Certification	Contractor shall be reimbursed from the provisional sums at actuals (100%) towards the charges of Independent Safety Assessor for SIL – 2 Certification incurred on submission of relevant bills / documents.	The contractor is eligible for reimbursement of actual value by following the conditions mentioned in GC&PC 13.	No
141	Part 1/ Section IV-B/ Pricing Schedule/ BOQ / Price centre C	Sl. no. 3	TUNNEL VENTILATION FAN UNITS In Accordance with TVS Technical Specifications (Refer Part-2, Section VII, Sub section B, Content 2 - FAN AND MOTOR UNITS) and Drawings	Kindly specify duty points of forward and reverse mode operations.	Tender condition prevails. Refer Part 2 Section-VIII Employer's drawings	No
142			1.7.1 PRICING SUMMARY iii. Notes on Pricing Document: II. Price Centre- A: GENERAL REQUIREMENT b. Project Head office and project site office requirement is given as minimum SqM Area. If any decrease in the actual Sqm Area, rate shall be arrived on SqM basis (Actual SqM* Quoted rate /minimum area mentioned in BoQ) for identification, Construction and Maintenance. c. Store yard requirement is given as minimum SqM Area. If any decrease in the actual Sqm Area, rate shall be arrived on SqM basis (Actual SqM* Quoted rate / minimum area mentioned in BOQ) for identification, Construction and Maintenance.		Tender Condition Prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
143	Part-1 / Section – IV B / Pricing Schedule	1.7	1.7.1 PRICING SUMMARY iii. Notes on Pricing Document: VIII. Price Centre- G: Operation & Maintenance and Assistance during DLP: b. DLP office cum storage requirement is given as minimum SqM Area. If any decrease in the actual Sqm Area, rate shall be arrived on SqM basis (Actual SqM* Quoted rate / minimum area mentioned in BoQ) for identification, Construction and Maintenance.	We request to provide sufficient space free of cost for Project Head office, Project site office, Store yard, DLP office, CAMC office etc.	Tender Condition Prevails.	No
144			1.7.1 PRICING SUMMARY iii. Notes on Pricing Document: IX. Price Centre- H: CAMC TVS/VAC/SCADA &VAC & TVS ELECTRICAL: b. CAMC office cum storage requirement is given as minimum SqM Area. If any decrease in the actual Sqm Area, rate shall be arrived on SqM basis (Actual SqM* Quoted rate / minimum area mentioned in BoQ) for identification, Construction and Maintenance.		Tender Condition Prevails.	No
145	Part-1 / Section – IV B / Pricing Schedule	1.7	1.7.1 PRICING SUMMARY iii. Notes on Pricing Document: IX. Price Centre- H: CAMC TVS/VAC/SCADA &VAC & TVS ELECTRICAL: c. The Contractor shall submit the AMC Service level agreement with OEM of TVS Fans, Dampers, Actuators, for claiming CAMC of Tunnel Ventilation System.	If the Contractor has a full fledged service team in house and is also manufacturer of air conditioning & ventilation system, kindly do not bind the contractor to have service level agreement with other OEMs.	Tender Condition Prevails.	No
146	Part-1 / Section – IV B / Pricing Schedule	1.7	1.7.11 Annexure 1 – Stage payment structure: S1 - Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) - 3%	We understand that payment terms for S1 is associated with submissions on RAMS & EMC Plan / vendor submission only. Kindly confirm.	Please refer to Part 2, Section VI, Appendices in Table-2 for the detailed description of the works involved in KD-3.	No
147	Part-1 / Section – IV B / Pricing Schedule	1.7	1.7.11 Annexure 1 – Stage payment structure: S5 - DLP 1st Year - 6% S6 - DLP 2nd Year - 6%	We request you not to keep payments of price centre C to F until DLP, as Price centre G - O&M and assistance during DLP (BOQ 7) is a separate BOQ for DLP. Payment for the same shall be made to the contractor during the DLP period. Also, contractor's PBG of relevant amount & retention amount will be with CMRL. We request that payment percentages assigned in S5 & S6 shall be paid in S2.	Tender Condition Prevails.	No
148	Part-1 / Section – IV B / Pricing Schedule	1.7	1.7.11 Annexure 1 – Stage payment structure: S1 - Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) - 3% S2 - Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) - 55% S3 - Completion of installation works and Completion of Partial Acceptance Testing (KD-5) - 17% S4 - Completion of Integrated Testing & Commissioning/Operational Acceptance Certificate for TVS/VAC systems. (KD-6) - 13% S5 - DLP 1st Year - 6% S6 - DLP 2nd Year - 6%	We request you to accept payment terms as under to ensure sustainable cash flow for smooth operations : S1 - Completion Vendor Submission & Factory Visit and submission of RAMS & EMC report (KD-03) - 5% 10% S2 - Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) - 55% 75% S3 - Completion of installation works and Completion of Partial Acceptance Testing (KD-5) - 17% 10% S4 - Completion of Integrated Testing & Commissioning/Operational Acceptance Certificate for TVS/VAC systems. (KD-6) - 13% 5% S5 - DLP 1st Year - 6% Not applicable. S6 - DLP 2nd Year - 6% Not applicable.	Tender Condition Prevails.	No
149	Part-1 / Section – IV B / Pricing Schedule	1.7	1.7.11 Annexure 1 – Stage payment structure: S1 - Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) - 3% S2 - Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) - 55% S3 - Completion of installation works and Completion of Partial Acceptance Testing (KD-5) - 17% S4 - Completion of Integrated Testing & Commissioning/Operational Acceptance Certificate for TVS/VAC systems. (KD-6) - 13% S5 - DLP 1st Year - 6% S6 - DLP 2nd Year - 6%	We understand that the Stage payment structure is on Pro-rata basis (item and quantity wise). Kindly confirm.	Yes. Tender condition prevails.	No
150	Part-1 / Section – IV B / Pricing Schedule	Sl. No. 18	Price centre - A (General requirement) Development and implementation of Web and mobile-based Comprehensive Maintenance Management System (CMMS) for TVS/VAC - Using Artificial Intelligence (It shall include but not limited to: Supply and Installation of all the required hardwares, softwares, Tablets for O&M Staffs, Internet Connectivity, Cloud subscription/License cost, etc.) (Ref Part-2 Section-VII, Sub Section – E)		Please refer to Part 2 / Section VII / Sub-Section E.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
151	Part 2 / Section VII / Sub-Section E	15	15.1 Objective: The CMMS application shall be developed based on Artificial Intelligence (AI). AI shall use machine learning algorithms to analyze different kinds of data from the various TVS/VAC equipment. The CMMS is web and mobile-based application software designed for TVS/VAC system operation and maintenance. It shall contain a Failure management, Failure analysis, Asset management, O&M Staff Management, Periodic maintenance, Energy management, Spare management, Breakdown ticketing, Invoice generation, etc.	Kindly clarify / explain how the application shall be based on AI.	Please refer to Part 2 / Section VII / Sub-Section E.	No
152	Part-1 / Section – IV A / Bidding Forms	Form FIN-1	Form FIN -1 : FINANCIAL SITUATION	We request that all the bidders to submit Form FIN-1 to be attested by the independent statutory auditor to confirm that financial information is based on the information in the audited financial statements of the respective years.	Tender Condition Prevails.	No
153	Part-1 / Section – IV B / Pricing Schedule	Sl. No. 19	International training/ conference/symposium/seminars for Employer staff (Ref Chapter-10 of part-2 works Requirement) - 10 LOT	We understand that unit of measurement (UOM) shall be 10 LOT ie. 10 Nos.(personnel) in line with Part 2, Section VI, Works Requirements, Chapter- 10, Clause 10.9. Kindly confirm.	The cost is associated with per staff. It shall include all the requirements mentioned in clause 10.9. Refer the BOQ in Addendum-01	Yes
154	Part-1 / Section – IV B / Pricing Schedule	Sl. No. 20	Deployment of Key Staffs (Ref Appendix-5 of Part-2 Works requirement) - a to r - 1 LOT	We understand that Key staff deployment item no. a to r - 1 LOT implies rate (1 personnel in lot) upto contract duration i.e 1160 days. Kindly confirm. Kindly confirm that if the personnel is deployed during the extended contract duration the same shall be billed and paid accordingly.	Terms of payment for Key staff's is as per Appendix 5.22.	No
155	Part-1 / Section – IV B / Pricing Schedule	Sl. No. 39	Deployment of Non-Key Staffs (Ref Appendix-5 of Part-2 Works requirement)	We understand that Non-Key staff deployment item no. a to p - X LOT implies rate (X personnel in lot) upto contract duration i.e 1160 days. Kindly confirm. Kindly confirm that if the personnel is deployed during the extended contract duration the same shall be billed and paid accordingly.	Terms of payment for Non Key staff's is as per Appendix 5.22.	No
156	Part-1 / Section – IV B / Pricing Schedule	Sl. No. 7	Identification,construction and Maintenance of Store yard till completion of project works (minimum 2000 Sq.m) (Ref Chapter-7 of Part-2 Works Requirement)	Like Project Office, we request you to create new BOQ item for maintenance of the store yard, as Identification & construction of Store yard is a one time activity incurring huge cost and can be claimed separately.	Tender Condition Prevails.	No
157	Part 2 / Section VI / Works Requirements / Sub - Section A / Chapter- 7	7.5	7.5 Portion of payment for store yard 1) Identification, construction and Maintenance of Store yard - Payment shall be made based on percentage to the progress of project works till completion of works.		Tender Condition Prevails.	No
158	Part 2 / Section VI / Works Requirements / Sub - Section A / Chapter- 19	19.3	19.3. Man-Power Deployment during Defects Liability Period. 19.3.1. The contractor shall deploy the following minimum positions during DLP period for 24 months. The Contractor shall submit the organization chart along with Deployment schedule for Notice of No objection. 1) DLP Supervising Manager - 1 Nos. 2) DLP Supervising Engineer - Mechanical - 3 Nos. 3) DLP Supervising Engineer - Electrical - 3 Nos. 4) DLP Supervising Engineer - SCADA - 3 Nos. 5) DLP Technicians - 10 Nos.	We observe that the minimum manpower stated in clause 19.3.1 seems to be on higher side. Requesting to revisit manpower requirement.	Tender Condition Prevails.	No
159	Part 2 / Section VI / Works Requirements / Sub - Section A / Chapter- 19	19.3	19.3. Man-Power Deployment during Defects Liability Period. 19.3.1. The contractor shall deploy the following minimum positions during DLP period for 24 months. The Contractor shall submit the organization chart along with Deployment schedule for Notice of No objection. Minimum Qualification Criteria - minimum 10 (manager)/8 (Engineer)/5 (Technician) years total experience and 5/3/2-year experience in the role of TVS and / or VAC Maintenance works in Underground Metro Stations.	We observe that qualification requirements are quite stringent. We request to accept following modification in line with 'similar work' for respective positions: Minimum Qualification Criteria - minimum 10 (manager)/8 (Engineer)/5 (Technician) years total experience and 5/3/2-year experience in the role of TVS and / or VAC Maintenance works in Underground Metro Stations / Elevated Metro Stations / Airports / railway projects / Highway projects / large infrastructure projects.	This can be mutually agreed with the successful bidder at the time of signing the contract based on the candidate's experience and qualification. Tender Condition Prevails.	No
160	Part 2 / Section VI / Works Requirements / Sub - Section A / Chapter- 19	19.4	19.4. Payment Process a. The Contractor should submit the proof of providing the uniform of shirt and pants sets (Minimum 8 sets per year), T-Shirt (Minimum 2 sets per year), Safety shoe (Minimum 2 sets per year), Safety Helmet (Minimum 2 sets per year), Safety jacket (Minimum 2 sets per year), Rain coat (Minimum 1 sets per year), Safety Gloves(Minimum 2 sets per year), Safety Glass (minimum 1 sets per year) to the DLP staffs. The Contractor shall submit the Quarterly report about providing the listed item above. If the Contractor fails to provide any one of the items above listed, then minimum of Rs. 10,000 shall be disallowed against each position for processing the payment for every month. The decision of the Employer in this regard shall be final and binding on the contractor.	We request you to accept Uniform of shirt and pants sets minimum 3-4 sets per year. Also, we request you to waive off Penalty of Rs. 10,000 / position / month against the same	Tender Condition Prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
161	Part 2 / Section VI / Works Requirements / Sub - Section A / Chapter- 20	20.12.2	20.12.2 The contractor shall provide following minimum positions to be deployed during CAMC period for 60 months. The Contractor shall submit the organization chart along with Deployment schedule for Notice of No objection Minimum Qualification Criteria -and X-year experience in the role of TVS and / or VAC Maintenance works in Underground Metro Stations.	We observe that qualification requirements are quite stringent. We request to accept following modification in line with 'similar work' for respective positions: in the role of TVS and / or VAC Maintenance works in Underground Metro Stations / Elevated Metro Stations / Airports / railway projects / Highway projects / large infrastructure projects.	Tender condition prevails.	No
162	Part 2 / Section VI / Works Requirements / Sub - Section A / Chapter- 20	20.12.2	20.12.2 The contractor shall provide following minimum positions to be deployed during CAMC period for 60 months. The Contractor shall submit the organization chart along with Deployment schedule for Notice of No objection 1) CAMC Supervising Manager - 1 Nos. 2) CAMC Supervising Engineer - Mechanical - 3 Nos. 3) CAMC Supervising Engineer - Electrical - 3 Nos. 4) CAMC Supervising Engineer - SCADA - 3 Nos. 5) CAMC Technicians - 10 Nos. 6) Accountant - 1 Nos.	We observe that minimum manpower requirement mentioned in Chapter - 20 CAMC is not matching with the manpower positions and quantity given in the BOQ - Price centre H Sr. no. 6 to 10. Kindly confirm requirement. Kindly confirm whether manpower in the Price centre H, Sl. No. 6 to 10 (O&M) or manpower mentioned in clause 20.12.2 need to be considered.	Tender condition prevails. Both need to be considered.	No
163	Part-1 / Section – IV B / Pricing Schedule / Price centre H	Sl. No. 6 to 10	6) Operation & Maintenance (Ref Chapter 21 Section VI of Part -2) 7) O&M Manager - 1 Lot. 8) Junior Engineer /Electrical/Mechanical/AC - 5 Lot. 9) Technicians /Electrical/Fitter/AC - 32 Lot. 10) TVS/VAC Operator at OCC & BOCC - 4 Lot.		Tender condition prevails. Both need to be considered.	No
164	Part 2 / Section VI / Works Requirements / Sub - Section A / Chapter- 20	20.13	20.13 Payment Process 20.13.1 BOQ rates Sr. No. 1 to 4 c. The Contractor quoted rate in the above BOQ shall be inclusive of Manpower cost mentioned in 20.12 above.	Chapter 20 - CAMC is silent on the requirement (scope) of <u>Operation</u> & Maintenance. But in BOQ price centre H - Sr. No. 6 to 10 is regarding O&M. Kindly confirm requirement.	Refer to Chapter 21 Section VI of Part -2 for scope of Operation & maintenance during DLP & CAMC.	No
165	Part-1 / Section – IV B / Pricing Schedule / Price centre H	Sl. No. 6 to 10	6) Operation & Maintenance (Ref Chapter 21 Section VI of Part -2) 7) O&M Manager - 1 Lot. 8) Junior Engineer /Electrical/Mechanical/AC - 5 Lot. 9) Technicians /Electrical/Fitter/AC - 32 Lot. 10) TVS/VAC Operator at OCC & BOCC - 4 Lot.		Refer to Chapter 21 Section VI of Part -2 for scope of Operation & maintenance during DLP & CAMC.	No
166	Part 2 / Section VI / Works Requirements / Sub - Section A / Chapter- 21	21.3	Manpower as per BOQ - Price Center G&H total MP is 42 for O&M & CMC for 7 Years As per chapter 20 clause 20.12 MANAGERIAL AND TECHNICAL STAFF on page 277 min staff is 21 is for CMC. As per 19.3. Man-Power Deployment during Defects Liability Period. on page 267 min Manpower during DLP is 20.	Please confirm if manpower mentioned in BOQ will be final.	Man power specified in BOQ Price Centre G&H is towards Operation and Maintenance during DLP and CAMC respectively.(Refer to Chapter 21 Section VI of Part -2). Man power specified in chapter 19 & 20 are Managerial and Technical staff's required during DLP&CAMC.	No
167	Part 2 / Section VI / Works Requirements / Sub - Section A / Chapter- 21	21.3	d) The above-mentioned O&M Staffs shall not be engaged from any of the Vendor/subcontractor/consultancy firm/company appointed by the Contractor.	The manpower deployed at site (excluding site In-charge) shall be on our business associate payroll. However, we shall be responsible for entire selection, training & performance, compliance of the said staff. Please confirm upon acceptance as per same, as on similar model we are executing O&M contract at different Central/State govt./ corporate organizations.	Tender condition prevails.	No
168	BOQ_815086	SI No 231 - Price Centre D- VAC Works	17- Cabinet (Box type) centrifugal or axial fans with necessary fixing arrangement and other accessories	Kindly confirm whether cabinet type Centrifugal fans or Axial fans are to be considered. For given duty parameters, Cabinet Type DIDW centrifugal fans with Belt driven are advised from the OEMs.	Refer Addendum - 01.	Yes
169	02-Part-2_C4_VAC_TVS_12	Page 1249 of 1464	13. REFRIGERANT GAS LEAK DETECTION SYSTEM a) Refrigerant gas leak detection sensor and system shall be installed to detect the leakage of refrigerant in copper pipeline above shaft, near ODU, IDU & AHU (VAC equipment Room). Number of sensors should be based on site requirement. This Controller of Gas detector should be compatible with SCADA/ISMS System	Kindly provide below details: 1. number of leak detection sensors to be considered 2. number of controllers to be considered 3. Detailed schematic for leak detection system 4. BOQ line item for the leak detection system is missing. Kindly confirm in which BOQ line item price to be included. 5. We understand that the cabling work for the system is included in "PRICE CENTRE E - VAC & TVS ELECTRICAL WORKS" BOQ SI no. 719. Kindly confirm and provide length of cabling and associated work required. 6. In SCADA IO List, refrigerant leak detection sensors are missing. kindly clarify.	Refer Addendum - 01.	Yes
170	02-Part-2_C4_VAC_TVS_12	3.4.1 Technical Requirements for Copper pipe and fitting Page 1183 of 1464	3.4 Technical Requirements c) Half hard drawn/hard drawn copper tubes shall be used. Automatic bending machine shall be used for the bending of copper tube to minimize /avoid the copper tube fittings	Automatic bending technology is provided only by single manufacturer. We understand that we are not obligated to use automatic bending machine and it is just an alternative. Kindly confirm.	Automatic bending machines are preferable, however any equivalent technology that can provide similar or better quality shall also be acceptable subject to NONO from Employer/Engineer.	No
171	BOQ_815086	SI No 156 - Price Centre D- VAC Works	9.03- Fire-Resistant Paint for fire rated duct. In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, unit 8) and drawings.	We request you to Consider Fire Wrap in BOQ line item as an option to fire paint . Kindly Confirm.	Tender condition prevails. Please follow BOQ Price Centre C 9.03-Fire-Resistant Paint for fire rated duct line item.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
172	BOQ_815086	SI No 174 - Price Centre D- VAC Works	12.01- Flexible duct connector(Canvas) for Normal and fire Application - 80 Sqm	Kindly provide separate quantities for fire rated and normal rated application.	Refer Addendum - 01.	Yes
173	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR VAC EQUIPMENT AND MATERIALS Page 421 of 1464	1. AIR HANDLING UNIT - SYSTEM AIR / FLAKT WOODS / WAVES / STULZ	Kindly approve Zeco / Citizen make which is also Eurovent certified reputed make for AHU's.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
174	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR VAC EQUIPMENT AND MATERIALS Page 421 of 1464	2. UVGI EMITTERS FOR AHU AERO PURE / JOHNSON CONTROL / UV HEAL / MAGENTO	Kindly approve Ruks make for UVGI as the same is already approved and installed in projects such as DMRC.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
175	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR VAC EQUIPMENT AND MATERIALS Page 421 of 1464	3. DRIFT ELIMINATOR FOR AHU MM AQUA	Please note that AHU manufacturers are unable to contact mentioned make. Kindly provide the contact details and also alternate makes which are normally approved and installed in similar kind of projects.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
176	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR VAC EQUIPMENT AND MATERIALS Page 422 of 1464	9. REFRIGERANT COPPER PIPE AND FITTINGS- UNIFLOW / MANDEV / RAJCO / MEHTA	Kindly approve Janya make for refrigerant pipe and fittings.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
177	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR VAC EQUIPMENT AND MATERIALS Page 423 of 1464	23. FIBER GLASS INSULATION - UPTWIGA / LLOYD	Please note that Owens corning is manufacturer of Fibre glass insulation but the make name is mistakenly mentioned in Rockwool insulation make list. We understand that Owens corning is approved for Fibre glass insulation. Kindly confirm.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
178	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR VAC EQUIPMENT AND MATERIALS Page 423 of 1464	29. ACOUSTIC LOUVERS - CONSTRUCTION SPECIALITIES / COLT / AEROLITE	Kindly approve reputed makes such as Systemair, Ruskin, Caryaire and Airmaster for acoustic louvers.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
179	02-Part-2_C4_VAC_TVS_12	2.5.1.2 Casing Cabinet (High Static Ductable / Concealed Unit Page 1168 of 1464	i) Primary Drain pan material shall be SS 316 / material along with suitable insulation as per Manufacturing standard	Please note that no OEM can provide primary drain pan of ductable unit of SS316. Primary drain pan material will be as per manufacturer's standard. Kindly accept the same.	This can be discussed at the time of vendor approval.	No
180	02-Part-2_C4_VAC_TVS_12	2.5.9 Central / Master Controller: Page 1174 of 1464	g) The OEM/Contractor should supply necessary Energy / KWH meters (Inside Electrical panel) along with the signal / communication cables and power cables for all VRF units including AHUs.	We understand that requirement of Energy / KWH meters (Inside Electrical panel) along with the signal / communication cables and power cables for all VRF units including AHUs is already considered in Electrical BOQ of package. Kindly confirm.	Yes.	No
181	BOQ_815086	SI. No.82 PRICE CENTRE D - VAC Works 5.06- Central Remote Controller	5.06.02- VRF Touch Screen HMI (22 Inch) with GI powder coated enclosure In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, Unit 2)	Please note that approved OEM's can not provide 22 inch touch screen type Central controller. Kindly accept Screen size as per manufacturer's standard.	Tender condition prevails.	No
182	BOQ_815086	SI. No.86 PRICE CENTRE D - VAC Works	5.10- Design,supply,fabrication & erection of Stainless Steel (SS316) fencing around VRV/ VRF Outdoor units with door,lock & other accessories for safety as per Standard installation drawing.(Refer Part-2, Section VII, Sub section C, Unit 2)	Kindly provide detailed layout for SS316 fencing works. Also provide the total length of fencing / Handrail to be considered per Lot.	Tender condition prevails.	No
183	02-Part-2_C4_VAC_TVS_12	2.8.3 VRF/VRV units Accessories Page 1180 of 1464	d) Provide the rigid fencing guard / handrail with stainless steel 316 schedule 50x50x4.5 mm(thickness) as per IS standard for outdoor unit for the safety of the personnel and considering the aesthetic.	As per technical specifications,fencing guard / handrail with stainless steel 316 schedule 50x50x4.5 mm(thickness) is required whereas as per typical installation details (dwg no. P20C4TVS03LIH-MMSO-TVSVACDWG-44004), SS316 PIPE fencing is required. Kindly confirm cross section of fencing/handrail required along with necessary dimensions.	Refer Addendum - 01.	Yes

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
184	BOQ_815086	Sl. No.78 PRICE CENTRE D - VAC Works 5.04- Expansion Valve Kit & Communication Kit	5.04.01 - Electronic Expansion Valve & Communication Kit for AHUs including Air temperature sensor, Refrigerant temperature sensor, Remote, Wiring, Hot dip galvanized steel support & other related accessories etc. - In Accordance with VAC Technical Specifications and drawings. (Quantity/Lot shall be based on Number of VRF circuits) (Refer Part-2, Section VII, Sub section C, unit 2) - 46 Lot	Please note that Expansion valve kit will be in numbers and quantity of 46 lot is not matching actual requirement as per Drawings. Kindly modify the quanity & UOM from 46 Lot to 8 Lots for proper working of estimation in BOQ.	Tender condition prevails. Quantity/Lot shall be based on Number of VRF circuits	No
185	BOQ_815086	Sl. No.85 PRICE CENTRE D - VAC Works	5.09- Design,supply,fabrication & erection of Canopy roofing for VRV/ VRF Outdoor units with Heavy duty Plastic / Acrylic Sheet and necessary Supporting Steel (SS316) and other accessories as per Standard installation drawing and Technical Specification.(Refer Part-2, Section VII, Sub section C, Unit 2)	Kindly provide detailed construction layout for canopy roofing support structure as the details of the same are missing in typical drawings and without these details it is not possible to quote on per sqm basis.	Tender condition prevails. Refer Part 2 Section-VIII Employer's drawings	No
186	BOQ_815086	Sl. No.117 PRICE CENTRE D - VAC Works	7- Following various size of Copper Tubes Insulation made up of closed cell elastomeric Nitrile rubber with factory treated glass woven cloth In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, unit 12) and drawings.	As per technical specifications, glass cloth laminated on outer surface of insulation is required for insulation non exposed to environment and factory laminated non-metallic silver jacketing finish surface is required for insulation Exposed to environment, but BOQ mentions only glass cloth laminated insulation, so we understand that all insulation is non exposed to environment. Kindly confirm.	Refer Addendum - 01.	Yes
187	BOQ_815086	Sl. No.151 PRICE CENTRE D - VAC Works	9.02- Fire Rated Application : MS angular frame GI Sheet Metal Ducting with necessary supports and other accessories In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, unit 8) and drawings.	Kindly provide typical drawing for MS angular frame ductwork.	Tender condition prevails. Refer Part 2 Section-VIII Employer's drawings	No
188	BOQ_815086	Sl. No.162 PRICE CENTRE D - VAC Works	10.01- Duct Insulation for Normal and Fire-Rated Application. In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, unit 12) and drawings.	kindly provide the quantity of duct insulation exposed to outside environment in order to consider 15mm cement plaster finish on chicken-wire mesh with additional finish of 0.8mm polyisobutylene sheeting as mentioned in technical specifications.	All duct works are indoor or semi-indoor.	No
189	BOQ_815086	Sl. No.167 PRICE CENTRE D - VAC Works	10.03- 0.6mm thick Stainless steel (SS 316) chicken wire mesh for ducting and VRF with other fixing accessories in accordance with VAC technical specifications (Refer Part-2, Section VII, Sub section C, unit 12) drawings	Kindly provide mesh size to be considered for SS316 chicken wiremesh.	Refer Addendum - 01.	Yes
190	BOQ_815086	Sl. No.168 PRICE CENTRE D - VAC Works	11- Insulated Flexible Ducting and Damper In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, unit 8) and drawings.	Kindly confirm whether insulated flexible ducting is required for normal or fire rated application and accordingly mention the quantities .	Refer Addendum - 01.	Yes
191	BOQ_815086	Sl. No.195 PRICE CENTRE D - VAC Works	16- Vane Axial flow Fans/Mixed flow fans with necessary fixing arrangement and other accessories In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, Unit 5) and drawings.	We understand that sound attenuators required for AHU's, Fans are separately quantified in BOQ and need not to be considered along with equipments. Kindly confirm.	Yes. Tender condition prevails.	No
192	BOQ_815086	Sl. No.195 PRICE CENTRE D - VAC Works	16- Vane Axial flow Fans/Mixed flow fans with necessary fixing arrangement and other accessories In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, Unit 5) and drawings.	We understand that static pressure mentioned in BOQ is total static pressure. Kindly confirm.	Refer Addendum - 01.	Yes
193	BOQ_815086	Sl. No.231 PRICE CENTRE D - VAC Works	17- Cabinet (Box type) centrifugal or axial fans with necessary fixing arrangement and other accessories In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, Unit 5) and drawings. Belt driven fans are not acceptable.	We understand that static pressure mentioned in BOQ is total static pressure. Kindly confirm.	Refer Addendum - 01.	Yes
194	BOQ_815086	Sl. No.248 PRICE CENTRE D - VAC Works	18- Propeller Fans with necessary fixing arrangement and other accessories In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, Unit 5) and drawings.	Kindly confirm whether AMCA certified propeller fans are to be considered or not.	Please refer to Part-02, Employer ’s Requirements, VAC Technical Specifications, Unit 5.	No
195	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR VAC EQUIPMENT AND MATERIALS Page 424 of 1464	HVLS FANS - GREENHECK / BIG ASS / HUNTER / 4FRONT ENGG. SOLUTIONS	Kindly approve reputed makes such as Ecoair, Kelley etc. which are having Intertek UL certification.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
196	02-Part-2_C4_VAC_TVS_12	6.3 Technical Specification Page 1212 of 1464	b) Casing material shall be of GSS with 1 mm thickness and corrosion proof housing made of hot zinc-plate and powder enamelled steel panels.	Please note that approved makes do not have AMCA certification for Air curtains with GSS casing.	Refer Addendum - 01.	Yes
197	BOQ_815086	Sl. No.309 PRICE CENTRE D - VAC Works	23- 50mm thick Rock wool insulation, Density 105 Kg/m3 acoustic lining , finished with 0.80 mm perforated aluminium sheet with necessary fixing arrangement and other accessories In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, Unit 10) and drawings.	As per tehcnical specifications,02-Part-2_C4_VAC_TVS_12 (Page 1241 of 1464) the lining shall be covered by 0.6mm thick pre-galvanised perforated GI sheet whereas as per BOQ 0.8 mm perforated aluminium sheet is required. Kindly confirm the requirement.	Refer Addendum - 01.	Yes
198	BOQ_815086	Sl. No.311 PRICE CENTRE D - VAC Works	25- Design, fabrication, supply, and erection of a hot-dip galvanized steel structure, compliant with ASTM standards and having a minimum 80-micron coating thickness, along with other accessories for supporting Fans, Attenuators and Air curtain to provide a complete solution in all aspects.	We understand that steel structural supports required for HVLS fans, Ducting, AHU's etc are also included in this given BOQ line item. Kindly confirm.	No. Tender condition prevails. The steel structural supports mentioned here are only for fans, attenuators and air-curtains. For other equipment such as HVLS fans, Ducting, AHU's etc. these supports must be considered as part of their own line items.	No
199	BOQ_815086	Sl. No.312 PRICE CENTRE D - VAC Works	26- Design,Providing and laying RCC foundation for supporting Fans ,AHU ,VRF/Chiller for complete in all aspect.	Kindly provide the foundation details.	Foundation details shall be considered as per the OEM recommendation subject to NONO from Engineer/Employer.	No
200	BOQ_815086	Sl. NO.3 Price Centre C- TVS Works	3- TUNNEL VENTILATION FAN UNITS In Accordance with TVS Technical Specifications (Refer Part-2, Section VII, Sub section B, Content 2 - FAN AND MOTOR UNITS) and Drawings	Please note that multiple duty points are given in BOQ for TVS fans, However duty points need to be specified in forward mode operation and reverse mode operation separately for Fan selection and without which OEM can not do fan selection. Kindly provide the same.	Tender condition prevails. Refer Part - 2, Section-VIII, Employer's drawings	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
201	02-Part-2_C4_VAC_TVS_12	2.6 JET FAN UNITS Page 1135 of 1464	2.6.3 All jet fans shall comply with design reversibility. Jet fan casings shall be made of Stainless Steel 316L grade.	As per manufacturer's recommendation, Outer casing shall be manufactured in mild steel with hot dip / spray galvanizing and Inner / perforated sheet shall be manufactured in SS304. Kindly approve the same.	Refer Addendum - 01.	Yes
202	02-Part-2_C4_VAC_TVS_12	2.6 JET FAN UNITS Page 1136 of 1464	The cylindrical sound attenuators of the jet fans shall have an external cover of Stainless Steel 316L grade with a minimum thickness of 2 mm. The internal perforated metal sheet shall be a stainless-steel sheet type Stainless Steel 316L grade, minimum thickness 0.8 mm.	As per manufacturer's recommendation, Outer casing shall be manufactured in mild steel with hot dip / spray galvanizing. Inner / perforated sheet shall be manufactured in SS304.	Tender condition prevails.	No
203	02-Part-2_C4_VAC_TVS_12	2.4 Fan Fabrication: Products and Materials	2.4.20 Bolts shall not be less than 12 mm diameter. Bolts, nuts, washers and lock washers used on the fans and components shall be Stainless Steel 304L.	Material for Bolts, nuts, washers and lock washers used on the fans will be as per Manufacturer's standard. Kindly approve the same.	Tender condition prevails.	No
204	02-Part-2_C4_VAC_TVS_12	2.9.1 Factory Tests and Inspections Page 1140 of 1464	2.9.1 Factory Tests and Inspections	FAT shall be carried out for one of each fan type only. Kindly confirm.	Tender condition prevails. Please refer to 2.9.1.4 of same section.	No
205	02-Part-2_C4_VAC_TVS_12	3.4.8 Dampers Page 1144 of 1464	Tunnel ventilation system damper frames shall be a channel cross-section with a web not less than 200 mm and 50 mm flanges with a minimum thickness of 3 mm.; and shall be fabricated of stainless steel AISI 316L plate with reinforcing bosses and dovetail grooves for mounting frames seals shall be integral parts of the channel configuration.	Plate with reinforcing bosses and dovetail grooves is design of particular make which can not be met by other approved makes. Kindly approve the alternate design of TVS dampers which is already approved and installed in other underground metro projects.	Refer Addendum - 01.	Yes
206	02-Part-2_C4_VAC_TVS_12	3.3 General Performance requirements Page 1143 of 1464	3.3.4 There shall be at least two actuators for each damper. For each damper unit, power supply to actuators shall be from two sources (damper panels) such that even during power failure from one damper panel, 50% of the damper is working due to the other feeder. In other words, 50% of the actuators shall be supplied through panel 1 and the other 50% through panel 2. In case of two actuators in the damper, each actuator shall be positioned in a way to have 50% damper area operation. If the OEM has proposed more than two actuators in the damper, then each group of actuators shall be operated for 50% damper area operation	1. Actuator quantity shall be as per manufacturer's standard. Kindly confirm. 2. Kindly approve 65% and 35% operation ratio of damper because if 3 modules (2 modules on 1 actuator shaft & 1 module on 2nd actuator shaft) are required for a damper size of given area as per manufacturers design, to meet the 50% criteria mentioned, additional module need to be added in the damper which will in turn increase the number of modules (2 modules on 1 actuator shaft & 2 modules on 2nd actuator shaft) & damper cost for same given area.	Tender condition prevails.	No
207	02-Part-2_C4_VAC_TVS_12	3.3 General Performance requirements Page 1143 of 1464	3.3.5 Individual limit switch shall be provided for every set of damper modules controlled by a actuator in a given damper with parallel control cable connections. There shall be at least two limit switch for each damper.	As per 3.3.5, limit switch shall be provided for every set of damper modules controlled by a actuator but as per 3.4.9.3, "Limit switches shall be provided for each damper module". Limit switch for each coupled damper modules is recommended by approved OEM's as a standard practice. Kindly approve the same.	Refer Addendum - 01.	Yes
208	02-Part-2_C4_VAC_TVS_12	3.4.8 Dampers Page 1145 of 1464	3.4.8.9 Screens mounted on damper module frame shall be one-inch mesh No. 10 U.S.S. gauge stainless steel SS316L wire. Each screen shall be complete with a frame for rigidity. The screen shall be reinforced across the shorter dimension with 30 mm by 30mm by 3mm stainless steel angles on 600 mm maximum centres. Screen companion flanges shall be bolted to damper companion flanges with bolts spaced not more than 300 mm on centre. This screen shall be applicable for all floor mounting and wall mounting dampers. This screen can be excluded for inside duct mounting dampers.	Kindly approve the below specifications for screen as per other metro projects & OEM's standard manufacturing practice. "Screens mounted on damper module frame shall be one-inch mesh of minimum3 mm galvanised steel wire. Each screen shall be complete witha frame for rigidity. The screen shall be reinforced across the shorter dimension with 30 mm by 30mm by 3mm galvanised steel angles on 600 mm maximum centres or as approved by engineer in-charge Screen companion flanges shall be bolted to damper companion flanges with bolts spaced not more than 300 mm on centre."	Tender condition prevails.	No
209	02-Part-2_C4_VAC_TVS_12	1. LIST OF LIKELIHOOD VENDOR FOR TVS EQUIPMENT AND MATERIALS Page 421 of 1464	FAN MOTORS - WEG / SIEMENS / MARATHON / ABB / WOLONG BROOKS / BROOK CROMPTON	Kindly approve Kruger make of motors for fans.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
210	02-Part-2_C4_VAC_TVS_12	3.4.10 Actuators Page 1145 of 1464	3.4.10.1 All dampers shall be designed for operation by electrical input Actuator.	We understand that electrohydraulic actuators (installed in previous CMRL projects) with electrical input are acceptable. Kindly confirm.	Tender condition prevails. Can be considered subject to NONO from Engineer/Employer.	No
211	02-Part-2_C4_VAC_TVS_12	5.2 Manufacturer's Eligibility, Quality assurance and Quality control	5.2.2 Manufacturers should have AMCA certification for sound and air performance.	Approved makes can not provide AMCA certification for TVS sound attenuators. Kindly accept Non AMCA certified Sound attenuators or provide makes which can meet the requirement.	Refer Addendum - 01.	Yes

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
212	02-Part-2_C4_VAC_TVS_12	5.3 Products Page 1151 of 1464	5.3.4. The infill shall be of inorganic mineral of glass fibre of at least 48kg/m3 and be packed under at least 10% compression to eliminate voids due to vibration and settling. Material shall be inert and vermin and moisture proof. The Acoustic Infill Material shall be classified as non-combustible in accordance with BS476 Class O or ASTM E84 Class A. The infill material should be tested successfully against fibre erosion for upto 30 m/s air velocity.	Manufacturers are providing rockwool fill material of 48kg/m3 in order to meet fire rating criteria of 250°C for 2 hrs. Kindly approve the same.	Tender condition prevails.	No
213	02-Part-2_C4_VAC_TVS_12	6. OTE Sliding Plate Dampers Page 1152 of 1464	6.8 A safe and secure, leakproof, fire-rated access door (600 mm X 600 mm) with an SS 316 cage ladder, firerated gaskets, and sealant shall be provided as per BS/IS standards in the Metal ducting/OTE ducting for accessing the upline and downline OTE damper. The access door shall have relevant certification for the intended application.	Please note that BOQ for access door and SS316 cage ladder is missing in Price Centre C- TVS Works. Kindly provide the same.	Cage ladder as per Price centre-C Access Door as per Price centre-D Refer addendum - 01	Yes
214	02-Part-2_C4_VAC_TVS_12	8.2 Nozzle Detail:	8.2.1 Nozzles shall be fabricated as per approved Drawings. All supports shall be of SS 316. All bolts and nuts with nozzle shall be provided with lock nuts and of SS-304 the nozzle installation details shall be as per drawing.	Kindly provide detailed installation drawing required for nozzle support structure as the same is missing.	Refer Addendum - 01.	Yes
215	BOQ_815086	Sl. No. 78 Price Centre C- TVS Works	8- TUNNEL VENTILATION NOZZLES.- In Accordance with TVS Technical Specifications & Drawings, (Refer Part-2, Section VII, Sub section B, Content 8 - NOZZLES) Nozzles Design and supports to suite the Drawings.	Kindly provide sizes of the nozzle as it is not possible for suppliers to quote the same in sqm basis, also dimensions of nozzles are missing in drawings.	Tender condition prevails. Refer Part 2 Section-VIII Employer's drawings	No
216	02-Part-2_C4_VAC_TVS_12	05-Section - VIII. Employer’s Drawings 01-Sub Section-A-TVS Layout Drawing	LIGHT HOUSE METRO STATION TVS ACOUSTIC INSULATION OF AXIAL FAN INSTALLATION DETAILS DRAWING NUMBER: P20C4TVS03-LIH-MMSOTVSTVL-DWG44009	Drawing shows rockwool insulation of 90kg/m3, 100mm thick covered with 22Guage GI cladding for TVS fans and Cones, kindly provide separate BOQ along with necessary quantities for the same in Price Centre C- TVS Works.	Tender condition prevails. Bidder shall quote as per BOQ Price centre C line item.	No
217	BOQ_815086	Sl. No. 90 Price Centre C- TVS Works	11- Design, fabrication, supply, and erection of a hot-dip galvanized steel structure, compliant with ASTM standards and having a minimum 80-micron coating thickness, along with other accessories for supporting fans, attenuators, and cones (Transition Piece) to provide a complete solution in all aspects.	We understand that supports required for dampers are also included in the same. Kindly confirm.	No. Tender condition prevails. This is for supporting fans, attenuators, and cones only. For dampers, the support cost must be included as part of respective damper line items.	No
218	BOQ_815086	Sl. No. 77 Price Centre C- TVS Works	7- SLIDING PLATE DAMPERS for Overtrack Exhaust. In Accordance with TVS Technical Specifications (Refer Part-2, Section VII, Sub section B, Content 6 - OTE SLIDING PLATE DAMPERS)	Kindly provide sizes of sliding plate dampers.	Tender condition prevails. Refer Part 2 Section-VIII Employer's drawings	No
219	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR TVS EQUIPMENT AND MATERIALS Page 421 of 1464	SOUND ATTENUATORS- KRUGER / RUSKIN / SYSTEM AIR	Kindly approve reputed makes such as Airmaster, Wolter/Waves.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
220	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR TVS EQUIPMENT AND MATERIALS Page 421 of 1464	CONE-RUSKIN / KRUGER / SYSTEM AIR/TECHNOHUB	Kindly approve reputed makes such as Airmaster, Wolter/Waves, Raaj Airtech	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
221	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR TVS EQUIPMENT AND MATERIALS Page 421 of 1464	NOZZLE -RUSKIN / TECHNOHUB	Kindly approve reputed makes such as Airmaster, Wolter/Waves, Raaj Airtech	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
222	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR TVS EQUIPMENT AND MATERIALS Page 421 of 1464	DAMPERS- TROX / RUSKIN / GREENHECK / FLOWPRO	Kindly approve Airmaster make for TVS dampers.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
223	02-Part-2_C4_VAC_TVS_12	05-Section - VIII. Employer's Drawings 05-Sub Section-E-TVS&VAC ISMS IO List	In Page No: '267-288-Mentioned as Light House Secondary PLC(Instead of Boat Club Secondary PLC IO's).	Boat Club Secondary PLC IO List seems to be mentioned as Light House Station Secondary PLC in Page No 267 to 288 of detailed IO List, As the Light House Secondary PLC IO's are different and already mentioned in Pg No:13 to 19, Kindly confirm.	Refer Addendum - 01.	Yes
224	02-Part-2_C4_VAC_TVS_12	4.2 The processor shall have the following capabilities as minimum Page 1404 of 1464	4.2.8 The PLC processor shall have the ability to receive and map signals from third party systems over Modbus RS485 protocol, BACnet, Modbus TCP/IP, and Profinet. Interface to other popular fieldbus and device networks including Modbus, Profibus, BACnet and HART by using Gateways.	As per "05-Sub Section-E-TVS&VAC ISMS IO List" drawings the Soft IO's are only Modbus RS-485 / TCP I/P but specifications mentions Modbus RS485 protocol, BACnet, Modbus TCP/IP, and Profinet. Kindly confirm the requirement.	The PLC shall be compatible as per Clause 4.2.8.	No
225	02-Part-2_C4_VAC_TVS_12	4.1 Programmable Logic Controller (SIL-2 PLC) Page 1404 of 1464	4.1.17 All the PLC Components (CPU, IO Modules, etc.), Ethernet Switches, Power Supplies (both Bulk & Rack power supplies) etc shall be Conformal Coated.	Kindly confirm the requirement of Conformal coating for Ethernet Switches, and Non SIL IO Modules.	Tender Condition Prevails. Conformal Coating to be considered for all CPU, IO Modules (SIL and Non-SIL), Power Supply (Bulk and Rack Power Supply) and Ethernet Switches.	No
226	02-Part-2_C4_VAC_TVS_12	4.1 Programmable Logic Controller (SIL-2 PLC) Page 1404 of 1464	4.1.17 All the PLC Components (CPU, IO Modules, etc.), Ethernet Switches, Power Supplies (both Bulk & Rack power supplies) etc shall be Conformal Coated.	Kindly confirm the requirement of Conformal coating for SMPS, As the same is not mentioned in the Detailed Specification of SMPS in clause 5.16.17 (Page 1419 of 1464).	Tender Condition Prevails. Conformal Coating to be considered for all CPU, IO Modules (SIL and Non-SIL), Power Supply (Bulk and Rack Power Supply) and Ethernet Switches.	No
227	02-Part-2_C4_VAC_TVS_12	4.2 The processor shall have the following capabilities as minimum Page 1404 of 1464	4.2.10 Changes to the configuration possible during operation early detection of faults and integrated diagnostics options.	Kindly Explain the requirement of Early detection of fault feature.	The PLC Modules shall have the following Early detection faults features, Self test at Module start-up, Continuous built-in runtime self-test, Module & Channel Diagnostics, Communication status and overall system health etc.	No
228	02-Part-2_C4_VAC_TVS_12	5.11 Network Switches Page 1415 of 1464	5.11.1.2 Modular / Chassis based – should have at least 4 Payload slots after configuring complete redundancy (CPU/Switching Fabric) and support Power over Ethernet (POE, IEEE 802.3af).	Kindly Confirm the Number of POE Ports with Combination required for each Switch and the Operating Temperature requirement.	Refer Addendum - 01.	Yes
229	02-Part-2_C4_VAC_TVS_12	5.11 Network Switches Page 1415 of 1464	5.11.1.3 The layer-3 switch shall have VRRP or equivalent for High Availability, Port Mirroring,Efficient multicast support, IGMP v1, v2, v3 Snooping, IP Version 6 (IPv6),	Kindly confirm the requirement of IPV6 Compliance in Layer 3 Switch.	Yes, Tender Condition Prevails.	No
230	02-Part-2_C4_VAC_TVS_12	5.14 CCTV Camera Page 1417 of 1464	u.Operating Environment-Maximum upto 70 degC, RH:90%	Operating Temperature of CCTV from Major OEM Products shall be :65 Deg, Request you to kindly accept the same.	Refer Addendum - 01.	Yes
231	02-Part-2_C4_VAC_TVS_12	6.2.23 Historian Page 1425 of 1464	6.2.23.1 Historian server	Historian Server is not Included in the BOQ, Kindly Confirm the requirement.	Refer Addendum - 01.	Yes
232	02-Part-2_C4_VAC_TVS_12	6.5 HMI – Touch Screen Page 1430 of 1464	6.5.10 d. Degree of protection Minimum IP 65	The Degree of protection of HMI Display from Major OEM shall be: IP 65 for Front Panel & IP 20 for Rear Panel., Request you to kindly accept the same.	Refer Addendum - 01.	Yes
233	02-Part-2_C4_VAC_TVS_12	6.5 HMI – Touch Screen Page 1430 of 1464	6.5.10 h. Operating conditions Maximum up to 70 Deg C and 0-95% Rh	Operating Temperature of HMI from Major OEM Products shall be :50 Deg, Request you to kindly accept the same.	Refer Addendum - 01.	Yes
234	02-Part-2_C4_VAC_TVS_12	8.3 Non-FS Control Cable and Signal Cable Page 1437 of 1464	8.3.5 There will be another overall shielding of annealed bare copper braid. The copper braid shielding shall have minimum 85% coverage. The annealed copper braid shall be of at least 0.15mm thickness and substantially free from burrs.	Kindly reconfirm the requirement of Copper Braided cables (Non FS & Signal Cables).	Yes, Tender Condition Prevails.	No
235	02-Part-2_C4_VAC_TVS_12	15.2.5 Spare Management Page 1454 of 1464	15.2.5 Spare Management Page 1454 of 1464	Kindly Provide the List of Spares to be Maintained for Uniformity	Tender Condition Prevails. Kindly Refer Part II, Chapter 20	No
236	02-Part-2_C4_VAC_TVS_12	15.3 Supply & Installation of hardware:	c) Industrial-grade Tablets with Internet Connectivity for O&M staffs(Minimum 11 Tablets) d) Firewall	Kindly confirm the requirement of Industrial Grade Tablet with Internet Connectivity for O&M Staff 11 Tablets,Firewall. Etc for Web and Mobile App, as the same is not detailed in the BOQ.	Tender Condition Prevails. Kindly refer the Bill of Quantities in Price Centre A (General Requirement)	No
237	02-Part-2_C4_VAC_TVS_12	2. SCOPE WORKS Page 1400 of 1464	2.12 ISMS SCADA System shall Control and Monitor of all the services including VAC/TVS/ E&M equipment’s during normal, congestion and emergency conditions from Station Control Room, Operational Control Centre (OCC) and Backup Operational Control Centre (BOCC).	Manufacturer do not recommend placing SIL-2 and non-SIL-2 IO modules in the same rack. Mixing SIL-2 IO modules with non-SIL IO modules may reduce the availability of the critical system. We suggest keeping the critical and non-critical systems separate for optimal performance and safety Manufacturer recommends separate system for TVS and ECS. 1. TVS System 2. ECS System (which include Environment Control system and E&M Equipment Fire Pump, Domestic Pumps etc)	Tender Condition Prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
238	02-Part-2_C4_VAC_TVS_12	2. SCOPE WORKS Page 1400 of 1464	2.14 The station integrated SCADA system shall analyze data & give the reports for asset management, inventory management, energy management, condition base monitoring & generate statistics reports on the type of component & equipment failure in the station.	1. We understand that asset healthiness data will be provided by field equipment/devices 2. We understand energy data will be communicated by suitable devices on open protocol 3. We understand ERP integration will be available for inventory management Kindly confirm above points.	Yes, Tender Condition Prevails.	No
239	02-Part-2_C4_VAC_TVS_12	2.19 ISMS SCADA Scope of Works at OCC & BOCC Page 1400 of 1464	2.19.2 Data Transfer Between OCC&BOCC SCADA System and Station SCADA System via Communication Backbone Network	We understand that Backbone Network will be provided by signaling and Telecom vendor. Kindly confirm.	Tender Condition Prevails. Communication Backbone Network shall be provided by System wide contractor as per Part 2 Appendix 2.	No
240	02-Part-2_C4_VAC_TVS_12	4.1 Programmable Logic Controller (SIL-2 PLC) Page 1402 of 1464	4.1.1 PLCs shall be supplied by a manufacturer of international repute with a proven track record of similar installation applications and SIL level minimum to SIL - 2 with Primary & Secondary geographically separated hot standby arrangements as per IEC 61508:2010/latest version to meet the system architecture requirement of the station ISMS system.	Kindly accept suppliers who can provide SIL 2 system which complies to railway standard.	Tender Condition Prevails.	No
241	02-Part-2_C4_VAC_TVS_12	3. LIST LIKELIHOOD VENDOR FOR SCADA EQUIPMENT AND MATERIALS Page 426 of 1464	PLC ROCKWELL / SCHNEIDER / SIEMENS / MITSUBISHI / PHOENIX	Kindly approve Emerson make for PLC	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
242	02-Part-2_C4_VAC_TVS_12	4.1 Programmable Logic Controller (SIL-2 PLC) Page 1402 of 1464	4.1.2 PLC Configuration shall be Completely Modular, rack Based Mounting and Compact in Construction to ensure maximum optimization of cabinet space without compromising environmental operating conditions	Manufacturer recommends new generation Rack less Controller, which are compact in construction, and it will help save O&M cost as well. Kindly approve the same as an option.	As long as they meet the following but not limited to: 1. Minimum SIL- 2 configuration 2. Geographically Separated Hot standby SIL-2 PLC Configuration 3. HOT swappable configuration any compact designs shall be acceptable.	No
243	02-Part-2_C4_VAC_TVS_12	4.1 Programmable Logic Controller (SIL-2 PLC) Page 1402 of 1464	4.1.6 The geographically separated Hot standby SIL-2 CPU shall be Flexible, Robust, Sustainable, and Ethernet backbone to optimize connectivity and communications. SIL-2 CPU shall support SIL-2 IO & also non-SIL IO modules. SIL-2 and non-SIL IO modules shall be configurable in the same chassis/rack.	Manufacturer do not recommend placing SIL-2 and non-SIL-2 IO modules in the same rack. Mixing SIL-2 IO modules with non-SIL IO modules may reduce the availability of the critical system. We suggest keeping the critical and non-critical systems separate for optimal performance and safety.Kindly confirm.	Tender Condition Prevails.	No
244	02-Part-2_C4_VAC_TVS_12	4.3 Digital Input Module (DI) Page 1405 of 1464	4.3.1 a. Inputs per module - 8/16/32/64 Channel	64 channel Module are not suitable for critical application like metro as It decreases system availability. Kindly clarify.	Tender Condition Prevails.	No
245	02-Part-2_C4_VAC_TVS_12	6.2 SCADA Software Page 1423 of 1464	6.2.18 The SCADA shall support superior fault tolerance; shall be configured for high availability architecture to operate in a redundant hot standby configuration. To achieve this level of reliability, there shall be two servers: one is dedicated as the primary server and the other acts as the standby server. If the primary server encounters a problem/failure, the standby server automatically assumes Control and reconnects controllers and clients within 5 seconds without loss of data minimized to this period.	We understand this server configuration required at OCC/BOCC Level only. Kindly confirm.	Yes, Tender Condition Prevails.	No
246	02-Part-2_C4_VAC_TVS_12	6.2.23 Historian Page 1425 of 1464	6.2.23 Historian The historian shall be provided for monitoring of historical data and storage capacity for at least 5-year period	As per OCC/BOCC architecture there is no separate historian station, so historian license will be loaded in main primary/backup server only.Kindly confirm.	Refer Addendum - 01.	Yes
247	02-Part-2_C4_VAC_TVS_12	4.2 The processor shall have the following capabilities as minimum. Page 1404 of 1464	4.2.4 Implementation of standard IPSEC protocol helps to secure communication between the control network and PLC/devices.	Kindly provide the required standards.	Tender Condition Prevails. IEC Standards shall be followed.	No
248	02-Part-2_C4_VAC_TVS_12	4.2 The processor shall have the following capabilities as minimum. Page 1404 of 1464	4.2.8 Interface to other popular fieldbus and device networks including Modbus, Profibus, BACnet and HART by using Gateways.	One of approved makes PLC will support following communication interfaces. - Modbus TCP/IP - Ethernet - Profinet Kindly confirm whether the Separate HART IO modules are required are not?	Separate HART IO modules are not required, but PLC shall be compatible for HART communication interface.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
249	02-Part-2_C4_VAC_TVS_12	5.16 PLC/ RIO Panel and Accessories Page 1418 of 1464	5.16.7 Ventilation louvers where required shall be provided on the sides of panels and shall be of accepted design to suit local conditions. The design of the ventilation louvers shall be vermin-proof & provide IP55 Protection for the enclosure as per EN60529 latest version	Approved manufacturer can provide Ventilation louvers / Fan & Filter will be IP - 54 protection for the enclosures. Kindly accept the same.	Tender Condition Prevails.	No
250	02-Part-2_C4_VAC_TVS_12	5.16 PLC/ RIO Panel and Accessories Page 1418 of 1464	5.16 PLC/ RIO Panel and Accessories	Kindly provide detailed specifications for - OCC & BOCC Area PLC Panels and RIO Panels. - All Station PLC Panels & RIO Panels.	Please refer to Part-02, Employer’s Requirements, ISMS Specification, 5.16 for both station PLC/RIO and OCC/BOCC PLC panel enclosures.	No
251	02-Part-2_C4_VAC_TVS_12	5.16 PLC/ RIO Panel and Accessories Page 1418 of 1464	5.16.11 The PLC/RIO Panel enclosure shall be made of IP 55 to EN 60529:2019 or the latest version complies with NEMA rated	Enclosure will be made of IP - 54 to IEC - 60529, NEMA - 1 rated. Kindly approve the same.	Tender Condition Prevails.	No
252	05-Section - VIII. Employer’s Drawings 04-Sub Section-D - TVS&VAC ISMS Layout and Architecture Drawing	OCC - BOCC System Architecture DRAWING NUMBER : P20C4TVS03-KOD- MMSOTVSSCD-DWG21503	Signalling Unit	Kindly provide detailed information regarding signalling unit.	Tender Condition Prevails. Kindly refer Part -02, Appendix-2	No
253	BOQ_815086	SI. No.168 PRICE CENTRE D - VAC Works	11- Insulated Flexible Ducting and Damper In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, unit 8) and drawings.	We understand that insulation required for Flexible ducting whether it is normal or fire rated insulation, is separately mentioned in (PRICE CENTRE D - VAC Works) BOQ and insulation need not be considered along with Insulated flexible ducting BOQ line item. Kindly confirm.	Tender condition prevails. Insulation needs to be considered	No
254	BOQ_815086	PRICE CENTRE - G (Operation & Maintenance and Assistance during DLP)	SI No. 7 Operation & Maintenance (Ref Chapter-21, Section VI of Part -2)	We understand that UOM of operation & maintenance staff is in Nos. instead of Lot. Kindly confirm.	Yes.	No
255	BOQ_815086	SI. No.146,151,157 PRICE CENTRE D - VAC Works	9.01- Fire Rated Application : GI Sheet Metal Ducting 9.02- Fire Rated Application : MS angular frame GI Sheet Metal Ducting 9.04- Normal (Non Fire Rated) Application. GI Sheet Metal Ducting	We understand that ducting required is of rectangular type. Kindly confirm as the specifications mentions Flat Oval ducting as well and BOQ for the Flat oval ducting is missing.	There is no flat oval ducting considered in design.	No
256	BOQ_815086		PRICE CENTRE - A (GENERAL REQUIREMENT) PRICE CENTRE - G (Operation & Maintenance and Assistance during DLP)	Manpower defined in the BOQ will be billable on Man-months basis instead of Lot item. Kindly confirm.	Manpower shall be billed in LOT. Please refer to Part-02, Appendix-03 & 05 for duration.	No
257	BOQ_815086		Currency	Since Unit rate has to be given in SITC form, kindly clarify how to put rates in BOQ for imported items (in currency other than INR) as erection for such items will be in INR.	Bidder shall quote in the currency prescribed in BOQ for each line item.	No
258	03-Part-3_C4_VAC_TVS_12	PCC Clause No. 54 GCC Clause No. 13.7	13.7.1.5. No addition or reduction in cost due to any changes in any other Law will be allowed by the Employer, except for the changes due to i) Any new tax introduced and / or changes in the existing tax rates. ii) Changes in rate of Customs Duty as compared to the rate existing on the base date; and iii) Change in the rate of GST as compared to the rate existing on the base date.	Changes in rate of currency exchange in INR as compared to the rate existing on base date will be applicable at actuals. Kindly confirm.	Tender Condition Prevails.	No
259	01-Part-1_C4_VAC_TVS_12	1.7.11 Annexure 1 – Stage payment structure: Page 150 of 205	Stage payment structure for each item of PRICE CENTRE C to F - Manufacture, Supply, Installation, Testing, Commissioning & DLP S1 Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) - 3% S2 Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) - 55% S3 Completion of installation works and Completion of Partial Acceptance Testing (KD-5) - 17% S4 Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6) - 13% S5 DLP 1st Year - 6% S6 DLP 2nd Year - 6%	For improvised cashflow, we request you to change the payment terms as below: S1 Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) - 5% S2 Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) - 75% S3 Completion of installation works and Completion of Partial Acceptance Testing (KD-5) - 10% S4 Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6) - 10%	Tender Condition Prevails.	No
260	03-Part-3_C4_VAC_TVS_12	5.Retention Money Security Page 159 of 161	5.Retention Money Security Page 159 of 161	As Retention money BG is being submitted, there will not be any deductions from our RA bills.	Tender Condition Prevails.. Please refer GCC 14.9.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
261	02-Part-2_C4_VAC_TVS_12	2.17.2.g Page 1344 of 1464	All incomer MCCB’s shall have front adjustable electronic/microprocessor-based releases with LCD/LED display and RS 485/Ethernet communication, adjustment in the range of 40 – 100% for nominal overloads and 2 – 10 times of rated current for short circuit faults.	As mentioned in BOQ ISMS Connectivity - All the breakers should be provided with ethernet port. Kindly confirm whether to consider RS 485 / Ethernet communication.	Refer Addendum - 01.	Yes
262	BOQ_815086	Sl. No.3 PRICE CENTRE E - VAC & TVS ELECTRICAL WORKS	3 - LV Switchboard/ MCC's / DB	Each panel Incomer & Outgoings quantities are mentioned column D in set. Kindly confirm the quantity for each panel.	Refer Addendum - 01. Kindly refer to Part-01, Pricing Schedule, Annexure-I.	Yes
263	02-Part-2_C4_VAC_TVS_12	2. LIST OF LIKELIHOOD VENDOR FOR VAC EQUIPMENT AND MATERIALS Page 424 of 1464	48. TILE FAN - FAN PRO/ TWISTER/ ZXMCO	Kindly approve and provide other makes complying the given technical specification	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
264	Part-1, Section - II Bid Data Sheet (BDS)	ITB 21.1	The amount and currency of bid security/EMD shall be INR 5.28 Crores (Indian Rupees Five Crore Twenty -Eight- Lakh Only)	We feel that the bid security amount is very high. Requesting you to reduce the same to the 1% of estimated contract amount as per the industry norms for ECS & TVS packages.	Tender Condition Prevails.	No
265	Part-1, Section – IV B Pricing Schedule	1.2 CONTRACT PRICE	The total of all Price Centres A to I as shown in the Pricing Summary, after adjusting the Discount (if any) offered by the successful bidder constitutes the ‘‘Contract Price’’ which shall be the total amount to be paid to the Bidder for executing the Works and performing all obligations under the Contract. GST will be reimbursed against proof of discharge of liability. Custom duty (at project import rates) will be reimbursed against proof of discharge of liability within the limit as quoted by the Bidder in Price Centre ‘‘I’’.	Please confirm whether BOQ/Price Schedule rates should be including GST or excluding GST	Tender Condition Prevails. Please refer to 1.7.1, iii (Notes), Part -01, Section IV B, Pricing Schedule.	No
266	Part-1, Section – IV B Pricing Schedule	1.7.11 Annexure 1 – Stage payment	Stage payment structure for each item of PRICE CENTRE C to F - Manufacture, Supply, Installation, Testing, Commissioning & DLP S1 - Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) : 3% S2 - Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) : 55%** S3 - Completion of installation works and Completion of Partial Acceptance Testing (KD-5) : 17% S4 - Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6): 13% S5 - DLP 1st Year : 6% S6 - DLP 2nd Year : 6%	We propose the following payment terms in order to ensure a healthy cash flow for the Bidders during the course of project execution Stage payment structure for each item of PRICE CENTRE C to F - Manufacture, Supply, Installation, Testing, Commissioning & DLP S1 - Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) : 5% S2 - Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) : 70% on prorata basis S3 - Completion of installation works: 12.5% on prorata basis S4 - Completion of Partial Acceptance Testing (KD-5) : 5% on prorata basis S5 - Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6): 2.5% S6 - DLP 1st Year : 2.5% S7 - DLP 2nd Year : 2.5% Kindly accept the same as the same are inline with the industry norms for ECS & TVS packages.	Tender Condition Prevails.	No
267	Part 2, Section VI Works Requirements	10.9 International Training/Conference/Symposiums/ Seminars:	International Training/Conference/ Symposiums/Seminars for Employer's staffs	Unit Mentioned as per Works Requirement clause is Per Staff and as per BOQ it is motioned as LOT. We understand 10 LOTs motioned as per BOQ are for 10 nos. staff	The cost is associated with per staff. It shall include all the requirements mentioned in clause 10.9. Refer the BOQ in Addendum-01	Yes
268	Part 2, Section VI Works Requirements	15.5.4 Accommodation & Equipment	The Contractor’s proposals for the leasing/renting of the offices shall be submitted to the Engineer for review within 14 days of LOA (Letter of Acceptance) and ready for occupy for Main project office within 45 days from letter of Acceptance. Satellite Site offices shall be ready to occupy 60 days prior to access date of the station	Identifying of leasing/renting land and construction of offices as per the specifications motioned in the Works Requirements practically would require more time, hence requesting you to amend the timelines and clause as under. "The Contractor’s proposals for the leasing/renting of the offices shall be submitted to the Engineer for review within 45 days of LOA and ready for occupy for Main project office within 120 days from letter of Acceptance. Satellite Site offices shall be ready to occupy 30 days prior to access date of the station."	Refer Addendum - 01.	Yes
269	Part 2, Section VI Works Requirements	15.6 PROJECT SITE OFFICES	Main office shall be located at centralized location of the stretch of contract. The Contractor may opt to arrange for rental accommodation with prior approval of the Engineer/Employer. 1 no’s Satellite site office between 3-4 stations within the stretch with prior approval of the Engineer/Employer.	Requesting CMRL to identify and provide the land for Main office, Satellite site office, site store, DLP office and DLP store free of cost near the site location.	Tender Condition Prevails.	No
270	Part 2, Section VI Works Requirements	15.6 PROJECT SITE OFFICES	1 no’s Satellite site office between 3-4 stations within the stretch with prior approval of the Engineer/Employer.	For this package we have eight underground stations in our scope so we understand 2 nos. satellite site offices shall be sufficient. Kindly confirm.	Yes, Please refer to the revised BOQ in Addendum - 01	Yes

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
271	Part 2, Section VI Works Requirements	19.3. Man-Power Deployment during Defects Liability Period.	19.3.1. The contractor shall deploy the following minimum positions during DLP period for 24 months. The Contractor shall submit the organization chart along with Deployment schedule for Notice of No objection.	We understand that the DLP manpower will be stationed in main office once the project team demobilises after completion of the project. Kindly confirm.	Tender condition prevails. Refer to Price Centre - G.	No
272	Part 2, Section VI Appendices	5.19 Deployment of Key Staffs & Non-Key staffs	Deployment of Key Staffs & Non-Key staffs	Deployment of Chief Project Manager / Contract Representative is mentioned till the end of DLP, which is not required and we shall be considering till the end of completion of Operational Acceptances Certificate. Kindly confirm	Tender condition prevails.	No
273	Part 2, Section VI Appendices	5.19 Deployment of Key Staffs & Non-Key staffs	Deployment of Key Staffs & Non-Key staffs	Deployment of Cost & Accounting Manager is mentioned till the end of DLP, which is not required and we shall be considering till the end of completion of Operational Acceptances Certificate. Kindly confirm	Tender condition prevails.	No
274	Part 2, Section VI Appendices	5.19 Deployment of Key Staffs & Non-Key staffs	Deployment of Key Staffs & Non-Key staffs	In general we have noted the deployment schedule mentioned manpower appendix table, however the manpower shall be deployed/demoblaised depending on the project requirment and site access in consultation with Employer/Engineer. We shall submit the organization chart along with Deployment schedule for Notice of No objection to Employer/Engineer after ward of contract. Please confirm.	Yes. Tender condition prevails.	No
275	Part 2, Section VI A Sub Section-1	Table 1 Mandatory Contractor OHSE management resource requirement	Notes: Qualified Safety Steward as per table 2 OHSE Personnel Qualifications & Experience to be deployed at each worksite at each shift.	We understand that OHSE manpower requirement given as per Table 1 is for the whole project and not for per station or per work site. Please clarify	OHSE man power deployment shall be as per the BOQ. Tender condition prevails.	No
276	Part-2 Section – VII Sub - Section B– TVS works	2.4 Fan Fabrication: Products and Materials	2.4.5 Fan rotating components shall be designed such that no measured or calculated stress level shall exceed 60 percent of the component’s materials yield strength at design temperature. Fan blades shall not vary in weight by more than 2 percent	Please note that fan blades weights will vary by around 5% to 8% due to larger tolerances on cast parts. Kindly Clarify.	Tender condition prevails.	No
277	TVS Works BOQ	Item No. 3 - TUNNEL VENTILATION FAN UNITS	Fan Pressure Mentioned in ESP	We understand that fan external static pressure mentioned in BOQ. Total static pressure is vary OEM to OEM. Please clarify.	Tender condition prevails. Yes, external static pressure is mentioned in BoQ.	No
278	Part-2 Section – VII Sub - Section B– TVS works	2.9.1 Factory Tests and Inspections	2.9.1.2 All type of fans Test shall be conducted in AMCA Accredited Laboratory . AMCA Accredited Laboratory Certification shall be submitted.	Please note that Fan testing shall be conducted at fan manufacturer's work shop as per AMCA/ISO Standard .	Tender condition prevails.	No
279	Part:2: Section – VII Sub - Section E – ISMS works	5.14 CCTV Camera	Operating Environment : Maximum upto 70 degC, RH:90%	Operating Temperature of CCTV from Major OEM Products shall be :65 Deg . Request you to kindly accept the same.	Refer addendum - 01.	Yes
280	Part:2: Section – VII Sub - Section E – ISMS works	6.5 HMI – Touch Screen	Operating conditions : Maximum up to 70 Deg C and 0-95% Rh	Operating Temperature of HMI from Major OEM Products shall be :50 to 55 Deg . Request you to kindly accept the same.	Refer addendum - 01.	Yes
281	VAC BOQ	Item No. 9.03 - Fire Resistant Paint	9.03- Fire-Resistant Paint for fire rated duct. In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, unit 8) and drawings.	We gone through the specification and we found that fire wrap specification also available. We request you please add fire wrap option in the BOQ description as bellows. 9.03- Fire-Resistant Paint / Fire Wrap for fire rated duct. In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, unit 8) and drawings.	Tender condition prevails. Please follow BOQ Price Centre C 9.03-Fire-Resistant Paint for fire rated duct line item.	No
282	Price Centre A: General Requirement	20 & 39 Deployment of Key Staffs & Non-Key staffs	Unit of Mesurment	Unit of Mesurment for Deployment of key & non staff is mentioned as LOT as against Nos. We understand same shall be considered as Numbers.	Tender condition prevails. Yes	No
283	Part:2: Section – VII Sub Section C- VAC System Part-A	4.4.7 Plug Fan with AC Motor Point - K	The fan and motor shall be statically and dynamically balanced according to ISO 1940 , Specification G2.5 grade.	Please note that, The fan and motor shall be statically and dynamically balanced according to ISO 21940 .	Refer Addendum - 01.	Yes
284	Part:2: Section – VII Sub Section C- VAC System Part-A	4.4.7.2 Motor Point - J	The Motor bearings shall be designed for an average life of at least 1,00,000 hours . (L10 life, ISO 2008-2007, Anti-Friction Bearing Manufacturer's Association). All Motor bearings shall be self-lubrications type.	As per OEM standard bearings average life is 50000 hours. Kindly confirm.	This can be reviewed during Design Verification and Validation stage.	No
285	Part-3, Section - IX Particular Conditions (Part A: Contract Data)	8.7 Delay damages for the Works	Delay damages for various key dates shall be as per below. For Intermediate Key dates: (KD-01 to KD 05) 1 to 28 days – INR 1 Lakh per day; From 29th day onwards – INR 10 Lakhs per day; For Final completion of project (KD-06) – 0.1% of Contract Price Centre (total value of A to F) per day.	If the end KD-06/completion date is met as per the Completion period mentioned in the tender documents, then Delay Damages amount deducted for all previous millstones shall be reimbursed. Please accept above request.	Tender Condition Prevails.	No
286	Part-3, Section - IX Particular Conditions (Part A: Contract Data)	14.3 c Percentage of Retention	5% from each IPC	Requesting you to waive of the cash retention clause and allow bidder to submit upfront bank guarantee of 5% of contract value valid till the end of the DLP. Please confirm.	Tender Condition Prevails.	No
287	Part-3, Section - IX Particular Conditions (Part A: Contract Data)	Periods for submission of insurance:	From the date of issue of LOA a) 15 Days b) 28 Days	These date are not possible in case the bidder is in consortium or JV as formal registration would take 15-20 days from the date of LOA. Hence requesting a) Evidence of insurance - 45 days from Commencement date b) Relevant policies - 60 days from the Commencement date	The successful Bidder can formally request based on the prevailing circumstances.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
288	Part-3, Section - X Particular Conditions (Part A: Contract Data)	14.2 Total advance payment	The interest free mobilization advance at the rate of 10 % of the accepted contract amount excluding Provisional Sum, Price Centre “G” (Operation and Maintenance assistance during DLP) and Price Centre “H” (CAMC) in the currencies and proportions is payable against production of Bank guarantee from a public sector bank. And the guarantee shall be in the form of a BG for 110% of the advance amount requested plus GST. Mobilization advance shall be paid in two instalments.	Kindly allow Advance Bank guarantee from Scheduled Commercial Bank also as the same is allowed for Performance Bank Guarantee and EMD BG	Refer Addendum - 01.	Yes
289	Part-3, Section - X Particular Conditions (Part A: Contract Data)	Table 2: Partial Site Access and Possession	Table 2: Partial Site Access and Possession Access Dates for Stations from Station Contractors:	Access Dates for few Stations from Station Contractors are inline with the overall completion period of 1160 days as per NIT. Please clarify	Yes. Tender condition prevails.	No
290	<u>COMMERCIAL /GENERAL</u> PART – 1 BIDDING PROCEDURES SINGLE STAGE TWO ENVELOPE BIDDING SECTION – IV B PRICING SCHEDULE	ii. Condition for Price Bid Documents: Page 135 of 205	ii. Condition for Price Bid Documents: (i) *The Bidder shall quote "Price centre A" with in a range of 7-10% of the total of Price Centre C, D, E & F. (ii) *The Bidder shall quote "Price centre B" with in a range of 1.0 - 1.5% of the total of Price Centre C, D, E & F. (iii) *The Bidder shall quote "Price centre G" more than 2% of the total of Price Centre C, D, E & F. (iv) *The Bidder shall quote "Price centre H" more than of 11% of the total of Price Centre C, D, E & F. (v) Bidders Compliance statement for Price Centres A, B G & H. a) The bidder must comply with the % value mentioned above for Price Centre A, B, G, H before quoting the BOQ. If increase or decrease of % value mentioned above, the bidder must inform during the pre-bid meeting with justification. Employer decision is final and binding. b) If any bidder does not comply with the conditions as mentioned above in point (a) and turn to be successful bidder, in that case as mentioned in clause Part-03 PCC 4.2 Performance Security, successful bidder shall submit performance Bank Guarantee (PBG) for the value of 20% of Accepted Contract Price.	We request you to kindly remove this clause because there may be huge variation in %age mentioned which we cannot confirm at this moment.	Tender Condition Prevails.	No
291	PART – 1 BIDDING PROCEDURES SINGLE STAGE TWO ENVELOPE BIDDING SECTION – IV B PRICING SCHEDULE	iii. Notes on Pricing Document:(j) Page 136 of 205	BOQ should read in conjunction with Specifications & drawings, In case of any contradiction between BOQ / Technical Specifications and Drawings, the most stringent condition shall prevail, subject to Engineer/Employer’s NONO.	We request you to kindly accept following order of precedence - (Given in the Contract Agreement form Page 153 of 161 of Part-3) (a) The Contract Agreement, (b) The Letter of Acceptance (LOA) (c) Letter of Technical Bid and Letter of Price Bid (d) Addendum/Corrigendum to Tender (e) The Particular Conditions – Part A (f) The Particular Conditions – Part B (g) FIDIC Conditions of Contract for Construction for Building and Engineering works designed by the Employer, 2010 (GC) (h) Pricing Documents and Financial Bid (i) Work’s Requirements – Technical Specifications (j) Work’s Requirements – General Specifications (k) Employer’s Drawings (o) Schedules, any other documents forming part of the contract.	Refer Addendum - 01.	Yes
292	PART – 1 BIDDING PROCEDURES SINGLE STAGE TWO ENVELOPE BIDDING SECTION – IV B PRICING SCHEDULE	iii. Notes on Pricing Document:(k) Page 137 of 205	All the items mentioned in relevant Sections / Clauses of the technical specifications and not specifically mentioned in BOQ shall be deemed to be included in the quoted rates.	We understand that this clause shall be applicable for accessories only and ff any major items is missing in BOQ shall be treated as extra items. Kindly confirm	Yes. Tender condition prevails.	No
293	PART – 1 BIDDING PROCEDURES SINGLE STAGE TWO ENVELOPE BIDDING SECTION – IV B PRICING SCHEDULE	iii. Notes on Pricing Document:(L) Page 137 of 205	The Contractor must verify the capacity and quantity details specified in BOQ as well as in tender drawings for all equipment’s & material. If any deviations, contractor must inform during the pre-bid meeting.	Please note we shall follow the BOQ.	The Bidder shall quote as per BOQ parameters and in conjunction with functional requirements, and other relevant Tender conditions.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
294	PART – 1 BIDDING PROCEDURES SINGLE STAGE TWO ENVELOPE BIDDING SECTION – IV B PRICING SCHEDULE	II. Price Centre- A: GENERAL REQUIREMENT, b. Page 137 of 205	II. Price Centre- A: GENERAL REQUIREMENT a. Identification of Store Yard means submission of proof of identification of the land along with proof of agreement with landowner. b. Project Head office and project site office requirement is given as minimum SqM Area. If any decrease in the actual Sqm Area, rate shall be arrived on SqM basis (Actual SqM* Quoted rate /minimum area mentioned in BoQ) for identification, Construction and Maintenance. c. Store yard requirement is given as minimum SqM Area. If any decrease in the actual Sqm Area, rate shall be arrived on SqM basis (Actual SqM* Quoted rate / minimum area mentioned in BOQ) for identification, Construction and Maintenance.	1. Please note the area of head office, site office and storage yard shall be as per contractor's requirement. So we request you to kindly remove the clause of minimum area requirements. 2. We understand that the space for our head office and site office shall be provided by client free of cost within the premises of site. 3. We request you to please provide the space of storage yard on free of cost basis.	1. Tender condition prevails. 2. Tender condition prevails. 3. Tender condition prevails.	No
295	PART – 1 BIDDING PROCEDURES SINGLE STAGE TWO ENVELOPE BIDDING SECTION – IV B PRICING SCHEDULE	1.7.11 Annexure 1 – Stage payment structure: Page 150 of 205	Stage payment structure for each item of Price Centre C to F (Manufacture, Supply, Installation, Testing and Commissioning) shall be as follows: 1. S1 - Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) - 3% 2. S2 - Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) - 55%. 3. S3 - Completion of installation works and Completion of Partial Acceptance Testing (KD-5) - 17% 4. S4 - Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6) - 13% 5. S5 - DLP 1st Year - 6% 6. S6 - DLP 2nd Year - 6%	The payment schedule given in the project are not suitable for a healthy project cash flow. We request you to accept the below terms of payment as per general market practice for price centre C to F (excluding prelims) 1. S1 - 5% on pro-rata basis Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) 2. S2 - 75% on pro-rata basis on manufacture, supply and delivery to site 3. S3 - 14% on pro-rata installation 4. S4 - 5% on pro-rata completion of Testing & Commissioning 5. S5 - 0.5% on completion of DLP 1st Year 7. S7 - 0.5% on completion of DLP 2nd Year	Tender condition prevails.	No
296	PART – 2 EMPLOYER’S REQUIREMENTS SINGLE STAGE TWO ENVELOPE BIDDING	Chapter- 4, Clause 4.3.6.7 Page 63 of 1464	The Contractor shall maintain the submission of all documents with addressing the comments provided by Employer/Engineer in the form of DSR/Letter. Any documents submission revision goes more than three revisions will attract the Non-Recoverable penalty of Rs.1,00,000(Rupees One lakhs) per case for the following submission. i) Vendor submission & compliance ii) Material Submission & compliance iii) Interface documents iv) FAT submission & Report v) Installation Method statement vi) Safety documents vii) O&M Documents viii) Programmes & planning documents ix) RAMS & EMC Documents x) Design Verification & Validation Documents xi) Testing & Commissioning documents xii) DLP Documents	We request you to kindly delete this clause.	Tender condition prevails.	No
297	PART – 2 EMPLOYER’S REQUIREMENTS SINGLE STAGE TWO ENVELOPE BIDDING	Clause - 7.1.1.6 Page 97 of 1464	Full time Stores Manager assisted with 24 x 7 security guards shall be provided for storage yard till end of defects liability period.	Store manager shall be provided till project completion instead of DLP	Refer Addendum - 01.	Yes
298	PART – 2 EMPLOYER’S REQUIREMENTS Sub section – B Appendices-5 Appendix -5: Project Organization & Resource	5.18 Key & Non-Key Personnel – Qualification Criteria Page 411 of 1464	Chief Project Manager / Contract Representative - Entire Duration of Contract till completion of DLP	CPM/Contract representative shall be provided till project completion instead of DLP. Please note that DLP staff is already separately defined in tender	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
299	Part-3, PARTICULAR CONDITIONS OF CONTRACT PART - 1 BIDDING PROCEDURES SINGLE STAGE TWO ENVELOPE BIDDING SECTION – IV A BIDDING FORMS	Sr. No. 55 Page 140 of 161 2. Schedule of Adjustment Data Page 83 of 205	Part-3, 13.8 Adjustments for Changes in Cost $P_n = a + b(L_n/L_o) + c(S_n/S_o) + d(C_n/C_o) + e(F_n/F_o)$ “Pn” is the adjustment factor to be applied to the certified value of the work carried out in period “n”, this period being a month unless otherwise stated in the Contract Data. “a” is a fixed coefficient as specified in Schedule of Adjustment Data in Bidding forms, Section IV A, representing the nonadjustable portion in contractual payments. “b”, “c”, “d” and “e” are coefficients representing the estimated proportion of each cost element (labour, steel, copper and fuel) in the Works or sections thereof, as specified in Schedule of Adjustment Data in Bidding forms, Section IV A, “Ln”, “Sn”, “Cn” and “Fn” are the current cost indices or reference prices for period “n”, each of which is applicable to the relevant tabulated cost element on the prior to the month to which the particular payment certificate relates. “Lo”, “So”, “Co” and “Fo” are base cost indices corresponding to the above cost elements at the date specified in Schedule of Adjustment Data in Bidding forms, Section IV A. a. Nonadjustable (Fixed) - Weightage - 0.1 b. Ln/Lo - Labour (L) - Weightage - 0.25 c. Sn/So - Steel (S) - Weightage - 0.15 d. Cn/Co - Copper (C) - Weightage - 0.25 e. Fn/Fo - Fuel (F)- Weightage - 0.25	1. The fuel component mentioned in the price variation clause is very high at 25%. The fuel component in a typical ECS TVS project is not more than 5%. We request you to change fuel component to 5%, Steel to 25% and add aluminium component of 10% as TVS will have a substantial aluminium component. 2. For electrical cable, electrical panels and earthing, we request you to allow adjustment for changes as per IEEMA which will be a more realistic variation for these items	Tender condition prevails.	No
300	Part-3, PARTICULAR CONDITIONS OF CONTRACT	PART- A – CONTRACT DATA, Sr. No. 27 Page 116 of 161	Repayment amortization rate of advance payment - 16.67%	Repayment amortization rate of 16.67% is very high. We request you to keep amortization rate as 12.5% which will ensure complete recovery of advance till 80% payment is made	Tender condition prevails.	No
301	Part-3, GCC	Clause - 14.7, Payment. (b) Page 60 of 161	The Employer shall pay to the Contractor: (b) the amount certified in each Interim Payment Certificate within 56 days after the Engineer receives the Statement and supporting documents;	To maintain a healthy cash flow, we request you to make the payment within 28 days after engineer receives the statement and supporting documents	Tender condition prevails.	No
302	Part-3, PARTICULAR CONDITIONS OF CONTRACT	PART- A – CONTRACT DATA, Sr. No. 30 Page 116 of 161	Minimum Amount of Interim Payment Certificates - 0.5% of the Accepted Contract Amount	We request you to remove the min. IPC clause. We shall submit one bill per month as per your requirement but there shall not be a min. bill amount	Tender condition prevails.	No
303	Part-3, PARTICULAR CONDITIONS OF CONTRACT	PART- A – CONTRACT DATA, Sr. No. 28 & 29 Page 116 of 161 GCC, Clause - 14.9, Page 61 of 161	28. Percentage of retention - 5% of each IPC 29. Limit of retention money - 5% of accepted contract amount 14.9. When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price. Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price. However, if any work remains to be executed under Clause 11 [Defects Liability], the Engineer shall be entitled to withhold certification of the estimated cost of this work until it has been executed.	We request you to not deduct any retention from our IPC against two BG's of 2.5% each. The first BG shall be valid till end of DNP and the second till taking over certificate	Tender condition prevails.	No
304	Part-3, PARTICULAR CONDITIONS OF CONTRACT	PART- A – CONTRACT DATA, Sr. No. 22 & 23 Page 115 of 161	Delay damages for the Works Delay damages for various key dates shall be as per below. For Intermediate Key dates: (KD-01 to KD-05) 1 to 28 days – INR 1 Lakh per day; From 29th day onwards – INR 10 Lakhs per day; For Final completion of project (KD-06) – 0.1% of Contract Price Centre (total value of A to F) per day. Maximum amount of delay damages - 10%	1. We request you to accept delay damages only for delay in handing over and remove delay damages on KD. Please note that there may be few slippages in the individual KDs but we remain committed to the overall completion dates. The delay damage shall therefore be applied to only delay in final completion due to reasons attributable to contractor 2. Also note that a period of 60 days is mentioned for installation and PAT activities (KD-05) which is a very tight schedule. We request you to allow at least 240 days for KD-05 after access dates 3. We request you to limit the overall delay damages to 5% of unexecuted contract value.	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
305	Part-3, GCC	Clause 11.3 Page 49 of 161	The Employer shall be entitled subject to Sub-Clause 2.5 [Employer’s Claims] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or by reason of damage attributable to the Contractor. However, a Defects Notification Period shall not be extended by more than two years.	We request you to delete the extension of DLP clause	Tender condition prevails.	No
306	Part-3, PARTICULAR CONDITIONS OF CONTRACT	PART- B – Specific Provisions (SP), Clause 52, Page 138 of 161	A) The rates for any variation (new item) work will be as per the rates given in the following Schedule of Rates (SoR) in the same order as given below: 1. Central Public Works Department- Delhi Schedule of Rates- latest version (excluding GST) escalated @ 2% per year to the year of the execution. 2. Indian Railways Unified Standard Schedule of Rates- latest version (excluding GST) escalated @ 2% per year to the year of the execution. 3. Tamilnadu Public Works Department Schedule of Rates- latest version (excluding GST) escalated @ 2% per year to the year of the execution. 4. In case, the item is not available under the three SoRs mentioned above, then, whichever is lesser among the following will be paid: i. Last approved rate of CMRL ii. Market rate (minimum three quotation) shall be submitted lowest of the quotations shall be considered plus @15 % is contractor profit and overhead.	For extra items/variations, we request you to consider rates as per market rates instead of DSR/Indian Railways SOR/ TN PWD SOR as there is a wide variance in rates of different items every year. Applying an escalation of 2% on SORs may not give a realistic market rate	Tender conditions prevail	No
307	Part-3, GCC	Clause 13.1 Page 52 of 161	Each Variation may include: (a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation), (b) changes to the quality and other characteristics of any item of work, (c) changes to the levels, positions and/or dimensions of any part of the Works, (d) omission of any work unless it is to be carried out by others,	Omission of work shall fall under overall variation limit of +/-25%	Please refer to Part-03, PCC-12.3 and GCC-12.4.	No
308	Part-3, PARTICULAR CONDITIONS OF CONTRACT	Sr. no. 64, 20.2 Dispute Board (DB): Page 146 of 161	20.2 Dispute Board (DB): (i) If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Engineer, either Party may refer the dispute in writing to the Dispute Board (DB) for its decision, with copies to the other Party and the Engineer. Such reference shall state that it is given under this sub-clause. (ii) The DB shall be appointed as and when the first request is raised, within 28 days of receipt of such request by the employer. (iii) The DB shall comprise three members. The Employer shall, within fifteen days from the date of receipt of such notice, send a list of 20 (twenty) independent and neutral members who shall be professionals, experienced in the relevant field and retired from the service of Indian Railways and Other Metro Rail Corporations. These names are obtained from those Organizations, for the purpose of nominating them as DB Members/Conciliator, who are also not ex- employees or directly or indirectly associated with CMRL.	We request you to accept 1. DB shall comprise of a neutral arbitrator appointed jointly by CMRL and contractor 2. Arbitration shall be by independent arbitrators appointed each by contractor and employer and a presiding arbitrator appointed jointly by the above nominated arbitrators	Tender condition prevails.	No
309	Part-3, GCC	Clause 4.15 Access Route Page 30 of 161	Except as otherwise stated in these Conditions: (a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes; (c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route; (e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.	Access roads shall be provided and maintained by the employer on free of cost basis to contractor	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
310	Part-3, GCC PART- B – Specific Provisions (SP)	Clause 4.6 Co-operation Page 27 of 161 PART- B – Specific Provisions (SP), Sr. no. 28 Page 125 of 161	GCC 4.6: The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to: (a) the Employer’s Personnel, (b) any other contractors employed by the Employer, and (c) the personnel of any legally constituted public authorities, who may be employed in the execution on or near the Site of any work not included in the Contract. Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to suffer delays and/or to incur Unforeseeable Cost. Services for these personnel and other contractors may include the use of Contractor’s Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor. PCC (Part B): The sentence in second paragraph of GC 4.6, "Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor suffer delays and/or to incur Unforeseeable Cost” is deleted.	We request you to retain the clause deleted in PCC " <i>Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor suffer delays and/or to incur Unforeseeable Cost</i> " as contractor's work can be delayed on account of delay in work of other contractors employed by Employer	Tender condition prevails.	No
311	Part-3, PART- B – Specific Provisions (SP)	PART- B – Specific Provisions (SP), Sr. No. 28, Page 125 of 161	Add the following Sub-Clauses to the end of Sub-Clause 4.6: Opportunity for Interfacing Contractors and Other Contractors 4.6.1 Reasonable Opportunity: The Contractor shall, in accordance with the requirements of the Engineer, afford all reasonable facilities for Interfacing Contractors and / or any other contractor who may be carrying out, on or adjacent to any Site any Work not included in the Contract but required by the Engineer, any utilities undertaking or other duly constituted authority. The Contractor shall, as reasonably requested in a written manner by the Engineer, make available to any such Interfacing Contractor, other contractors, or the Engineer or any such authority, any roads or ways for the maintenance of which the Contractor is responsible, for which no additional payment shall be made by the Engineer.	As access roads are not in our scope, the last part of this clause shall not be applicable	Tender condition prevails.	No
312	Part-3, PART- B – Specific Provisions (SP)	PART- B – Specific Provisions (SP), Sr. No. 28, Page 125 of 161	4.6.4 The Contractor shall be held liable for any loss and expense incurred by the Employer arising from any breach by the Contractor in fulfilling his obligations under the contract, if the Contractor is deemed to have caused any delays, defects, damages or otherwise, as a direct result of his design or construction activities, to the Interfacing Contractors in respect of the whole of the Works.	We request you to delete this clause. The LD due to all reasons shall be limited to 10%	Tender condition prevails.	No
313	Part-3, PART- B – Specific Provisions (SP)	PART- B – Specific Provisions (SP), Sr. No. 46, Page 135 of 161	8.2 (I) The Contractor shall allow for, and be deemed to have included all related costs, in the Contract Price for access, occupation or handover for Interfacing Contractors on 7 days a week, 24 hours per day basis.	Kindly clarify the meaning of " 7 days a week, 24 hour per day basis" in context of this clause	Tender condition prevails. Please refer to Part-03, Section-X, CD 6.5	No
314	Part-1, PART- B – Specific Provisions (SP)	BOQ1, Price Centre-A (General Requirement)	-	1. We request you to include site machinery charges, electricity and water expenses also. 2. We request you to accept bank guarantee and insurance expenses as annual payment	Tender condition prevails.	No
315	Part-2, List of makes	Appendix - 6, Notes:(e) Page 431 of 1464	However, in case Engineer, whose decision will be final and binding on both parties, considers that the make / model proposed by the contractor does not meet the requirement, the contractor will be required to propose an alternative make acceptable to the Engineer’s Representative.	Engineer shall reject a make only if does not meet the specifications	Tender condition prevails.	No
316	Part-2, Chapter- 15: Project Site office Establishment	Clause - 15.5.4.1 Page 245 of 1464	15.5.4 Accommodation & Equipment 15.5.4.1 Under the Contract, the site offices and other facilities to be provided on the Site for the Engineer/ Employer shall be in accordance with the Contract.	Please confirm whether offices for client appointed engineer has to be provided by contractor. If it is required please make it separate line item in BoQ-1.	Tender condition prevails.	No
317	Part-2, Chapter- 15: Project Site office Establishment	Clause 15.9.3, (i), Attendance on interfacing Contractors Page 250 of 1464	The Contractor shall provide general and special attendance on Other Contractors who will be carrying out the execution of electrical and mechanical and other works on the Site. Reference shall be made to the TS to determine the full extent of such attendance.	We understand this clause is meant for civil contractor and not for ECS & TVS contractor	Tender condition prevails.	No

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318	Part-2, Chapter- 15: Project Site office Establishment	Clause 15.9.3, (ii), Attendance on interfacing Contractors Page 250 of 1464	General attendance shall include but not be limited to providing for accepting deliveries, unloading and storing materials for the Other Contractors on the Site and allowing the Other Contractors space for their site offices, and all reasonable access and facilities for the proper execution of their work including the free use of access roads, craneage, scaffolding, ladders, stores, mess rooms, sanitary and welfare facilities provided that these facilities are normally available on the Site at the time.	We understand this clause is not applicable to ECS & TVS contractor By this clause we understand that civil contractor/general contractor will provide free use of access roads, craneage, scaffolding, ladders, stores, mess rooms, sanitary and welfare facilities to ECS & TVS contractor	Tender condition prevails.	No
319	Part-2, Chapter- 15: Project Site office Establishment	Clause 15.9.3, (iii), Attendance on interfacing Contractors Page 251 of 1464	Special attendance shall include but not be limited to cutting of holes and other openings, forming chases, providing built-in sleeves, grouting in bolts, anchors, brackets, base plates, frames and the like, including making good to the disturbed work and cleaning after completion of the disturbed work.	All the works mentioned in the clause shall be in scope of civil contractor/general contractor	Tender condition prevails.	No
320	Part-2	5.18 Key & Non-Key Personnel – Qualification Criteria Page 411 of 1464 5.19 Deployment of Key Staffs & Non-Key staffs Page 417 of 1464	c) Non-Deployment of Key staffs shall be levied the Penalty of Rs.2 Lakhs per month. This Penalty is considered as Non-Recoverable. d) Non-Deployment of Key Consultant/Third Party shall be levied the Penalty of Rs.4 Lakhs per month. This Penalty is considered as Non-Recoverable. e) Non-Deployment of Non-Key staffs shall be levied the Penalty of Rs. 50,000 per month. This Penalty is considered as Non-Recoverable. f) If the contractor fails to mobilize any key and non-key position for more than three months (90 days), the penalty mentioned in c, d, e of 5.19 shall get doubled from the fourth month onwards till the mobilization is done. This Penalty is also considered as Non-Recoverable.	1. The deduction specified for non deployment of key staff is very high. We request you to keep reasonable penalties as per other metro/government projects 2. We request you to remove the clause of doubling of penalties 3. Key consultant/third party has not been specified in tender. We request you to remove penalty clause on key consultant 4. Please note that 18 key staff members and 16 non key staff members have been specified in the tender which is very high. 5. All the key staff members may not be required throughout the project. Hence these penalties shall be applied only if the staff is not deployed as per the agreed schedule	1. Tender condition prevails. 2. Tender condition prevails. 3. Refer addendum - 01. (Price centre B) 4. Tender condition prevails. 5. Yes. Tender condition prevails.	Yes
321	Part-2, Chapter- 6	Clause 6.1.4 Page 92 of 1464	Cloud based server. The Employer will be acquiring the common cloud based server for all contract packages of phase 2 and back charge the proportionate cost of the Server, Cloud services and the manage services of the cloud server to each contractor	Please provide the cost which shall be charged towards Server & cloud services from contractor.	Tender condition prevails. Refer Part-1, Section – IV B, 1.7, iii. Notes on Pricing Document.	No
322	Part-2, Chapter- 9	Partial Acceptance Tests, Clause 9.5.4.1 Page 109 of 1464	During this phase, an energy source shall be introduced to enable functional testing to be performed.	We understand the energy source for partial acceptance tests, final acceptance test, integrated testing etc. shall be provided by CMRL on free of cost basis. Please confirm	The Contractor shall be responsible for making his own arrangements at his own cost to obtain supply of water, electricity, or gas for the partial acceptance tests, final acceptance test, integrated testing etc. Please refer to Part-3, Section - X, SP-4.19.	No
323	Part-2, Chapter- 13	BIM-Hardware, Sr. No. 11 Page 190 of 1464	The TVS/VAC Contractor shall provide one (1) set of hardware and software license to the employer/Engineer to carry review and clash detection analysis of the Coordinated Combined Services model till obtaining Operational Acceptance Certificate. The specifications of the hardware and software shall be submitted to the engineer/ employer for NONO.	We understand that the software shall be in contractor's name. Please confirm	Tender condition prevails.	No
324	Part-2, Chapter- 17	Clause 17.3 SITE SERVICES Page 256 of 1464	Where required under the Contract, the Contractor shall provide all Site services as necessary and appropriate for the construction/installation of the Works, which shall include, but not necessarily be limited to: 1. Electricity; 2. Water;	Please note the power and water supply shall be provided by civil contractor as per the construction interface management	No. Please refer to Part-3, Section - X, SP-4.19. Tender condition prevails.	No
325	Part-2, Construction Interface Management	Page 350 of 1464	Contractor B (Follower) UG Station Civil (UGC)Contractor shall provide Temporary water, power, light, compressed Air for construction/installation of TVS/VAC works on chargeable basis subject to availability. If UG civil and station contractor not able to provide the same due to any constraint, then TVS/VAC contractor shall arrange the same.	Please note the power and water supply during testing and commissioning is not mentioned in construction interface management. Please note the power and water supply for testing and commissioning shall be provided by Contractor-B or CMRL free of cost.	No. Please refer to Part-3, Section - X, SP-4.19. Tender condition prevails.	No
326	Part-2	Clause 5.22, Table - Portion of payment for Key & Non-Key Staffs Page 418 of 1464	Chief Project Manager / Contract Representative - Payment shall be made based on percentage to the progress of works till DLP. Deputy Project Manager & Other staff - Payment shall be made based on percentage to the progress of works till Operational Acceptance Certificate Payment shall be made based on percentage to the progress of Completion of software development & implementation for all stations - 60% and rest of the portion progressively till DLP – 40%.	1. Please note that salary is paid on monthly basis. Therefore we request you to accept payment on monthly basis instead of percentage to the progress of work 2. Also note that key staff and non key staff mentioned under this clause are required for project completion only and not DLP. We therefore request you not to link/extend payment against staffing to DLP	1. Tender condition prevails. 2. Tender condition prevails.	No
327	Part-1	ITB 21.1, Page 40 of 205	The amount and currency of bid security/EMD shall be INR 5.28 Crores (Indian Rupees Five Crore Twenty -Eight- Lakh Only)	Please note the amount of EMD for this project is very high. We request you to kindly revise the amount of EMD maximum of 1% of total contract value.	Tender condition prevails.	No

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328	<u>ECS & TVS</u> BOQ-3, PRICE CENTRE - C (TVS WORKS)	Sr. No. 78	8- TUNNEL VENTILATION NOZZLES.- In Accordance with TVS Technical Specifications & Drawings, (Refer Part-2, Section VII, Sub section B, Content 8 - NOZZLES) Nozzles Design and supports to suite the Drawings.	We request you to kindly provide the drawing of nozzles required to calculate the supports.	Please refer to Part -02, Section-VIII, Employer's drawings	No
329	Part-2 Section – VII Sub - Section B– TVS works	Clause no 2.2.5 Page 1131 of 1464	Fans shall be statically and dynamically balanced according to ISO 14694/21940 or AMCA 204-05. All fans shall be of minimum class BV-3 for ≤75kW and BV-4 for >75kW motor rating, as per AMCA 204-05 definition or G2.5 as per ISO 21940. A complete spectral analysis shall be carried out to determine each type of fan assembly’s resonant frequencies including frame and anti-vibration mountings.	Kindly clarify which type of spectral analysis is required. This is not the standard practice to measure resonant frequencies including frame and anti-vibration mounting.	Refer addendum - 01.	Yes
330	Part-2 Section – VII Sub - Section B– TVS works	2.4 Fan Fabrication: Products and Materials, 2.4.1 Page 1132 of 1464	Vane axial, direct drive type, designed for mounting in any position without modification shall be furnished.	Please note the Axial fans without vanes shall be able to meet the capacity as mentioned in BOQ. So, we understand that the requirement of vanes are not mandatory. Please accept.	Tender condition prevails.	No
331	Part-2 Section – VII Sub - Section B– TVS works	2.4 Fan Fabrication: Products and Materials, 2.4.2 Page 1132 of 1464	If tube-axial fans are proposed, vanes located adjacent to the casing shall be provided, if such arrangement will increase the fan performance and efficiency. The performance curve submitted shall include the effect caused by adding the vanes.			
332	Part-2 Section – VII Sub - Section B– TVS works	2.4 Fan Fabrication: Products and Materials, 2.4.4 Page 1132 of 1464	Impeller hub and blades shall be fabricated of aluminium alloy castings (ASTM B686) or forgings (ASTM B247) or steel (ASTM A-588, Grade A and A-151, 1020 hot rolled), suitable for the specified performance and environment.	Please note the standards for Impeller hub and blades shall be EN/ISO/ASTM as per OEM or equivalent international standards.	Tender condition prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
333	Part-2 Section – VII Sub - Section B– TVS works	2.4, Fan Fabrication: Products and Materials, 2.4.5 Page 1132 of 1464	Fan rotating components shall be designed such that no measured or calculated stress level shall exceed 60 percent of the component’s materials yield strength at design temperature. Fan blades shall not vary in weight by more than 2 percent	Please note the fan blade weights shall vary around 5% to 7% due to large tolerance on cast parts as confirmed by OEM.	Tender condition prevails.	No
334	Part-2 Section – VII Sub - Section B– TVS works	2.4, Fan Fabrication: Products and Materials, 2.4.8 Page 1133 of 1464	Provide remote lubrication fittings for lubrication of fan and motor bearings from easily accessible location, for motors rated above 45 kW. For motors with lower rating, self-lubrication bearing to be used. The lubrication tubes shall be made of Stainless Steel 316L.	Motor with lower rating shall be with life lubricating bearing instead of self lubricating bearing.	Tender condition prevails.	No
335	Part-2 Section – VII Sub - Section B– TVS works	Clause no 2.4.7 Page 1133 of 1464	All TVF and OTEF fan housings, including motor mounts and motor supports shall be fabricated of hot rolled, AE 235 or equivalent steel not less than 6 mm thick.	Please note the motor mount plate thickness shall be as per OEM standard.	Refer addendum - 01.	Yes
336	Part-2 Section – VII Sub - Section B– TVS works	Clause no 2.4.7 Page 1133 of 1464	Flanged rings shall be continuously welded to the outer periphery at each end of the housings, or flanges may be rolled as part of the housing. Flanges shall comply with the standards as per DIN. The welded flanges shall have a minimum thickness of 8mm.	Please note the thickness of welded flange shall be of the same thickness of Fan casing.	Tender condition prevails.	No
337	Part-2 Section – VII Sub - Section B– TVS works	2.4, Fan Fabrication: Products and Materials, 2.4.8 Page 1133 of 1464	Provide remote lubrication fittings for lubrication of fan and motor bearings from easily accessible location, for motors rated above 45 kW. For motors with lower rating, self-lubrication bearing to be used. The lubrication tubes shall be made of Stainless Steel 316L.	Motor with lower rating shall be with life lubricating bearing instead of self lubricating bearing.	Tender condition prevails.	No
338	Part-2 Section – VII Sub - Section B– TVS works	Clause no 2.4.9 Page 1133 of 1464	All hardware, fan casing, supports and all steel components required to assemble the fans shall be hot dipped galvanized to ISO 1461.	Please note the standard of Hardware shall be as per ISO 1461/ as per OEM standard.	Tender condition prevails.	No
339	Part-2 Section – VII Sub - Section B– TVS works	Clause no 2.6.13 Page 1135 of 1464	The cylindrical sound attenuators of the jet fans shall have an external cover of Stainless Steel 316L grade with a minimum thickness of 2 mm. The internal perforated metal sheet shall be a stainless-steel sheet type Stainless Steel 316L grade, minimum thickness 0.8 mm.	Please note the outer casing of sound attenuators shall be made of galvanised steel sheet and inner casing shall be made of perforated SS 316L.	Tender condition prevails.	No

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340	Part-2 Section – VII Sub - Section B– TVS works	Clause no 2.6.3 Page 1135 of 1464	All jet fans shall comply with design reversibility. Jet fan casings shall be made of Stainless Steel 316L grade.	Please note the casing of Jet fans shall be mad of mild steel with hot dip / spray galvanizing instead of SS 316L..	Refer addendum - 01.	Yes
341	Part-2 Section – VII Sub - Section B– TVS works	Clause no 2.6.13 Page 1135 of 1464	The cylindrical sound attenuators of the jet fans shall have an external cover of Stainless Steel 316L grade with a minimum thickness of 2 mm. The internal perforated metal sheet shall be a stainless-steel sheet type Stainless Steel 316L grade, minimum thickness 0.8 mm.	Please note the external cover of sound attenuators for jet fans shall be made of 1.5/2 mm thickness as per OEM recommendations.	Tender condition prevails.	No
342	Part-2 Section – VII Sub - Section B– TVS works	Clause no 2.7.9 Page 1135 of 1464	The power factor of motors shall not be less than 0.85 lagging at the operating condition.	Please note the power factor can be lower than 0.85 in case of 6 pole motor.	Tender condition prevails.	No
343	Part-2 Section – VII Sub - Section B– TVS works	Clause no 2.7.10 Page 1137 of 1464	TVF & OTEF fan motor bearings shall be designed for 1,00,000 hours operating service (L10 life, Anti-Friction Bearing Manufacturer's Association) and provided with a grease outlet connection for in service lubrication.	We request you to accept 40,000 hours L10 life as per Motor manufacturer's standard	This can be reviewed during Design Verification and Validation stage.	No
344	Part-2 Section – VII Sub - Section B– TVS works	Clause no 2.7.13 Page 1138 of 1464	Termination boxes of adequate size shall be die cast aluminium alloy or cast iron diagonally split type and suitably gasket to prevent ingress of moisture and dirt.	Terminal box shall be welded design same as fan casing.	Tender condition prevails.	No
345	Part-2 Section – VII Sub - Section B– TVS works 2.9.1 Factory Tests and Inspections	Clause no 2.9.1.3 Page 1140 of 1464	Air performance test shall be as per AMCA 210 for Axial fan and AMCA 250 for jet fans.	Please note the standards of air performance test shall be vary from OEM to OEM. It can be ISO 5801/AMCA 210 for Axial fan and ISO 13350/AMCA 250 for Jet fans.	Tender condition prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
346	Part-2 Section – VII Sub - Section B– TVS works 2.9.1 Factory Tests and Inspections	Clause no 2.9.1.4 Page 1140 of 1464	Factory Acceptance Tests (FAT) shall be carried out for each fan type and size. The tests shall verify fan performance such as Rotating speed, volume flow rate, fan total, static and outlet velocity pressures, fan total and static efficiencies, noise power level, motor current, voltage, frequency, motor power input and power factor for both forward and reverse directions of airflow (where applicable). FAT shall be witnessed by the Employer/Engineer.	We understand that the FAT shall be carried out for one typical Axial fans, One Jet fans and One TEF Fan instead of each fan type and size.	Tender condition prevails.	No
347	Part-2 Section – VII Sub - Section B– TVS works 2.9.1 Factory Tests and Inspections	Clause no 2.9.1.11 Page 1140 of 1464	Balance and Vibration tests shall be carried out on all fan types with vibration sensor installed on motor unit.	Please note the Vibration Test shall be carried out for one Axial fan & 1 Jet Fans. This shall be done in FAT and as per approved procedure.	Tender condition prevails.	No
348	Part-2 Section – VII Sub - Section B– TVS works 2.9.1 Factory Tests and Inspections	Clause no 2.9.1.11 Page 1140 of 1464	Each emergency fan type shall be operated continuously for a total of 12 hours, 6 hours in the forward (exhaust) mode and 6 hours in the reverse (supply) mode of rotation. During reversal, fan shall be allowed to coast for a period of five minutes before being restarted in the reverse direction.	Please note one type of emergency TVS Axial fan and one type of Jet fan shall be FAT tested for forward and reversible test instead of each fans.	Tender condition prevails.	No
349	Part-2 Section – VII Sub - Section B– TVS works 2.9.1 Factory Tests and Inspections	Clause no 2.9.1.12 Page 1140 of 1464	The vibration tests shall be done according to AMCA 204-05 standard with limiting values for all type of fans. The vibration signatures shall be taken on the motor mounting plate and on casing of the fan in the horizontal, vertical and axial direction.	Please note the standards of vibrations test shall be vary from OEM to OEM. It can be ISO 14694/AMCA 204-05.	Tender condition prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
350	Part-2 Section – VII Sub - Section B– TVS works 2.9.1 Factory Tests and Inspections	Clause no 2.9.1.15 Page 1141 of 1464	Tri-Axial Strain Gauge test is must to analyse stresses in blades	This test shall not be required in some case of special blade design for few OEMs. In this case a test report from OEMs R&D test shall be provided.	Test required. Tender conditions prevail.	No
351	Part-2 Section – VII Sub - Section B– TVS works	Clause no. 3.3.10 Page 1144 of 1464	The damper manufacture shall design & manufacture the all type of should have minimum 30 years of useful service life. OEM shall submit the useful service life certification of all types dampers.	Which type of certificate shall be submitted.	Tender condition prevails. Certificate from OEM taking responsibility for the useful service life of equipment.	No
352	Part-2 Section – VII Sub - Section B– TVS works	Clause no. 3.4.10.2 Page 1145 of 1464	Tunnel ventilation system damper actuators shall be capable of actuating the dampers against a differential pressure of not less than 2 times the pressure generated by the train piston effect or by the mechanical ventilation whichever is the higher.	We request you to kindly provide the value of pressure generated by the train due to piston effect.	For tendering purpose, the Piston effect can be considered as +/- 400 Pa, however this shall be reviewed by the Contractor during Design Verification and Validation stage.	No

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353	Part-2 Section – VII Sub - Section B– TVS works	Clause no. 8.2.2 Page 1154 of 1464	Lifting lug, Parting flange, flow straightener, Top/bottom sheet, side sheet, jointing sheet, End flange shall be made up of SS-316. Stiffeners shall be used as necessary to prevent deformation of the nozzles due to high pressure airflows.	Please accept the MOC of End flange, Lifting lugs, Parting Flanges material shall be the same as of Nozzle MOC i.e. 304 instead of SS 316.	Refer addendum - 01.	Yes
354	<u>ECS/VAC</u> Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 1.3.1 Page 1166 of 1464	Factory visit shall be arranged by the contractor for all material & equipment’s based on the request from Engineer/ Employer.	Please note the cost associated with travel, accommodation, food, visas and permits for FAT visit of CMRL/Consultant personnel shall be in client scope. Same shall be applicable for all services	Tender condition prevails. Refer to Part-2 Sub-section A Chapter 9: 9.2-Factory Visit and Factory Acceptance Test (FAT)	No
355	Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 2.5.2.1, g Page 1171 of 1464	The unit shall be designed in such a way the cleaning of drain pan, inspection and replacement of compressor should be easy. Drain pan shall be of SS 316 with 0.8 mm thickness.	Please note the drain pan along with ODU Unit shall not be applicable. Kindly make it separate line item in BOQ if required.	Tender condition prevails.	No
356	Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 4.4.1, w) Page 1193 of 1464	Thermal transmittance - T2	We request you to kindly accept the thermal transmittance - T2/T3 as per OEM Eurovent certifications.	Tender condition prevails.	No
357	Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 4.4.7, f) Page 1192 of 1464	Plug fan with casing shall be certified by a acclaimed certifying body of Eurovent and the entire Fan & Motor assembly will be balanced to suit the requirement.	Please note the AHU shall be Eurovent certified but the plug fan shall be AMCA/DIN certified instead of EUROVENT certified.	Tender condition prevails.	No
358	Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 4.4.8 Page 1193 of 1464	4.4.8 Volume Control Dampers (VCD)	We understand that the VCD for AHUs shall be billed under BOQ-4 line item Sr. No.185. Kindly confirm	No. Tender condition prevails. Cost of Internal VCD for AHU shall be part of AHU BoQ line item.	No
359	Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 4.5.2 Page 1196 of 1464	Engineer/ Employer shall select minimum one number AHU for every lot for FAT as per EN 13053 & EN 1886 Standard. All performance parameter such as flow rate, total pressure and motor rating shall be met as per the design requirement.	We shall consider FAT test for one AHU. Kindly accept	Tender condition prevails.	No
360	Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 5.5.2.1, c) Page 1203 of 1464	Vane Axial fan and Mixed flow axial fan shall have Minimum 72% fan total efficiency or fans shall be selected with an AMCA high-energy efficiency classifications fan whichever is higher	Efficiency of fans shall be as per fan selections. It may be higher/lower than the limit mentioned in specs. However, the same shall be declared to Engineer/ Employer for their approval.	This can be reviewed during Design Verification and Validation stage.	No
361	BoQ4	Sr. No. 86	5.10- Design,supply,fabrication & erection of Stainless Steel (SS316) fencing around VRV/ VRF Outdoor units with door,lock & other accessories for safety as per Standard installation drawing.(Refer Part-2, Section VII, Sub section C, Unit 2)	Please provide the length x width x height of fencing.	Refer addendum - 01.	Yes
362	Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 8.3.4, c) Page 1221 of 1464	Fire/smoke damper manufacturer must supply fire/smoke dampers along with access doors to save installation time at site.	Please note the access door for fire dampers shall be supplied by access door manufacturers instead of fire dampers manufacturers.	Refer addendum - 01.	Yes
363	Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 8.3.4, c) Page 1221 of 1464	The frame of the access door shall be constructed from 16-gauge steel, while the door, consisting of both inner and outer skins, shall be made from 20-gauge galvanized steel sheet with a thickness of 275 GSM. The door is equipped with high-temperature 50 mm thick mineral wool insulation to provide optimal fire protection and superior sound control. The section of the duct where the access door is located shall be reinforced with suitable material.	Please note all the access door required for dampers or other areas shall be billed under the BoQ4 line item -193	Yes. Tender condition prevails.	No
364	BoQ4	Sr. No. 156	9.03- Fire-Resistant Paint for fire rated duct. In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, unit 8) and drawings.	We understand that we are free to choose any one from Fire-Resistant Paint or Fire Wrap Insulation for fire rated ducts as per the specs. Please confirm.	No.Tender condition prevails. Please follow BOQ Price Centre C 9.03-Fire-Resistant Paint for fire rated duct line item.	No
365	Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 8.3.4, e) Page 1221 of 1464	Flanges details are not given in specs Part-2, Section VII, Sub section C, unit 8	Please note that type of flanges requirement for fire rated duct works/Normal ducts are not given in specs. Kindly provide the same.	Tender condition prevails. Refer Part 2 Section-VIII Employer's drawings	No
366	BoQ4	Sr. No. 189	14.04- Motorized Smoke dampers (In various sizes like or to suite site) With actuator and limit switch	We request you to kindly provide the torque (NM) required for Actuators. Also please confirm the quantity of Actuators.	Tender condition prevails. Refer 9.3.2 of Part:2 Section- VII Sub Section C- VAC System Part-A	No
367	BoQ4	Sr. No. 190	14.05- Motorized Fire & Smoke dampers (In various sizes like or to suite site) With actuator and limit switch	We request you to kindly provide the torque (NM) required for Actuators. Also please confirm the quantity of Actuators.	Tender condition prevails. Refer 9.3.2 of Part:2 Section- VII Sub Section C- VAC System Part-A	No
368	BoQ4	Sr. No. 196 - 215	16.01- Fresh Air Fan (FAF) with VFD compatible of 2.25cms, 220 Pa Static Pressure approximately	We understand that VFD shall not be the part of fans and it shall be supplied separately as per the VAC electrical BOQ5.	Yes. Tender condition prevails.	No
369	Part:2 Section- VII Sub Section C- VAC System Part-A	Clause no. 12.3.1, d) Page 1244 of 1464	Density of the insulation shall be greater than 105 Kg/m^3 as defined in BoQ.	Please note the density given in BOQ is 120 kg/m3. Please confirm which density we have to consider 105 kg/m3 as mentioned in specs or 120 kg/m3 as mentioned in BOQ.	Tender condition prevails. Bidder to quote according to BoQ line items.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
370	TVS & VAC Electrical LT PANELS	Document-Part-2, clause 2.1.2 pg. 1332 of 1464	The contractor shall verify and validate the selection and sizing of cables, switchgears, busbars & other components as well as performing the total discrimination, Type 2 coordination, and space feasibility studies according to the actual loads/requirements And the contractor shall follow the specification for design verification and validation as specified in the Part-2 Section VII Sub-Section-A. The information included in the bill of quantities, layouts & SLD are merely indicative. 2.2.	We understand during design verification if the rating of switchgear changes due to actual load requirement, we shall be paid variation accordingly. Our offer shall be based in tender BOQ only. Please confirm.	Tender Condition Prevails. Please refer to Part-03, PCC, SP-12.	No
371	LT PANELS	Document-Part-2, clause 2.3.6 pg. 1333 of 1464	And the panels shall have an insulation voltage of 1000V AC and rated impulse with stand voltage (Vimp) for ACB’s and MCCB’s shall be 12kV and 9kV respectively for withstanding the against transient voltages.	As per clause 2.17.2, j "Impulse Withstand Voltage shall be not less than 8KV and Standard operating duty cycle of MCCB shall be O- 0.3s - CO – 180s - CO", while as per page 1333, 9 kV impulse withstand voltage is mention. Please confirm the impulse withstand voltage for MCCB as both 8KV & 9kV is mentioned in specification.	Refer Addendum - 01.	Yes
372	LT PANELS	Document-Part-2, clause 2.3.9 pg. 1333 of 1464	The ratings/size changes due to discrimination shall incur no commercial implication.	We understand during design verification if the rating of switchgear changes due to actual load requirement and discrimination study, we shall be paid variation accordingly. Our offer shall be based in tender BOQ only. Please confirm.	Tender Condition Prevails.	No
373	MCCB	Document-Part-2, clause 2.17.6 pg. 1345 of 1464	All MCCB’s in smart panels shall have RS 485/Ethernet communication to be compatible with ISMS/HMI.	As per specification clause 2.17.2.h, all MCCB's rating 200A & below shall be thermal magnetic type and requirement of RS-485 is not specified for Thermal magnetic MCCB's. Also as per BOQ for Smart panels, requirement of RS-485 port is not specified with any MCCB. However specification at clause 2.17.6 mentions requirement of RS-485 ports with all MCCB's of Smart panel. We shall be considering RS-485 port with Microprocessor release MCCB's Only. Please confirm	Refer Addendum - 01.	Yes
374	MCCB	Document-Part-2, clause 2.23.1 pg. 1349 of 1464	Motor starters shall be integral part of the MCC’s, and all the starters shall be type tested by a competent and internationally recognised testing authority according to EN/IEC60947-4-1:2019	As per BOQ description for 3.1.4 "100A,TPN MCCB, 415V,25kA with suitable space provision for 44kW VFD unit with bypass Starter (Soft Starter)", only space provision for VFD starter & soft starter is mentioned, however as per specs. starters shall be integral part of MCC's. Please confirm the requirement.	Tender Condition Prevails. Please refer to Item no. 04 and 05 in BOQ Price Centre-E for VFD and Soft Starter Quantities.	No
375	LT PANELS	BOQ sr. no. 3.1 to 46 BOQ-5		As per BOQ format rate against each individual switchgear is required. Panels are quoted considering breaker for each panel as composite unit. Breakup against each switchgear shall not be quoted. Please provide revised BoQ accordingly along with incomer and outgoing feeder requirement of each panel.	Tender Condition Prevails.	No
376	LT PANELS	BOQ sr. no. 3.1 to 3.8 BOQ-5	3.1.5- 100A,TPN MCCB, 415V,25kA with suitable space provision for 44kW VFD unit with bypass Starter (Soft Starter)and 3 no's of 32A TP MCCB for AHU, .Having Thermal magnetic trip unit with adjustable protection against over load, short circuit. And LED indication lamps for ON,OFF,TRIP and Start/stop, Emergency stop push buttons.	We understand all MCCB's for starter (VFD/DOL/Star delta) shall be Motor Duty type as per specification clause 2.18.2 "MCCB for motor protection should be of the “Motor duty” type.". Please confirm as the same is not clearly mentioned in BOQ description.	Tender Condition Prevails.	No
377	LT PANELS	BOQ sr. no. 3.1 to 3.8 BOQ-5	3.1.13- 100A,TPN MCCB, 415V, 25kA. Having Thermal magnetic trip unit with adjustable protection against over load, short circuit, earth fault. And LED indication lamps for ON,OFF,TRIP.	BOQ description for spare mentions E/F protection with MCCB's having Thermal magnetic release. As per specification clause 2.16.1 d "All the incomer breakers shall have LSIG protection". Hence we shall not be considering Earth fault protection for outgoing breakers. Please confirm	Refer Addendum - 01.	Yes
378	VRV Panels	BOQ sr. no. 3.9 to 3.16 BOQ-5	3.9.6- 32A,4P ,RCBO, 415V, 25kA, . Having Thermal magnetic trip unit with adjustable protection against over load, short circuit, earth fault And LED indication lamps for ON,OFF,TRIP. kWh Meter shall be considered and shall be based on circuit wise (Cooling)	1. Please confirm the Rated residual operating current for RCBO-30 mA/100 mA/300 mA. 2. RCBO's are provided with earth leakage protection hence earth fault protection shall not be applicable. Please accept. 3. Rated short circuit as per Specs. clause 2.20.2,d shall be 10kA instead of 25kA mentioned in BOQ. Please accept.	Refer addendum - 01.	Yes
379	Other accessories	BOQ sr. no. 6.2 & 6.3 BOQ-5	6.2- Laminated standard shock treatment charts in Tamil, English & Hindi in ASS, Mechanical Room, TVS Panel/DB Room and Pump room 6.3- Danger plate as per approved Style & sample written in Tamil, English & Hindi for MV installations as required as per IE rules, IEC and IS 2551 (latest) in Mechanical room, TVS Panel/DB Rooms	Unit for these items are mentioned in Lot, we understand units should be in Nos. Please confirm.	Yes, Tender Condition Prevails.	No
380	Cables	BOQ sr. no. 7.1 to 7.3 BOQ-5	7.1- CABLES (Non Fire Survival type Cable) and Termination includes gland with shrouds, lugs, necessary earthing arrangements conforming to cables specification specified in Part-2 Section VII SubSection-D Unit-03 and drawings. 7.2- CABLES (Fire Survival type Cable) and Termination includes gland with shrouds, lugs, necessary earthing arrangements conforming to cables specification specified in Part-2 Section VII SubSection-D Unit no.03 and drawings. 7.3- CONTROL CABLES (FS cable) and Termination includes gland with shrouds, lugs, necessary earthing arrangements conforming to cables specification specified in Part-2 Section VII SubSection-E (ISMS) Unit no.08 and drawings.	Please provide separate item in BOQ for Cable termination glands and lugs for Non fire survival, Fire survival & control cables.	Tender Condition Prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
381	Cables	Document-Part-2, clause 3.4.4. pg. 1349 of 1464	a) Low smoke zero halogen (LSZH) Fillers and synthetic binders in compliance with the relevant clauses of BS 7846, BS 6724 & BS 7211, shall be applied to ensure that the cable is compact and reasonably circular.	LSZH fillers are not feasible. Hence, please confirm can we use Polypropylene fillers which is non-hygroscopic in nature and globally accepted.	Tender Condition Prevails.	No
382	Cables	Document-Part-2, clause 3.4.2 a) pg. 1359 of 1464	a) All fire survival cables shall have at least three layer of Glass mica tapes (2 layers over the conductor and 1 layer over the insulation), with at least 25% overlap of individual tapes and thickness of Glass mica tape shall not be less than 0.1 mm(100Micron)	Mica Glass tape is not appropriate to be used over insulation as it's basic purpose is to save the conductor during fire breakout. 2 layers of Mica glass tape over the conductor is sufficient to be used as Fire Survival cables and same practice is followed globally. Also the Glass mica tape over the insulation may get dislodged when laying the core. Hence we request you to accept Glass mica tap over conductor only.	Tender Condition Prevails.	No
383	Cables	Document-Part-2, clause 3.4.8 a) Page 1360 of 1464	b) Cables to be used should be moisture resistant and to be tested through accelerated water penetration test as per BS-6724.	i)Water penetration test given in clause is not covered under BS 6724 & BS 7846 specification hence shall not be applicable for LV Cable. ii) Water penetration test shall be performed on cable or part of cable which claims to be watertight. The cable construction required as per above technical specification clause no. 3.3.2 is not suitable to perform water penetration test required as per clause no. 3.4.8.	Tender Condition Prevails.	No
384	Cables	Document-Part-2, clause 3.4.11 f) Page 1362 of 1464	3.4.11 f)- (Cable Accessories)- The type tests shall include the following tests conforming to the latest BS EN 60502 and VDE 0278 specifications. Type test certificates shall be furnished along with the material submittal. i. AC voltage with stand dry test for 1 minute. ii. Partial discharge test iii. Impulse voltage with stand test with 10 impulses of each polarity. iv. AC High voltage (HV) test following load cycling test v. Thermal short circuit test vi. DC voltages withstand test vii. Humidity test viii. Dynamic short circuit test ix. Salt fog test x. Impact test	Please note that tests required under clause no. 3.4.11.(f) are not applicable for LV cables. The tests mentioned are neither covered in IEC 60502-1 & 2 nor BS 6724 or BS 7846 . These tests are applicable on HT Cables accessories. x. Impact test : This test will be carried out for Fire Resistant cables only as per BS 6387/ BS 8491 & not as per IEC 60502-4 & VDE 0278-629-1.	Tender Condition Prevails.	No
385	CABLE CONTAINMENT SYSTEM	Document-Part-2, clause 4.1.3 Page 1367 of 1464	g) Cable tray for SCADA works Cable tray shall be perforated full wrap around type not less than 1.5mm thickness mild steel hot dip galvanised finish, All the cable trays shall be of heavy duty with return flange type.	As per Specifications Flanges of Tray Bends or Tees are mentioned as 35 mm for cable tray size up to 900 mm and 50mm for 1000mm wide cable trays. However as per BOQ-6 for IDMS Works sr.no. 25, cable trays flange is mentioned as 50mm for cable tray size up to 300mm and 75mm for 450mm & above trays. Please clarify the flange height for SCADA Trays, also confirm the tray thickness as same is not specified in BOQ.	Tender Condition Prevails. Kindly refer 4.1.3 in Part 2 Specification for Cable Tray thickness	No
386	Cables	BOQ sr. no. 12.7 BOQ-5	12.17- Polycarbonate cable junction boxes, IP-66 (IK-10) (as specified in Part-2 section VII Sub section-D unit 4 Clause 4.2.7 and drawings)	1.As per specification clause 4.2.7 Junction boxes with minimum IP 55, and IK 07 is mentioned , however as per BOQ junction boxes with IP-65 and IK-10 rating mentioned. Please clarify the IP & IK rating for Junction boxes. 2. Please confirm the size of Junction Boxes.	Refer addendum - 01.	Yes
387	Point Wiring	BOQ sr. no. 13.1 to 13.8 BOQ-5	13- Wiring for the following 16A socket outlet point with 3 x 4 sq. mm, 1100V grade as per BS-7211 FRLSH copper conductor wires in heavy gauge GI conduit surface run with GI saddles.	Please provide the average point wiring length for item no. 13.1 to 13.8	The Bidder shall quote in LOT as per design requirement and functional requirement.	No
388	ISMS Work	Document-Part-2, clause 8.3.5 Page 1437 of 1464	"There will be another overall shielding of annealed bare copper braid. The copper braid shielding shall have minimum 85% coverage. The annealed copper braid shall be of at least 0.15mm thickness and substantially free from burrs."	For Individual and Overall Shielding, Aluminium Mylar tape with 100% coverage and 25% overlap along with annealed tinned copper drain wire (0.5 Sq.mm) will be provided. Hence, another shielding of Copper wire braiding is not advisable being softer material below braiding. Please accept	Tender Condition Prevails.	No
389	ISMS Work	Document-Part-2, clause 8.3.8 Page 1437 of 1464	"Fillers, wherever required, shall be used in the interstice of the multi-conductor cable, to give the complete cable a substantially circular cross section. Fillers shall be LSZH material."	LSZH fillers are not feasible. Hence, please confirm can we use Polypropylene fillers which is non-hygroscopic in nature and globally accepted.	Tender Condition Prevails.	No
390	ISMS Work	Document-Part-2, clause 8.6.3 Page 1439 of 1464	"The over sheath of the cable shall be embossed with the cable type, the manufacturers name and owner's name (CMRL Phase-2) on every 20 meters with a length marker provided every 1 metre."	Sequential length marking shall be given on the outer sheath by the method of Printing, rest all the details we can confirm to be embossed on the outer sheath of the cable. Please accept.	Tender Condition Prevails.	No
391	BMS & SCADA Employer's Drawings - ISMS IO List	Page - 267-288	In Page No: '267-288-Mentioned as Light House Secondary PLC(Instead of Boat Club Secondary PLC IO's).	Boat Club Secondary PLC IO List seems to be mentioned as Light House Station Secondary PLC in Page No 267 to 288 of detailed IO List, As the Light House Secondary PLC IO's are different and already mentioned in Pg No:13 to 19, Kindly confirm.	Refer addendum - 01.	Yes
392	Employer's Drawings - ISMS IO List	Page - 1-468	Soft IO Type- RS- 485. Ethernet , But as per the Technical Specification , Pg 7 of 64, Clause, 4.2.8, it is mentioned as the PLC Processor ability to receive and map signals from third party system over Modbus RS-485 Protocol, BACnet, Modbus TCP I/P and Profinet	As per the IO List the Soft IO's are only Modbus RS-485 / TCP I/P,Kindly reconfirm to select the required Communication Modules/Gateway Modues	The PLC shall be compatible as per Part-02, Employer Requirements, ISMS Specification, Clause 4.2.8.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
393	Technical Specification, Sec-E, SCADA, ISMS	Clause - 4.1.17 Page - 7	All the PLC Components (CPU, IO Modules, etc).Ethernet Switches, Power supplies, (Both Bulk & rack Power Supply etc shall be conformal coated.	Kindly reconfirm the requirement of Conformal coating for Ethernet Switches, and Non SIL IO Modules as the same is not mentioned in the detailed Specification.	Tender Condition Prevails. Conformal Coating to be considered for all CPU, IO Modules (SIL and Non-SIL), Power Supply (Bulk and Rack Power Supply) and Ethernet Switches.	No
394	Technical Specification, Sec-E, SCADA, ISMS	Clause - 5.16.17 Page - 22	All the PLC Components (CPU, IO Modules, etc).Ethernet Switches, Power supplies, (Both Bulk & rack Power Supply etc shall be conformal coated.	Kindly reconfirm the requirement of Conformal coating for SMPS, As the same is not mentioned in the Detailed Specification of SMPS.	Tender Condition Prevails. Conformal Coating to be considered for all CPU, IO Modules (SIL and Non-SIL), Power Supply (Bulk and Rack Power Supply) and Ethernet Switches.	No
395	Technical Specification, Sec-E, SCADA, ISMS	Clause - 4.2.10 Page - 7	Changes to the configuration possible during operation early detection of faults and integrated diagnostics options.	Kindly Explain the requirement of Early detection of fault feature	The PLC Modules shall have the following Early detection faults features, Self test at Module start-up, Continuous built-in runtime self-test, Module & Channel Diagnostics, Communication status and overall system health etc.	No
396	Technical Specification, Sec-E, SCADA, ISMS	Clause - 5.1.4 Page - 14	Server shall have Active Directory Services which shall help to hardening the Workstations and Services, patch Management, Window Management, , Firewall Management, and Active Management of the entire ISMS SCADA System.	Kindly Elaborate the Hardening Requirement.	Tender Condition Prevails. Server shall have Active Directory Services to comply the requirement.	No
397	Technical Specification, Sec-E, SCADA, ISMS	Clause - 5.11.1.2 Page - 18	Should Support Pover Over Ethenet (POE,IEEE 802.3af) and Operating Temperature	Kindly Confirm the Number of POE Ports with Combination required for each Switch. And the Operating Temperature requirement	Refer addendum - 01.	Yes
398	Technical Specification, Sec-E, SCADA, ISMS	Clause - 5.11.1.3 Page - 18	Layer 3 Switch shall have IP Version 6 (IPv6).	Kindly confirm the requirement of IPV6 Compliance in Layer 3 Switch	Tender Condition Prevails.	No
399	Technical Specification, Sec-E, SCADA, ISMS	Clause - 5.14 Page - 20	CCTV Camera: Operating Environment	Operating Temperature of CCTV from Major OEM Products shall be :65 Deg, Request you to kindly accept the same.	Refer addendum - 01.	Yes
400	Technical Specification, Sec-E, SCADA, ISMS	Clause - 6.2.23 Page - 28	Historian Server	Historian Server is not Included in the BOM, Kindly Confirm the requirement.	Refer addendum - 01.	Yes
401	Technical Specification, Sec-E, SCADA, ISMS	Clause - 6.5.10 page - 33	HMI Degree of protection :Minimum IP 65	The Degree of protection of HMI Display from Major OEM shall be: IP 65 for Front Panel & IP 20 for Rear Panel., Request you to kindly accept the same.	Refer addendum - 01.	Yes
402	Technical Specification, Sec-E, SCADA, ISMS	Clause - 6.5.10 Page-33	HMI Operating Conditions : Maximum up to 70 Deg C and 0-95% Rh	Operating Temperature of HMI from Major OEM Products shall be :50 Deg, Request you to kindly accept the same.	Refer addendum - 01.	Yes
403	Technical Specification, Sec-E, SCADA, ISMS	Clause - 8.3.5 Page-42	There shall be another shielding of Annealed bare Copper Braid.The Copper Braid shielding shall have minimum 85 % coverage. The Annealed copper Braid shall be at least 0.15 mm thickness .	Kindly reconfirm the requirement of Copper Braided cables (Non FS & Signal Cables).	Tender Condition Prevails.	No
404	Technical Specification, Sec-E, SCADA, ISMS	Clause - 15.2.5 Page - 57	Spare Management	Kindly Provide the List of Spares to be Maintained for Uniformity	Tender Condition Prevails. Kindly Refer Part II, Chapter 20	No
405	Technical Specification, Sec-E, SCADA, ISMS	Clause - 15.3 page - 57	Supply and Installation of Hardwares	Kindly Reconfirm the requirement of Industrial Grade Tablet with Internet Connectivity for O&M Staff- 11 Tablets, Firewall. Etc for Web and Mobile App, as the same is not detailed in the BOQ	Tender Condition Prevails. Kindly refer the Bill of Quantities in Price Centre A (General Requirement)	No
406	Part-I, Section – IV B, Pricing Schedule	1.7.1 ii.	ii. Condition for Price Bid Documents: (i) *The Bidder shall quote "Price centre A" with in a range of 7-10% of the total of Price Centre C, D, E & F. (ii) *The Bidder shall quote "Price centre B" with in a range of 1.0 - 1.5% of the total of Price Centre C, D, E & F. (iii) *The Bidder shall quote "Price centre G" more than 2% of the total of Price Centre C, D, E & F. (iv) *The Bidder shall quote "Price centre H" more than of 11% of the total of Price Centre C, D, E & F. (v) Bidders Compliance statement for Price Centres A, B G & H	Percentage allocated for Price centre A is too low considering volume of BoQ in Price centre A and hence request to increase min 20%	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01																					
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No															
407	Part 2, Section VI Works Requirements	Sub - Section A Chapter- 6, Clause 6.14	b) 3 no’s user licenses cost for Primavera P6 Enterprise Project Portfolio Management Cloud Service till obtaining operational Acceptance Certificate for whole works (1 No. each to be used by the Contractor, the Engineer and the Employer). Please note that the Contractor can ask for more licenses if he wish to but strictly on his cost. c) 5 no’s user licenses cost for Primavera P6 Enterprise Project Portfolio Management Web Services Cloud Service till obtaining operational Acceptance Certificate for whole works (5 No. each to be used by the Contractor, the Engineer and the Employer). Please note that the Contractor can ask for more licenses if he wish to but strictly on his cost	We presume that the licences mentioned in referred clause will be obtained by the Employer and distributed to the users. Please confirm.	The licenses shall be acquired by the successful Bidder and distributed. The Bidder shall quote as per BOQ line item.	No															
408	Part 2, Section VI Works Requirements, Sub - Section A	Chapter- 15: Project Site office Establishment Clause no 15.12	<table><tr><th>S.No</th><th>Project Site Offices</th><th>Term of Payment</th></tr><tr><td>1</td><td>Identify & Construction of Project Head office till DLP</td><td>Payment shall be made based on percentage to the progress of completion of Project Head office.</td></tr><tr><td>2</td><td>Maintenance of Employer/ Engineers Project Head office till DLP</td><td>Payment shall be made based on percentage to the progress of project works till DLP</td></tr><tr><td>3</td><td>Identify & Construction of Project site office till completion of project works</td><td>Payment shall be made based on percentage to the progress of completion of Project site office.</td></tr><tr><td>4</td><td>Maintenance of Project site office till completion of project works</td><td>Payment shall be made based on percentage to the progress of project works till DLP</td></tr></table>	S.No	Project Site Offices	Term of Payment	1	Identify & Construction of Project Head office till DLP	Payment shall be made based on percentage to the progress of completion of Project Head office.	2	Maintenance of Employer/ Engineers Project Head office till DLP	Payment shall be made based on percentage to the progress of project works till DLP	3	Identify & Construction of Project site office till completion of project works	Payment shall be made based on percentage to the progress of completion of Project site office.	4	Maintenance of Project site office till completion of project works	Payment shall be made based on percentage to the progress of project works till DLP	We request payment for maintenance of Employer/Engineers project office and project site on monthly basis since maintenance cost depends on monthly recurring expenses like consumables, office boy, security, Electricity charges, DG fuel consumption etc.	Tender condition prevails.	No
S.No	Project Site Offices	Term of Payment																			
1	Identify & Construction of Project Head office till DLP	Payment shall be made based on percentage to the progress of completion of Project Head office.																			
2	Maintenance of Employer/ Engineers Project Head office till DLP	Payment shall be made based on percentage to the progress of project works till DLP																			
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409	Part 2, Section VI Works Requirements, Sub - Section A	Chapter- 15: Project Site office Establishment Clause no 15.7	The Contractor shall provide accommodation for the Employer/Engineer in Project Main office & Site office (within 60 days of commencement date for Project Main office & 30 days prior to site access for sit office). The Contractor is failing which penalty will be imposed as given below:	Site office can be provided only after providing access to work. Please confirm.	Tender condition prevails.	No															
410	NIT	S.No 12	Last Date and Time of submission/uploading of Bid 08th January 2024 up to 15:00 hrs	Since, the tender is complex in nature consisting of various special aspects like Project Monitoring and Control software, Design Verification, BIM, CAMC, BoQ of general requirement etc, We request extension of 45 days for the submission of our bid from the current bid submission deadline. This additional time will enable us to thoroughly evaluate all aspects of the tender, get offers from vendors/suppliers/consultants and prepare a highly competitive bid that aligns with your requirements. We believe this extension is in the best interest of all parties involved, ensuring a comprehensive and fair bidding process.	Refer Corrigendum-01.	Yes															
411	Part-1, Section – IV B Price Schedule	1.7.11 Annexure 1 – Stage payment structure:	Stage payment structure for each item of Price Centre C to F (Manufacture, Supply, Installation, Testing and Commissioning) shall be as follows: S1 Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) 3% S2 Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) 55% S3 Completion of installation works and Completion of Partial Acceptance Testing (KD-5) 17% S4 Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6) 13% S5 DLP 1st Year 6% S6 DLP 2nd Year 6%	Considering cost of VAC/TVS/ISMS equipment comparing with Installation, Testing and commissioning we request amend payment structure for price centre C to F as mentioned below. We propose the following payment schedule for meeting the cash flow requirement for the material supply. S1 Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) - 5% S2 Completion of Factory Acceptance test, Manufacture - 20% Supply and Delivery (KD-04) -60% S3 Completion of installation works and Completion of Partial Acceptance Testing (KD-5) - 5% S4 Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6)- 5% S5 DLP 1st Year - 2.5% S6 DLP 2nd Year - 2.5%	Tender condition prevails.	No															
412	Employer's Drawings - ISMS IO List		In Page No: '267-288-Mentioned as Light House Secondary PLC(Instead of Boat Club Secondary PLC IO's).	Boat Club Secondary PLC IO List seems to be mentioned as Light House Station Secondary PLC in Page No 267 to 288 of detailed IO List, As the Light House Secondary PLC IO's are different and already mentioned in Pg No:13 to 19, Kindly confirm.	Refer addendum - 01.	Yes															
413	Employer's Drawings - ISMS IO List		Soft IO Type- RS- 485. Ethernet , But as per the Technical Specification , Pg 7 of 64, Clause, 4.2.8, it is mentioned as the PLC Processor ability to receive and map signals from third party system over Modbus RS-485 Protocol, BACnet, Modbus TCP I/P and Profinet	As per the IO List the Soft IO's are only Modbus RS-485 / TCP I/P, Kindly reconfirm to select the required Communication Modules/Gateway Modules	The PLC shall be compatible as per Part-02, Employer Requirements, ISMS Specification, Clause 4.2.8.	No															

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
414	Part 2, Technical Specification, Sec-E, SCADA, ISMS	4.1.17	All the PLC Components (CPU, IO Modules, etc).Ethernet Switches, Power supplies, (Both Bulk & rack Power Supply etc shall be conformal coated.	Kindly reconfirm the requirement of Conformal coating for SMPS since same is not mentioned in the detailed Specification.	Tender Condition Prevails. Conformal Coating to be considered for all CPU, IO Modules (SIL and Non-SIL), Power Supply (Bulk and Rack Power Supply) and Ethernet Switches.	No
415	Part 2, Technical Specification, Sec-E, SCADA, ISMS	4.2.010	Changes to the configuration possible during operation early detection of faults and integrated diagnostics options.	Kindly Explain the requirement of Early detection of fault feature	The PLC Modules shall have the following Early detection faults features, Self test at Module start-up, Continuous built-in runtime self-test, Module & Channel Diagnostics, Communication status and overall system health etc.	No
416	Part 2, Technical Specification, Sec-E, SCADA, ISMS	5.1.4	Server shall have Active Directory Services which shall help to hardening the Workstations and Services, patch Management, Window Management, , Firewall Management, and Active Management of the entire ISMS SCADA System.	Kindly Elaborate the Hardening Requirement.	Tender Condition Prevails. Server shall have Active Directory Services to comply the requirement.	No
417	Part 2, Employer Requirements, Sec-E, SCADA, ISMS	5.11.1.2	Should Support Power Over Ethernet (POE,IEEE 802.3af) and Operating Temperature	Kindly Confirm the Number of POE Ports with Combination required for each Switch. And the Operating Temperature requirement	Refer addendum - 01.	Yes
418	Part 2, Employer Requirements, Sec-E, SCADA, ISMS	5.14	CCTV Camera: u) Operating Environment: Maximum upto 70 degC, RH:90%	Operating Temperature of CCTV from Major OEM Products shall be :65 Deg. Request you to kindly accept the same.	Refer addendum - 01.	Yes
419	Part 2, Employer Requirements, Sec-E, SCADA, ISMS	6.2.23	Historian Server	Historian Server is not Included in the BOM, Kindly Confirm the requirement.	Refer addendum - 01.	Yes
420	Part 2, Employer Requirements, Sec-E, SCADA, ISMS	6.5.10	HMI: Operating Conditions : Maximum up to 70 Deg C and 0-95% Rh	Operating Temperature of HMI from Major OEM Products shall be :50 Deg. Request you to kindly accept the same.	Refer addendum - 01.	Yes
421	Part 2, Employer Requirements, Sec-E, SCADA, ISMS	15.3	Supply and Installation of Hardwares: The Contractor shall assess the requirement for the implementation of a Web & mobile app base Comprehensive Maintenance Management System. The Contractor shall supply & install the required hardware equipment as mentioned below but not limited to: a) Centralized Server b) Computer peripherals c) Industrial-grade Tablets with Internet Connectivity for O&M staffs(Minimum 11 Tablets) d) Firewall e) Network Equipments like L3 Managed Switches, Networking Cables etc(Refer ISMS Spec)	Kindly Reconfirm the requirement of Industrial Grade Tablet with Internet Connectivity for O&M Staff- 11 Tablets, Firewall. Etc for Web and Mobile App, as the same is not detailed in the BOQ	Tender Condition Prevails. Kindly refer the Bill of Quantities in Price Centre A (General Requirement)	No
422	PART 2 Employer’s Requirements Sub - Section A – Design Verification & Validation	Clause 1.0	This Particular document describes the requirements of the Design Verification & Validation of Tunnel Ventilation System (TVS), Ventilation & Air Conditioning System (VAC), TVS/VAC Associated Electrical System & Integrated Station Management System (ISMS) for the Chennai Metro Rail Limited (CMRL) Phase 2 Underground Stations.	Bidder request Employer to share the Heat Release Rate of Rolling Stock to validate the TVS design	Successful bidder shall be provided with the details.	No
423	PART 2 Employer’s Requirements Sub - Section A – Design Verification & Validation	Clause 1.0	This Particular document describes the requirements of the Design Verification & Validation of Tunnel Ventilation System (TVS), Ventilation & Air Conditioning System (VAC), TVS/VAC Associated Electrical System & Integrated Station Management System (ISMS) for the Chennai Metro Rail Limited (CMRL) Phase 2 Underground Stations.	During design verification stage if any change in equipment rating and quantity variation, how contractor will be paid for these variations. Please clarify	Tender condition prevails. Please refer to Part-3, PCC, SP- 12.3	No
424	PART 2 Employer’s Requirements Sub - Section A – Design Verification & Validation	Clause 1.0	This Particular document describes the requirements of the Design Verification & Validation of Tunnel Ventilation System (TVS), Ventilation & Air Conditioning System (VAC), TVS/VAC Associated Electrical System & Integrated Station Management System (ISMS) for the Chennai Metro Rail Limited (CMRL) Phase 2 Underground Stations.	Bidder request Employer to share the ECS & TVS Design report for better understanding.	Successful bidder shall be provided with the details at the time of Design Verification and Validation	No
425	PART 2 Employer’s Requirements Sub - Section A – Design Verification & Validation	Clause 1.0	This Particular document describes the requirements of the Design Verification & Validation of Tunnel Ventilation System (TVS), Ventilation & Air Conditioning System (VAC), TVS/VAC Associated Electrical System & Integrated Station Management System (ISMS) for the Chennai Metro Rail Limited (CMRL) Phase 2 Underground Stations.	Bidder request Employer to share the SES/CFD analysis report as per the current alignment of the tracks.	Successful bidder shall be provided with the details at the time of Design Verification and Validation	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
426	Employer Drawing	01-Sub Section-A-TVS Layout Drawing	P20C4TVS03-LIH-MMSOTVSTVL-DWG44012	Jet fan installation detail has been shown in some of the typical drawings and also mentioned about jet fans in the tender specification. But it is not covered in the tender BOQ. Please confirm the requirement of jet fans for any of the portal side?	The drawings provided are indicative and for installation clearances. There is no Jet fan in the design. Please follow BOQ.	No
427	Part - 2, Sec - VII	Clause no - 3.4, Pg. No - 1144&45/1464	Damper fabrication	Bidder understands from the given clause that M.o.C of damper is SS-316L. But as per other similar Metro rail projects M.o.C of damper is SS-304 only. Please confirm and clarify.	Tender condition prevails.	No
428	Part - 2, Sec - VII	Clause no - 3.5.5, Pg. No - 1147/1464	Damper Installation at Site	Bidder understands from the given clause that 300mm thick structure to be placed between the damper & floors. But in other similar Metro rail projects TVD is installed on 200mm thick RCC foundation using clamp plates and it was provided by the Civil contractor. Please confirm and clarify.	All the structural arrangements including RCC and MS structure shall be provided and quoted by the Bidder.	No
429	Part - 2, Sec - VII	Clause no - 7.1.3, Pg. No - 1152/1464	Transition Pieces (Cones)	MS Cone is not possible to galvanise at it will be distorted during galvanisation process. We recommend MS cone can be duly painted with heat resistant paint to avoid corrosion instead. Please confirm the same.	Refer addendum - 01.	Yes
430	Part - 2, Sec - VII	Clause no - 2.5.1.4, Pg. No - 1134/1464	Fan supporting and mounting	Bidder understand from the specification that Tunnel Ventilation Fan structure requires hot dip galvanisation. But in some cases the fan structure size is large which is very difficult to do hot dip galvanisation. Alternatively, Zinc painting can be done for fan structure. Please confirm the same.	Tender condition prevails.	No
431	Drawing/Schedule	01-Sub Section-A-TVS Layout Drawing	P20C4TVS03-LIH-MMSOTVSTVL-DWG33002	OTE Sliding plate damper dimensions and numbers are seems to be high compare to other similar Metro Rail Projects. Please confirm and clarify the same.	Tender condition prevails.	No
432	BOQ	General	-	If there are any mismatches between BOQ & Drawings/schedule, please confirm the order of precedence to be considered for quantity.	Refer Addendum - 01. Part-B, PCC-1.5	Yes
433	BOQ 5, Electrical BoQ	Sl.No.7	Power Cable & 7.3 Control cable-	Bidder found that the quantity of cable termination, i.e., lugs and glands, is given along with the cables. Please share the lugs and gland quantities in numbers under a separate line item.	Cable lugs and glands quantities can be arrived from Electrical drawings.	No
434	BOQ 5, Electrical BoQ	Sl.No.13	Wiring -	1. Bidder requests to share primary and secondary point lengths in metres for us to quantify the point wiring. 2. Bidder requests to share conduit length in metres.	The Bidder shall quote in LOT as per design requirement and functional requirement.	No
435	Employer Drawings	03-Sub Section-C-TVS&VAC Electrical Layout & SLD Drawing	-	The electrical layout and SLD for Bharthidasan Station have not been provided. Bidder requests the employer to provide the same.	Refer addendum - 01.	Yes

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
436	BOQ 5, Electrical BoQ	Sl.No.3 LV Switchboards/MCC's/Distribution Board	-	Bidder found that the number of panels in BOQ and SLD is mismatched. Kindly clarify. For example, on Kutchery Road BOQ, there are four TVS panels, i.e., TVS Panel-01 and TVS Panel-02, two each, but in SLD, only two panels have been shown.	Refer addendum - 01. In each TVS/VAC essential panel 2 nos of incomers are considered, the same is mentioned as SET in BOQ.	Yes
437	BOQ 5, Electrical BoQ	Sl.No.3 LV Switchboards/MCC's/Distribution Board	-	Bidder found that there are mismatches in BOQ and SLD. The number of outgoings, breaker size, and incomer fault level in SLD do not match the BOQ. For example: Lighthouse BOQ, VAC PANEL, 13 numbers of o/g including spare mismatching with the VAC panel in SLD	Refer addendum - 01.	Yes
438	Part 2, Employer Requirements Sub - Section D – Electrical works for VAC and TVS	2.28.1.g.	The software shall have features for configuring, testing and commissioning smart devices. And All MCCB’s in smart panels shall have a communicable module for integrate	In the referred clause, it is mentioned that all MCCB shall have communicable module. However, Bidder found that thermal magnetic-based MCCB's are considered in the BoQ for smart panels. Kindly clarify	Refer addendum - 01.	Yes
439	BOQ 5, Electrical BoQ	Sl.No.8 Cable tray	-	Bidder requests to share quantity of steel support and brackets in terms of tons in separate line item, since modular type brackets and supports to be considered	Tender Condition Prevails.	No
440	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements 5.5.1 C 5.5.4 I	All fans shall be capable of withstanding the pressures and stresses developed during continuous operation at the selected duty. Centrifugal fans operated by belts are unacceptable. Centrifugal fans operated by belts are unacceptable.	As per specification and BOQ Toilet supply and exhaust fans are cabinet (box type) centrifugal fans or axial fans. It also says centrifugal fans operated by belts are unacceptable. OEM confirms that the direct driven DIDW centrifugal fans are available upto capacity of 2500CFM @ 20mm static pressure. DIDW centrifugal fans with cabinet is non standard and the same is available with belt driven fans. Hence bidder propose to have belt driven cabinet centrifugal fans for toilet supply and exhaust. Please confirm.	Tender condition prevails.	No
441	16.04, 16.08, 16.10, 16.12, 16.13, 16.16, 16.17, 16.19, 16.24, 16.26, 16.29, 16.31, 16.32, 16.33, 16.33, 16.34, 16.35	BOQ S.no 199, 203, 205, 207, 208, 211, 212, 214, 219, 221, 224, 226, 227, 228, 228,229, 230	Static pressure for axial fans are above 500 Pa	Due to high static pressure, few axial fans are selected with lesser outlet velocity (4-7m/s) which is not advised. Capacity utilisation of axial fans will not be achieved with lesser outlet velocity having bigger dia. Hence we propose to have centrifugal fans for the fans having static pressure above 500 Pa. Please confirm.	Tender condition prevails.	No
442	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements 5.5.4 b	Forward curved fans shall be used for airflow less than 8 m3/s	Kindly confirm to proceed with backward curve fans above 500Pa st.pr irrespective of air volume due to non-overloading characteristics.	Tender condition prevails.	No
443	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements 5.5.2.2 i	Motor bearings shall be designed for an average life of at least 1,00,000 hours (L10 life, ISO 281-2007 and Anti-Friction Bearing Manufacturer's Association) All the bearing shall self lubrications type.	Proposed motor OEM's are meeting the bearing life to a max of 50000 hours. Hence we propose to have other OEM for motors who can meet the specification. Please confirm.	This can be reviewed during Design Verification and Validation stage.	No
444	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements 5.5.2.1 C	Vane Axial fan and Mixed flow axial fan shall have Minimum 72% fan total efficiency or fans shall be selected with an AMCA high-energy efficiency classifications fan whichever is higher	Fan having air volumes above 8cms with appropriate static pressure can comply efficiency above 72% whereas fan air volume below 8cms or with higher static pressure, fan efficiency cannot be achieved below 72%. Please confirm.	This can be reviewed during Design Verification and Validation stage.	No
445	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements 5.5.2.1 f	MS material with hot dip galvanization PR12 polyester powder coating or equivalent can be used for higher thickness casing and mounting feet subject to NONO Engineer/ Employer.	Since the clearance between impeller and casing is very low, the hot dip galvanization coating causes uneven deformation, hence we proposed to have MS casing with PR12 polyester power coating. Please confirm.	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
446	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements 5.5.2.2 e	The motors shall be capable of accelerating the driven plant from standstill to rated speed with a terminal voltage of 80% of the nominal supply voltage at 50Hz in less than 4 seconds for low acceleration time application. The locked rotor withstand time at 110% rated voltage under HOT condition shall be at least 3 seconds more than the starting time at 80% of rated voltage for motors with acceleration time up to 20 second at rated voltage. All motors shall be capable of operating continuously at rated torque at any supply voltage between 90% and 110% of the nominal supply voltage at 50Hz	Motor OEMs unable able to comply the requirement of 4 seconds. Hence they propose to have 17-20 seconds (from standstill to rated speed at 80% voltage). Please confirm.	Refer addendum - 01.	Yes
447	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements Pg no 1207 2.7.21.1	Motor shafts shall be supported by approved thrust bearings, suitable to handle both the static and dynamic loads.	Thrust bearing are applicable only for vertical mounted axial fans whereas for other mounting arrangements, Thrust bearing is not applicable. Please confirm.	Tender condition prevails. Refer Part 2 Section - VII Clause 2.7.21 of same section.	No
448	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements 5.5.4 C	Direct driven Centrifugal fan shall have the minimum 76% fan total efficiency or fans shall be selected with an AMCA high-energy efficiency classifications fan whichever is higher	Fan having higher air volumes above 10cms with appropriate static pressure can comply efficiency above 72% whereas fan having lower air volume or with higher static pressure, Fan efficiency cannot be achieved. Please confirm.	This can be reviewed during Design Verification and Validation stage.	No
449	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements 5.5.4 aa. Ii)	High density Rockwool insulation shall be used as an acoustic material	OEM propose to have glass wool insulation (25mm thk @ 32kg/m3) for double skin cabinet fans which acts as sound absorbent material instead rockwool insulation. Please confirm.	Tender condition prevails.	No
450	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements 5.5.7 d	The average motor bearing life shall be at least 1,00,000 hours,	OEM confirms that the propeller fans can comply to a range of 40,000 hours	This can be reviewed during Design Verification and Validation stage.	No
451	Part:2 Section- VII Sub Section C VAC System Part-A	5. VAC FANS 5.5 Technical Requirements 5.5.7 e	Nominal motor nameplate rating shall be minimum of 15% higher than the fan brake power absorbed at design conditions	This will meet for 3phase fans and not applicable for single phase fans. Please confirm.	This can be reviewed during Design Verification and Validation stage.	No
452	Part 1,Section I ITB	ITB Clause 7.2	The Bidder is advised to visit and examine the Site and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the site shall be at the Bidder’s own expense	If any site or local conditions was not reasonably foreseeable/examinable/practicable for consideration by an experienced contractor before bid submission (taking account of cost of examination and time for bidding), then the Contractor shall be entitled to due extension of time and costs arising out of such conditions	Refer corrigendum-01.	Yes
453	Part 1,Section I, ITB	ITB Clause 40.1	The Employer reserves the right to accept or reject any Bid, and to annul the bidding process and reject all Bids at any time prior to Contract award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, Bid Securities shall be promptly returned to the Bidders.	We seek deletion of this clause as the bidder incurs substantial cost in submitting the tender.	Tender condition prevails.	No
454	Part 3, Section IX, GCC	GCC 1.7	Assignment	Bidder seek that such assignment by the Employer shall not increase the liabilities or decrease the right and obligations of Parties to the contract.	Tender condition prevails.	No
455	Part 3, Section X, (PCC – PART- A – CONTRACT DATA)	PCC- A 16 r/w Sub clause GCC 2.1	Time for access to, and possession of all parts of, the site	Please confirm that unhindered access to Site and approvals for the Project will be on place on the date of issuance of LOA or date of signing of the Contract Agreement whichever is earlier. If there is delay in handing over the Site or obtaining the required approvals by the Employer, the Contractor will be entitled to Extension of Time and additional payment	a. For Access Dates please refer to Appendix -03 of the Part -02. b. For extension of time Please refer to Part-03, GCC-8.4 / PCC- 48.	No
456	Part 3, Section X, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 16 GCC Clause 1.5	(n) Any other documents forming part of the Contract.	Please clarify the term “any other documents forming the part of the Contract”	The term “any other documents forming the part of the Contract” means any document mutually agreed between the parties at the time of signing the contract agreement.	No
457	Part 3, Section X, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 19 GCC Clause 1.7.2	The contractor will not submit any representation for novation, amalgamation, change in the name of the contract...etc in any form, during the tenure of the contract.	We seek that the original FIDIC clause 1.7 be reinstated and this PCC conditions be dropped.	Refer addendum - 01.	Yes
458	Part 3, Section X, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 21 GCC Clause 1.13	The Contractor shall be solely responsible for all the statutory clearances including customs, excise, taxes, levies, octroi, transportation, all import permits, licenses, technical clearances by the Government, safety audits, etc. required for the successful execution of this Contract.	We seek addition of the following at the end of this clause “..... Contract, except those permissions to be obtained by the Employer as per the terms of above sub clause 1.13(a)	GCC 1.13 a) clearly specifies the Employer's & Contractor's responsibilities. Tender condition prevails.	No
459	Part III, Section X, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 28 GCC Clause 4.6	Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor suffer delays and/or to incur Unforeseeable Cost”. is deleted.	We seek that the original clause shall prevail.	Tender condition prevails.	No
460	Part III, Section X, 126, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 28 GCC Clause 4.6.3	The decision of the Engineer in this regard shall be final.	We seek that any decision of the Engineer shall not be final and the same shall be referred to arbitration.	Tender condition prevails.	No
461	Part III, Section X, 126, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 28 GCC Clause 4.6	Opportunity for Interfacing Contractors and Other Contractors	If the Contractor’s performance is delayed/hindered due to such Interfacing Contractors and other contractors, then the Contractor shall be entitled to due extension of time and actual costs incurred. Please confirm.	This is covered under Part-03, GCC-8.4 (e).	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
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462	Part III, Section X, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 48 GCC Clause 8.4	b. Inclement weather conditions, occurred more than 1 event in 50-year cycle and	We seek deletion of this clause	Tender condition prevails.	No
463	Part III, Section X, 136, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 49 GCC Clause 8.7	The Employer, at its sole discretion, may release such liquidate damages based on the recommendation of the Engineer. The Employer’s decision in this regard shall be final and binding.	We seek deletion of this clause. The Employer’s decision in this regard shall not be final and binding. The same shall be referred to arbitration	Tender condition prevails.	No
464	Part III, Section X, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 55 GCC Clause 13.8 Data 13.8.2	g) Whenever the nomenclature or classification or description of the indices undergo a change than that is available on the Base date, the Engineer will choose appropriate indices closer to the one available on the Base date for the purpose of determining the variation. The decision of the Employer/Engineer in this regard shall be final and binding. g) Whenever the nomenclature or classification or description of the indices undergo a change than that is available on the Base date, the Engineer will choose appropriate indices closer to the one available on the Base date for the purpose of determining the variation. The decision of the Employer/Engineer in this regard shall be final and binding.	The Employer’s decision in this regard shall not be final and binding. The same shall be referred to arbitration. Hence we seek deletion of the sentence " <i>The decision of the Employer/Engineer in this regard shall be final and binding</i> "	Tender condition prevails.	No
465	Part III, Section X, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 64 GCC Clause 20.2	(v) Each party shall choose any one member from the panel. The two members so nominated shall recommend a third member from the same panel and the Parties shall agree upon the same, who shall then act as Chairman of the DB.	We seek that the members of DB shall be agreed mutually by the Parties without any reference to the Panel	Tender condition prevails.	No
466	Part III, Section X, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 67 GCC Clause 20.6	20.6 Arbitration	Considering the arbitration proceedings shall be as per the Indian Arbitration & Conciliation Act, 1996 as may be amended from time to time, we seek to include a condition that the number of arbitrator(s) constituting the tribunal shall be 3 and the appointment procedure shall be that each party shall without reference to the panel maintained by the Employer, appoint one arbitrator and the two appointed arbitrators shall appoint the third presiding arbitrator, with mutual consent. In the event of failure to appoint the arbitrator by a Party or failure of two appointed arbitrator to appoint third and presiding arbitrator, the arbitrator shall be appointed as per the provisions of the aforesaid Act.	Tender condition prevails.	No
467	Part III, Section X, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 55 GCC Clause 13.8 Data 13.8.2	(b) No price adjustment shall be payable on advance payment and the portion other than contract price. Price variation is not applicable on Non BOQ/New items and Price Centre A, B G, H, GST, Custom Duty and any other tax. (c) Price adjustment shall be applicable only to the items under Price Centre C, D, E & F of the Pricing Schedule Section IV B.	We seek that price adjustment shall be applicable to all the item without any exception	Tender condition prevails.	No
468	Part III, Section X, (PCC – PART- B Specific Provisions (SP))	PCC -B Clause 57 GCC Clause 14.3	If any under-payment is discovered, the same shall be paid by the Employer to the Contractor. Such payments or recoveries, however, shall not be subject to any interest.	We seek that the interest rate shall apply for any underpayment due to Employer’s default.	Refer addendum - 01.	Yes
469	Part III, Section IX, Pg 90	Chapter 20 Claims, Disputes and Arbitration GCC 20.1	The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance. If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim.	We seek deletion of the 28 days notice period since it restrains the Contractor from exercising his right to claim.	Tender condition prevails.	No
470	Part 1,Section I ITB	A General 2. Source of Funds	2.3 The above Loan Agreement will cover only a part of the project cost. As for the remaining portion, the Borrower, the Project Executing Agency and the Employer will take appropriate measures for finance through other sources specified in the BDS.	Please share the details of loan amount from New development bank and Employer [CMRL] own funds allocated for this Project.	The said clause is not available in this tender. Not relevant.	No
471	Part 1,Section I ITB	C Preparation of bids 20.Period of Validity of Bids Clause 20.3	If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity, the Contract Price shall be determined as follows: (a) In the case of Fixed Price Contracts, the Contract Price shall be the Bid Price adjusted by the factor specified in the BDS. (b) In the case of Adjustable Price Contracts, to determine the Contract Price, the fixed portion of the Bid Price shall be adjusted by the factor specified in the BDS.	Price adjustment factor is not provided in BDS and we request to provide the same	Price variation is applicable for this contract. Hence, no Adjustment of quoted rates shall be permitted. Refer addendum-01.	Yes

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
472	Part 2, Employer’s Requirements Section IV	Sub - Section A. Works Requirements CHAPTER 19 Scope of Defects Liability Period Sub clause 19.2.2	19.2.2 Within a reasonable period after such schedule of defects is issued by the Engineer, the Contractor shall ensure that the items properly specified in the schedule of defects are made good or completed in accordance with the Contract to the reasonable satisfaction of the Engineer/ Employer and at no additional cost to the Contract. The rectification and/or replacement work shall be subject to a further period of twelve (12) months apart from the defects liability period of twenty-four (24) months. If the defect is not remedied within a reasonable time Employer may arrange the rectification of the Work at the risk and expense of the Contractor.	We request to delete “The rectification and/or replacement work shall be subject to a further period of twelve (12) months apart from the defects liability period of twenty-four (24) months”	Tender condition prevails.	No
473	Part 2, Employer’s Requirements Section IV	Sub - Section A. Works Requirements CHAPTER 20 SCOPE OF COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT Sub clause 20.18.2	<i>The maximum penalty limit for not carrying out a particular maintenance/breakdown activity or sum total of all penalties for non-carrying out of multiple maintenance/breakdown activities during a particular quarter of CAMC shall be limited to 10% of total contract value for 5 years. The sum total of various penalties for different quarters of CAMC for 5 years CAMC period is also limited to 10% of total contract value for 5 years.</i>	We request to reduce the limit of the total penalties to 2% of the Contract value.	Tender condition prevails.	No
474	Part 3, Section - IX. General Conditions of Contract (GCC)	Chapter 15 TERMINATION BY EMPLOYER Clause 15.6	Clause 15.6	Clause no 15.6 to 16.2 is repeating many times. Please clarify.	GCC 15.6 is referring to contracts financed by different banks and GCC 16.1 & GCC 16.2 is same for all the cases. For this tender please refer to PCC, 15.6 clause.	No
475	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part A Contract data 19.Performance security Sub clause 4.2	The Performance Security shall be in the form of a Bank guarantee, in the amounts of 10% of the Accepted Contract Amount The Performance Security for CAMC shall be in the form of a Bank guarantee, in the amounts of 10% of the Contract Amount in Price Centre H.	We request to reduce the performance Bank Guarantee to 3% of the Contract Amount.	Tender condition prevails.	No
476	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part A Contract data 23.Maximum amount of delay damages Sub clause 8.7	10% of the Contract Price	We request to reduce the Cap to 5% of the Contract Amount.	Tender condition prevails.	No
477	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part A Contract data 25.Total advance payment Sub clause 14.2	The interest free mobilization advance at the rate of 10 % of the accepted contract amount excluding Provisional Sum, Price Centre “G” (Operation and Maintenance assistance during DLP) and Price Centre “H” (CAMC) in the currencies and proportions is payable against production of Bank guarantee from a public sector bank. And the guarantee shall be in the form of a BG for 110% of the advance amount requested plus GST. Mobilization advance shall be paid in two instalments. First Instalment: First instalment of 50% of the advance shall be paid after signing of the Contract Agreement and submission of required Bank Guarantee in the specified format from requisite banks. Second Instalment: Second instalment of 50% of the Advance shall be paid after Achievement of KD-01, KD-02 and submission of required Bank Guarantee in the specified format from requisite banks.	We request to reduce the BG for 100% of Advance amount We request to provide second instalment of 50% of the Advance upon achievement of KD-01.	Tender condition prevails.	No
478	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part A Contract data 28.Percentage of Retention Sub clause 14.3 c	Percentage of Retention : 5% from each IPC Limit of Retention money: 5% of the Accepted Contract Amount	We request to reduce the percentage of retention money to 2.5% from each IPC and Limit of the retention money to 2.5% of Accepted Contract Amount.	Tender condition prevails.	No
479	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part A Contract data 6. Defects Notification Period Sub clause 1.1.3.7	730 days	Please raise a PBQ to change the Defects Notification Period from 730 days to 365 days.	Tender condition prevails.	No
480	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part A Contract data 34. Date by which the DB shall be appointed Sub clause 20.2(ii)	The DB shall be appointed as and when the first request is raised within 28 days of receipt of such request by the Employer	We request to replace “the employer” by “one party from the other”.	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01																																			
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481	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part A Contract data Table 2: Partial Site Access and Possession Access Dates for Stations from Station Contractors:	<div>Table 2: Partial Site Access and Possession</div> <div>Access Dates for Stations from Station Contractors:</div> <table><tr><th></th><th>Access Date</th><th>Station Name</th><th>Access date to TVS/VAC Rooms and shafts (Calendar days from date of Commencement)</th></tr><tr><td rowspan="8">Corridor-4</td><td>AD-01</td><td>ST-01 – Light House station</td><td>835</td></tr><tr><td>AD-02</td><td>ST-03 – Kutchery Road station</td><td>1050</td></tr><tr><td>AD-03</td><td>ST-05 – Alwarpet station</td><td>905</td></tr><tr><td>AD-04</td><td>ST-06 -Blarathidasan Road station</td><td>980</td></tr><tr><td>AD-05</td><td>ST-07 – Boat club station</td><td>1050</td></tr><tr><td>AD-06</td><td>ST-08 – Nandhaam Station</td><td>1010</td></tr><tr><td>AD-7</td><td>ST-10 – Panagal park station</td><td>962</td></tr><tr><td>AD-08</td><td>ST-11 – Kodambakkam Station</td><td>1040</td></tr></table>		Access Date	Station Name	Access date to TVS/VAC Rooms and shafts (Calendar days from date of Commencement)	Corridor-4	AD-01	ST-01 – Light House station	835	AD-02	ST-03 – Kutchery Road station	1050	AD-03	ST-05 – Alwarpet station	905	AD-04	ST-06 -Blarathidasan Road station	980	AD-05	ST-07 – Boat club station	1050	AD-06	ST-08 – Nandhaam Station	1010	AD-7	ST-10 – Panagal park station	962	AD-08	ST-11 – Kodambakkam Station	1040	Kindly clarify the meaning of partial site access and possession. We require hinderance free access date for executing our scope of works. Please confirm.	Tender condition prevails.	No
	Access Date	Station Name	Access date to TVS/VAC Rooms and shafts (Calendar days from date of Commencement)																																
Corridor-4	AD-01	ST-01 – Light House station	835																																
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482	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 1.General Provisions Sub Clause 1.5 Priority of Documents	(a) the Contract Agreement, (b) the Letter of Acceptance (LoA), (c) Letter of Technical Bid & Letter of Price Bid. (d) Addendum/Corrigendum to Bid (e) the Particular Conditions of Contract (PCC) – Part A (f) the Particular Conditions of Contract (PCC) – Part B (g) FIDIC Conditions of Contract for construction for Building and Engineering works designed by the Employer, 2010(GCC) (h) Employer’s Requirements i. Works Requirements &Appendices ii. Technical Specifications iii. Employer’s Drawings (i)Pricing Document & Financial Bid (j)Schedules, any other documents forming part of the contract. If an ambiguity or discrepancy if found in the documents, the Engineer shall issue any necessary clarification or instruction.	We request to include Pre bid queries and the Clarifications thus received from the Employer or Owner should be taken place in the order of priority as mentioned below. (a) the Contract Agreement, (b) the Letter of Acceptance (LoA), (c) Letter of Technical Bid & Letter of Price Bid. (d) Addendum/Corrigendum to Bid (e) Pre bid Queries and Clarifications (f) Contractor Technical Proposal (g) the Particular Conditions of Contract (PCC) – Part A (h) the Particular Conditions of Contract (PCC) – Part B (i) FIDIC Conditions of Contract for construction for Building and Engineering works designed by the Employer, 2010(GCC) (j) Employer’s Requirements i. Works Requirements &Appendices ii. Technical Specifications iii. Employer’s Drawings (k) Pricing Document & Financial Bid (l) Schedules, any other documents forming part of the contract.	Pre bid Queries and Clarifications are a part of Addendum/Corrigendum to Bid. Please refer to Addendum-01.	Yes																													
483	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 1.General Provisions 1.9 Delayed Drawings or Instructions	The Contractor shall verify the Employer’s Requirements in totality and if they found any error in the Employer’s requirements, those needs to be highlighted during prebid meeting or to raise prebid queries to obtain the clarifications from the Employer. Upon signing the contract agreement, the Contractor is solely responsible for the errors if any left. The contractor is not entitled for extension of time or cost compensation on this account if any error noticed after signing the contract agreement	We request to delete” Upon signing the contract agreement, the Contractor is solely responsible for the errors if any left.” and “The contractor is not entitled for extension of time or cost compensation on this account if any error noticed after signing the contract agreement.	Tender condition prevails.	No																													
484	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 1.General Provisions 1.13 Compliance with Laws	The Contractor shall be solely responsible for all the statutory clearances including customs, excise, taxes, levies, octroi, transportation, all import permits, licenses, technical clearances by the Government, safety audits, etc. required for the successful execution of this Contract.	We request to provide list of clearances if any required to be obtained by the Contractor.	The list shall include but not limited to all the statutory clearances including customs, excise, taxes, levies, octroi, transportation, all import permits, licenses, technical clearances by the Government, safety audits, etc.	No																													
485	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 4 The Contractor 4.2 Performance Security	The Contractor shall deliver the Performance Security to the Employer within 28 days after receiving the Letter of Acceptance and shall send a copy to the Engineer. The Performance Security shall be issued by a Public Sector Bank (PSB), or Schedule of Commercial Banks by The Reserve Bank of India (RBI) selected by the Contractor and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer, or in another form approved by the Employer. This Bank Guarantee shall be kept valid up to 28 days beyond the scheduled expiry of the Comprehensive Annual Maintenance Contract (CAMC).	We request to reduce the validity of PBG to DLP period since a separate PBG is furnished for CAMC	Refer addendum - 01.	Yes																													
486	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 4 The Contractor 4.2 Performance Security	[...]the contractor shall furnish another Performance Security in the form of a Bank guarantee from a public sector bank (PSB) or any Japanese Bank as listed under Schedule of Commercial Banks by The Reserve Bank of India (RBI) for an amount of 10% of the total accepted value for CAMC (Price Centre H).	Please raise a PBQ and request to reduce Performance Security to 1% of the accepted value for CAMC (Price Centre H).	Tender condition prevails.	No																													
487	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 4 The Contractor 4.6 Co-operation	Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor suffer delays and/or to incur Unforeseeable Cost”. Is deleted	We request to retain this clause.	Tender condition prevails.	No																													

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01																					
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488	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 4 The Contractor 4.6.1 Reasonable Opportunity	The Contractor shall, in accordance with the requirements of the Engineer, afford all reasonable facilities for Interfacing Contractors under the contract [...] The Contractor shall, as reasonably requested in a written manner by the Engineer, make available to any such Interfacing Contractor, other contractors, or the Engineer or any such authority, any roads, or ways for the maintenance of which the Contractor is responsible, for which no additional payment shall be made by the Engineer.	We request that any damages caused to the roads or ways maintained by Contractor by the Interfacing Contractor shall be reinstated by them.	Tender condition prevails.	No															
489	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 4 The Contractor 4.6.2 Inspection of Work of Interfacing Contractors	If any part of the Contractor’s work depends upon the work of an Interfacing Contractor, he shall inspect and promptly report to the Engineer any defects in such work that may render it unsuitable for such proper execution. The Contractor’s failure to so inspect and report shall constitute acceptance of the Interfacing Contractor’s work as fit and proper except as to defects which may develop in the Interfacing Contractor’s work after execution of his work	We request to delete this clause.	Tender condition prevails.	No															
490	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 4 The Contractor 4.6.4	The Contractor shall be held liable for any loss and expense incurred by the Employer arising from any breach by the Contractor in fulfilling his obligations under the contract, if the Contractor is deemed to have caused any delays, defects, damages or otherwise, as a direct result of his design or construction activities, to the Interfacing Contractors in respect of the whole of the Works	We request to delete this clause.	Tender condition prevails.	No															
491	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 7 Plant, Materials and Workmanship 7.3 Inspection	“The Contractor shall give not less than 14 days’ notice to the Engineer whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport.”	We request reduce the period of notice from “less than 14 days” to “less than 24 hours”	Tender condition prevails.	No															
492	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 8 Commencement, Delays and Suspension 8.7.4	The Employer, at its sole discretion, may release such liquidate damages based on the recommendation of the Engineer. The Employer’s decision in this regard shall be final and binding.	We request to release the LD levied on intermediate Key Date upon completion of successive Key Date(s) on time (either as per original schedule or as per EOT) and any decision on LD shall be of mutual discussion and not by one party alone	Tender condition prevails.	No															
493	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 8 Commencement, Delays and Suspension 8.9 Consequences of Suspension	<table><tr><th>Sr. No.</th><th>Suspension Period</th><th>Extension of Time as per Clause GCC/PCC 8.4</th><th>Compensation for the Suspension period</th><th>Remarks</th></tr><tr><td>1</td><td>1 – 30 days</td><td>YES</td><td>NO</td><td>Extension of time considered proper by the Engineer</td></tr><tr><td>2</td><td>Above 30 days</td><td>YES</td><td>As per Daily rate of wages for idle labour / employees 70% of the rate for hire charges for idle plant & machinery (excluding cost of fuel & lubricants) 15% above all these items to cover overhead costs</td><td>Compensation as assessed by the Engineer on submission of documentary proof by the Contractor to Engineer's satisfaction</td></tr></table>	Sr. No.	Suspension Period	Extension of Time as per Clause GCC/PCC 8.4	Compensation for the Suspension period	Remarks	1	1 – 30 days	YES	NO	Extension of time considered proper by the Engineer	2	Above 30 days	YES	As per Daily rate of wages for idle labour / employees 70% of the rate for hire charges for idle plant & machinery (excluding cost of fuel & lubricants) 15% above all these items to cover overhead costs	Compensation as assessed by the Engineer on submission of documentary proof by the Contractor to Engineer's satisfaction	We request to provide compensation for suspension period during 1-30 days and to provide full compensation during suspension above 30 days.	Tender condition prevails.	No
Sr. No.	Suspension Period	Extension of Time as per Clause GCC/PCC 8.4	Compensation for the Suspension period	Remarks																	
1	1 – 30 days	YES	NO	Extension of time considered proper by the Engineer																	
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494	Part 3, Section - X. Particular Conditions of Contract (PCC)	Part B Specific Provisions 12 Measurement and Evaluation 12.3 Evaluation	Individual BOQ items can be varied to any extent till the overall variation is within +/- 25% of the contract price I. Only when the variation exceeds +/- 25% of the overall contract price, the rates for excess/additional quantities of all the items which caused such variation shall be arrived as per below A.	We request to provide rate variation when the variation exceeds 15%.	Tender condition prevails.	No															
495	3- TUNNEL VENTILATION FAN UNITS Part-2 Section VII, Sub - Section B TVS works, Rev.01, Oct’2023	2.1.2	The Contractor shall select fans based on total pressure for the specified air flow rate. The total pressure and air flow rate shall be obtained from Design Verification and Validation. The fan total pressure and flow rate mentioned in the BoQ for the different duty points is indicative only.	Fans to be offered as per current BOQ parameters.	The Bidder shall quote as per BOQ parameters and in conjunction with functional requirements and other relevant Tender conditions.	No															
496	-	2.2.1	Qualifications of Fan Manufacturer: The fans shall be the product of a manufacturer who has produced industrial grade fans of the types and duties required for the Contract with minimum quantity of 50% supplied for at least five years for subway transit systems or highway tunnels, with period ending on bid submission date.	Minimum quantity of 50% supplied for at least five years, please clarify more on this requirement.	Refer addendum - 01.	Yes															
497	-	2.2.1	Qualifications of Fan Manufacturer: The fans shall be the product of a manufacturer who has produced industrial grade fans of the types and duties required for the Contract with minimum quantity of 50% supplied for at least five years for subway transit systems or highway tunnels, with period ending on bid submission date.	One of the OEM, TLT-Turbo India is a subsidiary company of TLT-Turbo GmbH who already supplied fans for more than 5 years for rail tunnels, please confirm on submitting TLT-Turbo GmbH job reference list.	Refer addendum - 01.	Yes															
498	-	2.2.3	All aerodynamic performance tests shall conform to the requirements of the latest edition of AMCA Standards 210 & 250, BS 848, ISO 5801/13350, IS 3588, JIS B8330, or any other universally accepted standard.	As per approved OEM's, FAT will be conducted in accordance with AMCA 210 standard, please confirm.	Tender condition prevails.	No															

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
499	-	2.2.5	Fans shall be statically and dynamically balanced according to ISO 14694/21940 or AMCA 204-05. All fans shall be of minimum class BV-3 for 75kW and BV-4 for >75kW motor rating, as per AMCA 20405 definition or G2.5 as per ISO 21940.	As per approved OEM's, balancing will be done in accordance to ISO 1940 Gr. 2.5 and vibration in accordance to ISO 14694	Tender condition prevails.	No
500	-	2.2.5	Fans shall be statically and dynamically balanced according to ISO 14694/21940 or AMCA 204-05. All fans shall be of minimum class BV-3 for < 75kW and BV-4 for >75kW motor rating, as per AMCA 204-05 definition or G2.5 as per ISO 21940. A complete spectral analysis shall be carried out to determine each type of fan assembly's resonant frequencies including frame and anti-vibration mountings. Provisions shall be taken, and appropriate isolation pad provided to ensure satisfactory operation over the whole operation range of each unit and considering vibration tolerance of the slab. The above can be carried out in accordance to other international standards, subject to no objection by the Employer/Engineer.	Kindly clarify which type of spectral analysis is required. There is not the standard practice to measure resonant frequencies including frame and anti-vibration mounting.	Refer addendum - 01.	Yes
501	-	2.3.4 & 2.3.5	Unidirectional fans (OTEFs/SEFs) shall be selected with a combined fan and motor efficiency of minimum 70% at all specified duty points, from accepted manufacturers. The combined fan and motor efficiency shall be calculated using the following formula: Efficiency (%) = (Airflow(m3/s) x Total Pressure (Pa) x 100%) / Absorbed Motor Power(kW)	The formula given here is for calculating the fan total efficiency, not the combine efficiency for fan & motor. Please confirm.	The formula mentioned in tender is for combined efficiency. Tender condition prevails.	No
502	-	2.3.6	Sound ratings of fans shall conform to AMCA 300 method of testing and to AMCA 301 for calculating method or ISO13347-3/DIN45635T1.	As per approved OEM's, for Axial fan in accordance to ISO 3744 & for Jet fan ISO 13350	Tender condition prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
503	-	2.3.10	The fan & Motor manufacture shall design & manufacture all TVF, Jet fans and OTEF fans should have minimum 30 years useful service life. OEM shall submit the useful service life certification of all types of fans and motors.	Noted. However the service life of the product is based on proper installation, operation, maintained and stored in good condition as stipulated in Operating manual. This will not apply for accessories such Vibration Isolator, Flexible connections, Motor Bearings and Sensors.	Tender condition prevails.	No
504	-	2.4.1	Vane axial, direct drive type, designed for mounting in any position without modification shall be furnished. Subject to Notice of No Objection of the Employer, the Contractor may offer tube-axial, direct-drive type fans instead of vane axial fans provided, however, that the fans meet all the specified requirements including construction, capacity, efficiency, motor size, sound power rating, and constraints on physical dimensions as may be imposed by the design as shown on the employer's requirements.	Few approved OEM's Offering fans with suitable for Horizontal mounting only.	Tender condition prevails.	No
505	-	2.4.4	Impeller hub and blades shall be fabricated of aluminium alloy castings (ASTM B686) or forgings (ASTM B247) or steel (ASTM A-588, Grade A and A-151, 1020 hot rolled),	Few approved OEM's follow Equivalent BS & IS standard, Instead of the ASTM. Casing, guide vane & supports - Mild Steel(IS 2062 E250) Blade - Aluminium Alloy casting of EN AC 43500 (LPDC). Axial fan hub made of Forging and Mild Steel welded, P305GH & IS 2062 E350, please confirm.	Tender condition prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
506	-	2.4.4	Impeller hub and blades shall be fabricated of aluminium alloy castings (ASTM B686) or forgings (ASTM B247) or steel (ASTM A-588, Grade A and A-151, 1020 hot rolled), suitable for the specified performance and environment. Blades shall be manufactured of a homogeneous material as specified herein and shall have no cast-in or embedded materials of any kind. However, if heterogeneous material is adopted by fan manufacturer for their blades which is approved and certified to deliver the specified performance and reliability, the same can be proposed to the Employer/Engineer NOTICE OF NO OBJECTION.	Few approved OEM's follow EN AC-AISI9MG standard, which is equivalent to mentioned standards, please confirm.	Tender condition prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
507	-	2.4.4	However, if heterogeneous material is adopted by fan manufacturer for their blades which is approved and certified to deliver the specified performance and reliability, the same can be proposed to the Employer/Engineer NOTICE OF NO OBJECTION.	Please provide details of third party agency which will approve & certify performance and reliability of impeller blade with heterogeneous material.	Tender condition prevails. It is the responsibility of the fan manufacturer to obtain and produce valid certifications.	No
508	-	2.4.5	Fan rotating components shall be designed such that no measured or calculated stress level shall exceed 60 percent of the component's materials yield strength at design temperature. Fan blades shall not vary in weight by more than 2 percent.	As per OEM's, Since blades are manufactured by casting process, this weight variation shall not vary by more than 7 percent.	Tender condition prevails.	No
509	-	2.4.7	All TVF and OTEF fan housings, including motor mounts and motor supports shall be fabricated of hot rolled, SS 316 not less than 6 mm.	Complied with MS (IS 2062E250)	Refer addendum - 01.	Yes
510	-	2.4.7	All TVF and OTEF fan housings, including motor mounts and motor supports shall be fabricated of hot rolled, AE 235 or equivalent steel not less than 6 mm thick. Clearance between housing inner diameter and blade tips shall be sufficient to allow for thermal growth difference between blades and steel housing at temperature of 250°C for period of two hours. Welds located in the air stream shall be ground smooth. Flanged rings shall be continuously welded to the outer periphery at each end of the housings, or flanges may be rolled as part of the housing. Flanges shall comply with the standards as per DIN. The welded flanges shall have a minimum thickness of 8mm. The centre of the openings of the flanges shall be spaced at 200 mm, as a maximum.	As per OEM's, Flange thickness shall be same as fan housing thickness, 6 mm thick.	Refer addendum - 01.	Yes
511	-	2.4.8	Provide remote lubrication fittings for lubrication of fan and motor bearings from easily accessible location, for motors rated above 45 kW.	As per approved OEM's, the motor lubrication provision with necessary SS tubing for grease movement to motor bearing will be provided on the fan casing at Junction box.	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
512	-	2.4.9	All hardware, fan casing, supports and all steel components required to assemble the fans shall be hot dipped galvanized to ISO 1461.	As per approved OEM's, complied with manufacturer standard painting instead of HDG. Surface Preparation of SA 2.5 and finish paint suitable for Heat Resistance Aluminum paint up to 250 Deg C.	Tender condition prevails.	No
513	-	2.4.10	The rotor assembly shall be fastened to the motor shaft by means of an approved-keyed positive locking device.	As per approved OEM's, Impeller to the motor is locked with keyway.	Tender condition prevails.	No
514	-	2.4.10	The rotor assembly shall be fastened to the motor shaft by means of an approved-keyed positive locking device. The rotor assembly shaft shall be an extension of the drive motor shaft. Rotor assembly fastening to shaft shall be designed to prevent looseness during temperature of 250°C for the period of two hours.	As per another approved OEM's proven practice, Rotor shall be fastened to the motor shaft by special fixation segment and ensures the positive locking.	Tender condition prevails.	No
515	-	2.4.14	For ease of delivery/removal and installation of fans from the fan room to at-grade level, fans with split type casing are to be used. The contractor shall access the requirement of split-type casing type TVF fans based on the access route available for installation. The Contractor shall obtain Notice of No Objection for TVF fans with split-type casing unit. Conscious efforts shall be made by the manufacturer/contractor in order to not compromise on the fan efficiency or performance quality.	Can be decided based on fan room size and accessibility area while detailed engineering..	This can be reviewed during Design Verification and Validation stage.	No
516	-	2.4.20	Bolts shall not be less than 12 mm dia. Bolts, nuts, washers and lock washers used on the fans and components shall be Stainless Steel 304L.	MS Galvanized or other corrosion resistant material as approved for faxing hardware's, not SS 304L.	Tender condition prevails.	No
517	-	2.5.1.2	Support beams, support legs, platforms, hangers and anchor bolts required for the proper installation and maintenance of equipment shall be designed, provided and installed by the Contractor and submitted for approval. Where required, the contractor shall employ a qualified structural engineer for specifying the load bearing components, such as anchor bolts.	As per OEM's, TVS fans will have support legs as shown in 3D Model / Drawing submitted along with TDS.	Tender condition prevails.	No
518	-	2.5.1.4	All TVF, Jet fans and OTEF fan supports shall be made of mild steel with hot dipped galvanized structure. hot dipped galvanized thickness shall be minim 70 µm at all points.	As per approved OEM's, complied with manufacturer standard painting instead of HDG. Surface Preparation of SA 2.5 and finish paint suitable for Heat Resistance Aluminum paint up to 250 Deg C.	Tender condition prevails.	No
519	-	2.5.2.1	The Contractor shall select the jet fans Thrust level from Design Verification & Validation. The Thrust Level Mentioned in the BoQ is purely indicative.	Fans to be offered as per BOQ parameters.	The Bidder shall quote as per BOQ parameters and in conjunction with functional requirements and other relevant Tender conditions.	No
520	-	2.6.2	All clauses mentioned in section 2 stand valid for JEFs as well, unless mentioned differently in this subsection.	what is JEFs, please clarify.	Jet Fans, also called Tunnel Booster Fans (TBF)	No
521	-	2.6.3	All jet fans shall comply with design reversibility. Jet fan casings shall be made of Stainless Steel 316L grade.	Few OEM's provide MS with hot dip galvanized casing for the Jet Fan.	Refer addendum - 01.	Yes
522	-	2.6.4	Jet fan motors shall be designed for start-up immediately after shutting down at-least six times per hour without overheating or damage.	Number of hot start & cold start of the motor will be provided in the Motor datasheet based on the fan load data.	Tender condition prevails.	No
523	-	2.6.13	The cylindrical sound attenuators of the jet fans shall have an external cover of Stainless Steel 316L grade with a minimum thickness of 2 mm.	Few OEM's will provide MS with hot dip galvanized for the external casing of the cylindrical sound attenuators of the jet fans.	Tender condition prevails.	No
524	-	2.7.2	The motors shall be capable of accelerating the driven plant from standstill to rated speed with a terminal voltage of 80% of the nominal supply voltage at 50Hz in less than 30 seconds when started across the line	Acceleration time for the motor will be furnished in detail engineering.	Tender condition prevails.	No
525	-	2.7.1.4	It is the contractor's responsibility to ensure that all imported motors shall have the necessary BIS certification as per govt. of India ruling. Three-phase induction motors intended to be installed in Indian territory shall be at least IE2 efficiency class compliance and be certified by BIS (Bureau of Indian Standards) to IS 12615.	As per our understanding, BIS certificate is not mandatory for this high temperature (smoke extraction) motors.	Refer addendum - 01.	Yes
526	-	2.7.1.6	Motor winding shall be vacuum pressure impregnated for all motors. Motors shall be totally enclosed squirrel cage induction, fan cooled guarded to IP55 as defined in IEC 60034 with Class H insulation, impregnated with non-hygroscopic oil-resistant insulating varnish. Design ambient condition of the motor shall be 45 deg. Particulars of all motors shall be submitted for Notice of No Objection.	Total Enclosed Air Over (TEAO) motors should also be acceptable.	Tender Condition Prevails. Please refer to Part-02, Employer’s Requirements, TVS Technical Specifications, 2.7.	No
527	-	2.7.5	Motor shall be compatible with VFD/VSD based starter and it should be vacuum pressure impregnation winding and Insulated bearing on non-drive end. VFD / VSD driven motors shall comply to IEC 60034-25	Insulated bearing housing cover should also be acceptable.	Tender condition prevails.	No
528	-	2.7.10	TVF & OTEF fan motor bearings shall be designed for 1,00,000 hours operating service (L10 life, Anti-Friction Bearing Manufacturer's Association) and provided with a grease outlet connection for in service lubrication. Grease fittings shall be brought to outside of fan housing and provided with covers which shall effectively exclude water and dirt. Jet fan motor bearings shall be designed for an average life of at least 200,000 hours when calculated in accordance with ISO 281. Grease for the bearings shall be suitable for the operating conditions and the bearings shall be fitted with extended lubricators mounted on the fan casing.	40,000 hours L10 life as per Motor manufacturer's standard.	This can be reviewed during Design Verification and Validation stage.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
529	-	2.7.6	All bare steel internal parts except bearings shall be painted unless otherwise protected against corrosion. Epoxy painting on motor over hag shall be provided with coating thickness of 70 micron.	Please provide RAL code for the motor painting shade.	To be proposed by manufacturer, subject to Employer/Engineer NONO	No
530	-	2.7.9 & 2.7.10	The maximum motor efficiency shall be at the normal operating condition. Motors in all cases shall be entirely suitable for the duty intended. TVF & OTEF fan motor bearings shall be designed for 1,00,000 hours operating service..	Please review both the clause and provide the actual requirement.	Tender condition prevails.	No
531	-	2.8.1.2	For OTEF, Jet fans and TVF, performance curves at air density of 1.2 kg/m3 and the air density at 250 degC temperature need to be submitted.	Performance curve of both fan & motor will be provided separately. Fan performance curves we provide at design duty condition and for that same system resistance. So in order to plot the performance curves for density at 250 deg C, we require flow and pressure requirement at that particular temperature.	Successful Bidder shall be provided with the Details during Design Verification and Validation stage.	No
532	-	2.8.1.3	Separate curves shall be furnished for forward and reverse direction. Each curve shall be identified.	Truly reversible fan provided & same curve applicable for both direction. Different curve not applicable for Truly reversable fan.	Tender condition prevails.	No
533	-	2.8.1.7	Comprehensive method statement in accordance with the international safety standards/employer’s requirements for installation of the fan units shall be submitted.	Please review and advise more on this requirement.	Tender condition prevails. Please refer to clause 3.15 of Part-2 Section VI Works Requirements Sub - Section A Chapter- 3	No
534	-	2.8.1.9	Complete catalogue information and shop drawings for material and equipment shall be submitted, including the following:	Fan general arrangement drawing will be provided.	Noted.	No
535	-	2.8.2	Motors	Complied as per IEC Std. Motor datasheet will be submitted separately. Motor testing according to specification mentioned in IEC/ IS.	Noted.	No
536	-	2.8.2.1	Fabrication/Shop Drawings and manufacturer's literature on the motors shall be submitted.	Motor GA drawings will be submitted, not fabrication	Tender condition prevails.	No
537	-	2.8.2.3	Composite curve for each size of motor plotted with abscissa as kilowatt output and ordinates as: Current in amperes, Speed in revolutions per minute, Efficiency in percent, Power factor in percent, Torque in Nm, speed in revolutions per minute and ordinates as: Motor current in amperes, Motor torque in Nm, Fan torque in Nm, Motor acceleration from standstill to synchronous speed in seconds.	According to each Manufacturer's standard practice.	Tender condition prevails. All data as mentioned in tender clause shall be submitted.	No
538	-	2.9.1	Factory Tests and Inspections	FAT shall be carried out for one of each fan type .	Tender condition prevails. Refer to Part-2 Section VII Clause 2.9.1.4 of same section.	No
539	-	2.9.1.2	All type of fans Test shall be conducted in AMCA Accredited Laboratory. AMCA Accredited Laboratory Certification shall be submitted.	Fan testing will be done in accordance to AMCA in OEM's factory.	Tender condition prevails.	No
540	-	2.9.1.5	Jet fan shall be tested according with ISO 13350 standard. Jet fans Noise level, Vibration and Sound power level shall be tested.	Noise level Complied with ANSI 12.54/ ISO 3744. Vibration level in accordance to ISO 14694.	Tender condition prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
541	-	2.9.1.9	Certification shall be provided that x-rays have been taken for 100% of fan blades of all fan types as per ASTM E-155, with notation of the x-ray numbers, and also that zygly/dye-penetration testing has been performed on hubs of all fan types.	Hub is a fabricated component, OEM's will do UT and DPT on the weld joints.	Noted.	No
542	-	2.9.1.10	Certification of visual acceptability, the x-ray procedure, the x-ray films, and proof of traceability of conformance with alloy specifications of the metal used to cast the hub and blades shall be submitted to the Employer/Engineer for Notice of No Objection.	X-ray test will be carried on Blade and films will be submitted.	Noted.	No
543	-	2.9.1.11	Balance and Vibration tests shall be carried out on all fan types with vibration sensor installed on motor unit.	Vibration will be in accordance to ISO 14694 up to & inclusive 300KW.	Tender condition prevails.	No
544	-	2.9.1.12	The vibration tests shall be done according to AMCA 204-05 standard with limiting values for all type of fans.	Complied as per the ISO 14694, measurement shall be taken by external meter during testing. Vibration sensor shall be provided at one direction for the site measurement.	Tender condition prevails.	No
545	-	2.9.1.2	All type of fans Test shall be conducted in AMCA Accredited Laboratory. AMCA Accredited Laboratory Certification shall be submitted.	Fan testing shall be conducted at fan manufacturer's work shop in accordance to AMCA.	Tender condition prevails.	No
546	-	2.9.1.3	Air performance test shall be as per AMCA 210 for Axial fan and AMCA 250 for jet fans.	Perf. test shall be as per ISO 5801 for axial fan. Jet fans are not applicable.	Tender condition prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
547	-	2.9.1.12	The vibration tests shall be done according to AMCA 204-05 standard with limiting values for all type of fans. The vibration signatures shall be taken on the motor mounting plate and on casing of the fan in the horizontal, vertical and axial direction. The vibration tests shall also be conducted for all duty points.	As per ISO 14694 which is equivalent.	Tender condition prevails. Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
548	-	2.9.1.14	Noise Test: Preproduction unit which has satisfactorily passed all preceding tests and inspections specified shall be tested in accordance with the induct test procedure of ISO 3747 or equivalent international standard to obtain sound power level data at eight octave band centre frequencies from 63 Hertz to 8,000 Hertz.	For 1 Fan of Each Type / Size.	Tender condition prevails. Refer to 2.9.1.4 of same section.	No
549	-	2.9.1.14	Noise Test: Preproduction unit which has satisfactorily passed all preceding tests and inspections specified shall be tested in accordance with the induct test procedure of ISO 3747 or equivalent international standard	Noise test shall be in accordance to ISO 3744 or ISO 3747 or equivalent international standard. The noise level of the fan @ 1m distance from casing will be measured during FAT. Complied with ANSI 12.54 / ISO 3744.	Tender condition prevails.	No
550	-	2.9.1.15	Tri-Axial Strain Gauge test is must to analyze stresses in blades.	For 1 Fan of Each Type / Size.	Refer addendum - 01.	Yes

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
551	-	2.10.5	The Contractor shall provide a 6-mm thick silicone gasket between all adjacent companion flanges; width of gasket shall be same as flange width. Gaskets shall be capable of withstanding an ambient temperature of 250-degree C for two hour without degradation of sealing ability and without emitting toxic or noxious fumes. If all joints are airtight under operating pressure, gasket may be avoided, subject to Notice of no objection by the employer.	Ceramic fibre tape as per required thickness instead of silicone gasket	Any proven materials that meet the prescribed fire rating or above can be considered subject to NONO from Engineer/Employer.	No
552	4- STATION SMOKE EXTRACTION FAN UNITS	4.01	4.01- Uni-directional Multi Duty point axial flow fans, 415V / 3 PHASE / 50Hz, 0.8m-1.2m Impeller diameter Range, 3.5/8.4 cum/s, ESP 450/1020 Pa (Duty points 1/2 Respectively) with their VFD compatible motor	Unable to select a suitable fan because of very low volume flow rate.	To be reviewed at the time of Design Verification and Validation stage.	No
553	-	4.04	4.04- Uni-directional Multi Duty point axial flow fans, 415V / 3 PHASE / 50Hz, 0.7m-1.1m Impeller diameter Range, 7.36/9.75 cum/s, ESP 1270/1390 Pa (Duty points 1/2 Respectively) with their VFD compatible motor	Unable to select a suitable fan because of very low volume flow rate.	To be reviewed at the time of Design Verification and Validation stage.	No
554	5- TUNNEL VENTILATION MOTORISED DAMPER UNIT Part-2, Section VII, Sub section B, Content 3 - DAMPERS AND DAMPER ACTUATORS)	3. Dampers and Damper Actuators- 3.1.2	The expected sizes of the dampers are provided in the BoQ. The final size of the dampers shall be as per the sizes which are Notice of No Objection by the employer/Engineer during the design verification & Validation stage. Any revisions / changes in the damper sizes shall be dealt accordingly on sqmt basis based on the rates quoted by the Contractor.	Motorized damper and required actuator qty is selected based on the BOQ sizes provided and any revision/ changes in the damper sizes shall be considered and quoted in no's only and not on Sqmt basis.	Refer addendum - 01.	Yes
555	-	3.4.8.3	All screws, bolts, nuts, washers, expansion anchors, and/or other hardware required to complete the installation shall be fabricated of SS 316L; and all intermediate supports, framing members, and hardware required for assembly/installation of the damper shall be fabricated of stainless steel AISI 316 L. All mounting members needed to install each damper in its respective opening shall be furnished and installed by the Contractor.	As per OEM's, Fixing nuts, washer and set screws only available in SS316, only damper blade & casing manufacture from SS316L.	Tender condition prevails.	No
556	-	3.4.8.7	The damper frames and other components made of steel shall be of stainless steel AISI 316L and shall not be painted	As per OEM's, only damper blade & casing manufacture from SS316L, joining angle is SUS316.	Tender condition prevails.	No
557	-	3.4.10.8	All tunnel ventilation system actuators shall be sized such that the operation of the damper shall take a period between 30 seconds for each opening or closing cycle during the power stroke and less than 10 seconds for the fail-Safe mode.	OEM's not complying with fail safe of less than 10 seconds for the fail-Safe mode.	Refer addendum - 01.	Yes
558	-	3.5.6	Blanking-off plates for such purpose shall be considered part of the damper assembly and shall be constructed by the Contractor at no additional cost. Blanking off plates shall be 3mm thick GI material with 70µm hot dip galvanization thickness.	As pert OEM's, blanking plates only available at coupling area between modules which are part of damper assembly.	Tender condition prevails.	No
559	-	3.6.6	Certificates shall be submitted stating that the materials meet the specified requirements. Fire dampers shall be provided with approved independent agency's label,	As per OEM's, certification can be provided but any agency label on the damper is not available.	Tender condition prevails.	No
560	-	3.7.11	Testing of Motorized Smoke Dampers shall be done in accordance with NFPA 105.	This standard is not applicable for smoke test.	Refer addendum - 01.	Yes
561	-	3.8.1	Field tests shall be performed under the technical guidance and supervision of the Damper Manufacture's Field Service Representative. The Damper Manufacture's Field Service Representative shall provide the field test instrumentation and perform the tests. The Damper Manufacture's Field Service Representative shall measure and record the Damper Operation time; power consumption; Fail safe position, Limit switch function.	OEM's not complying with field test instrumentation and perform the tests, they perform the test in terms of operation time, fails safe position and limit switch functions during FAT test and QC checks.	Tender condition prevails.	No
562	PRICE CENTRE D - VAC WORKS 3 - Air Handling Units Air Handling Units (DX-Coil type) - Part-2, Section VII, Sub section C, unit 4)	4.4, Point O	Standard RAL Color for AHU outer skin	As per few approved OEM's, provided with RAL 7047 Tele gray.	Tender condition prevails. Can be considered, subject to NONO from Employer/Engineer.	No
563	-	4.4, Point V	AHU base frame shall be 5 mm thick	As per few approved OEM's, 2 mm thick shall be provided.	Tender condition prevails.	No
564	-	4.4.2 Point A	Pre filters & Fine filters shall be provided for AHU and should meet ISO 16890, EN779 & ASHRAE 52.2 requirements to classify under particular grade The institute manufacturing the filter shall be quality management certified as per ISO 9001-2015	OEM comply to all these standards, rest EN779 is replaced by ISO 16890 so is now obsolete.	Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
565	-	4.4.2 Point C i	Filter Media shall be of self-supporting and non-woven synthetic media	OEM comply to filter media is self-supporting bonded onto a wire support grid and media is mixture of Polycotton and synthetic fibre.	Tender condition prevails.	No
566	-	4.4.2 Point C ii	Filter shall be of minimum 50 mm depth with G4 rating efficiency 90%.	As per OEM's depth of 44 mm as per G4	Tender condition prevails.	No
567	-	4.4.2 Point C iii	Filter media should be washable with compressed air	As per OEM, Can be air cleaned.	Tender condition prevails.	No
568	-	4.4.2 Point C iv.	The filter frame shall be of anodized aluminium extruded metal	As per OEM's, Available in moisture resistant cardboard with fitted Aluminum frame.	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
569	-	4.4.2 Point D i	Filter Media shall be of Moisture-resistant, micro-Fiber glass media and constructed with V shaped pleats. Each pleat should have depth of 25 mm and minimum of 95 pleats/feet.	As per OEM, Filter media is Glass Fiber & constructed in V-shape minipleat type	Tender condition prevails.	No
570	-	4.4.2 Point D iii.	Filter shall be of 292 mm depth with F7 rating efficiency of minimum 80%	As per OEM's, Filter efficiency is F7 /MERV A 13A /ePM1 60%	Tender condition prevails.	No
571	-	4.4.2 Point D iV	Filter frame end panels and strut supports shall be constructed by HIPS (high impact polystyrene) to enhance rigidity. All-plastic construction fully incinerable	As per OEM, Filter frame is in ABS with aerodynamic radial design for best performance and having Eurovent Energy Class of A+	Tender condition prevails.	No
572	-	4.4.2 Point G	The filter OEM shall submit test report(s) of prefilter and bag filter offered from International third party test laboratory as per design standard of EN779:2012	OEM will provide inhouse certificate of quality for the filters.	Tender condition prevails.	No
573	-	4.4.3 Point D	Manufacturing of copper tubes shall comply with ASTM B280-16/ASTM B 68/JIS H3300. It shall have inner grooved type for better heat transfer.	As per OEM's, Plain tube shall be provided.	Tender condition prevails.	No
574	-	4.4.5 Point B	The drain pans shall be of double skin wall construction i.e., inner skin and outer skin shall be fabricated with minimum 1.0 mm thick SS 316	As per OEM's, Material code shall be SS 304.	Tender condition prevails.	No
575	-	4.4.6 Point E	Support frame shall be of GSS with 1 mm thick minimum. Zinc coating thickness on GSS shall be of minimum 275 GSM	OEM's, Comply with Powder coated instead of 275 GSM	Tender condition prevails.	No
576	-	4.4.7.1 Point I	The impeller shall be backward curved type made up of high-performance composite material(Zamid technology/equivalent). The material should have high metallic strength. System should ensure maximum rigidity when the fans are operating at high speed and are subject to large centrifugal forces. Impeller shall be manufactured in single shot injection moulding tool.	As per OEM's, Impeller will be of mild steel with polyester powder coating finish, Impeller shall be manufactured by sheet metal form.	Tender condition prevails.	No
577	-	4.4.7.1 Point J	The Impeller cone shall be designed for optimum air flow. The Cone and casing shall be made-up of GSS material with 275 GSM zinc coating. The whole unit shall be fastened on base frames with suitable spring suspension. All support steel frames of fan shall be hot dip galvanized withPR 12 polyester powder coating finish with minimum of 100 microns	Impeller will be as per OEM standard. plug fan does not have casing. Inlet cone shall be made up GSS material with 220 GSM zinc coating. All support steel frames of fan shall be MS with polyester power coating with approx. 80 microns.	Tender condition prevails.	No
578	-	4.4.7.1 Point K	The fan and motor shall be statically and dynamically balanced according to ISO 1940,specification G2.5 grade	As per OEM's, statically and dynamically balanced according to ISO 21940	Refer addendum - 01.	Yes
579	-	4.4.7.1 Point M	AHU plug fan shall have minimum 74% fan total efficiency or fan shall be selected with anAMCA high energy efficiency classification fan wherever higher	Fan curves shall be provided as per OEM.	This can be reviewed at the time of Design Verification and Validation stage.	No
580	-	4.4.7.2 Point A	The type design and manufacture of all motors shall be subject to notice of no objection of Engineer/Employer. Motors shall be of squirrel cage, induction type. Voltage for motor shall be 415V ± 10% 3-phase, 50 HZ±3%.	As per OEM's, 50 HZ±5%.	Tender condition prevails.	No
581	-	4.4.7.2 Point C	The motors shall be capable of withstanding without mechanical damage at least 125% of rated speed or as imposed by the driven equipment, whichever is higher.	Shall be as per IS12615 standard.	Tender condition prevails.	No
582	-	4.4.7.2 Point E	The motor starting torque and pull-out torque of motor at rated voltage shall be above 250 %of the full load torque. Also the pull-up torque of the motors shall be less 0.5 times the breakaway torque.	Not required starting torque of 250% for Fan application refer TDS And pull-out torque 250 % is ok.	Tender condition prevails.	No
583	-	4.4.7.1 Point J	The Motor bearings shall be designed for an average life of at least 1,00,000 hours. (L10 life,ISO 2008-2007, Anti-Friction Bearing Manufacturer's Association). All Motor bearings shall be self-lubrications type.	As per standard, L 10 life is 50000 hours	This can be reviewed at the time of Design Verification and Validation stage.	No
584	-	4.4.7.1 Point K	Terminal markings and rating plates shall be in accordance with IEC 60034. Name plate shall contain manufacturers model, manufacturers serial number, rated voltage (V), phases, rated motor power (kW), temperature rating (°C), phase amperage (A), power factor, date of manufacture, design speed (rpm), service factor and torque.	Torque is not mandatory as per IEC 60034 on Name Plate	Tender condition prevails.	No
585	4- VRF Outdoor Units 4.08- 4.32		Combination of any S No "4.01" to "4.07" of above ODU Capacity	As per some OEM's, configuration shall be with higher capacity ODUs up to 28 HP. Please confirm.	Refer addendum - 01.	Yes
586	Part-2, Section VII, Sub section C, unit 2	2.1.6	The VRF/VRV Outdoor unit shall achieve a MTBF of no less than 50,000 hours. Indoor unit shall achieve MTBF of no less than 30,000 hours.	Supply of DX AHU's, not under VRF OEM's scope.	Tender condition prevails.	No
587	-	2.3.5	THD current and voltage for all ODU models shall be submitted by the OEM at full and part load condition (25% 50%,75 % and 100 %). The Contractor shall Share the harmonic details to interface contractor.	It depends on the incoming power supply, hence not in OEM scope.	Tender condition prevails.	No
588	-	2.4.1	VRF Air-conditioning system shall be tested performance requirements in test chambers accredited by NABL / INTERTEK Satellite Certification/Equivalent and tolerance should be with 5%.	OEM's not having Indian factory are unable to comply this.	Any other universally accepted equivalent or higher standard can be considered subject to Employer/Engineer's NONO.	No
589	-	2.5.9	The OEM of VRF units must supply latest model of central controller which shall be capable of communicating to ISMS/SCADA. It shall be provided for control and monitoring of VRV/VRF units from SCADA/ISMS.	Few OEM's provide Central Controller with BACnet protocol.	Tender condition prevails.	No
590	-	2.5.10	Central/Master controller shall be equipped with user-friendly Intelligent Programmable and large surface LED display (21" HMI) with capacitive touch screen for operating VRF/VRV unit in SCR room.	Few OEM's provide with lesser than 21" display.	Tender condition prevails.	No
591	-	2.6	Factory visit and Factory acceptance test (FAT)	FAT shall be as per OEM standard testing. Test certificates shall be produced, Please confirm.	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
592	<u>5- VRF Indoor Units & Accessories</u> <u>5.01-HIGH STATIC DUCTABLE/ CONCEALED INDOOR UNITS</u> 5.01.02		12.3kW (3.5TR)	As per OEM standard, we shall consider 4TR. Please Confirm.	Tender condition prevails.	No
593	5.01.04		15.8kW (4.5TR)	As per OEM standard, we shall consider 5TR. Please Confirm.	Tender condition prevails.	No
594	5.01.06		22.4kW (6.4TR)	As per OEM standard, we shall consider 6TR. Please Confirm.	Tender condition prevails.	No
595	5.01.08		40kW (11.37TR)	As per OEM standard, we shall consider 11TR. Please Confirm.	Tender condition prevails.	No
596	<u>16- Vane Axial flow Fans/Mixed flow fans VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, Unit 5) and drawings.</u> '16.04, 16.08, 16.10, 16.12, 16.13, 16.16, 16.17, 16.19, 16.24, 16.26, 16.29, 16.31, 16.32, 16.33, 16.33, 16.34, 16.35	5.5.1 C	Centrifugal fans operated by belts are unacceptable.	Direct driven DIDW fans can be proposed upto 2500CFM @ 20mm st.pr.Directdriven DIDW fans inside cabinet is non-standard. Kindly confirm to proceed with belt driven fans to achieve best possible selections	Tender condition prevails.	No
597	17		Static pressure for axial fans are above 500 Pa	i) Due to high static pressure, few fan were selected with lesser outlet velocity(4-7m/s) which is not advised, fans selected with lesser outlet velocity having bigger dia due to that, full fan capacity cannot be utilised.Kindly re-check and confirm the static pressure or still the static pressure remains high. Kindly confirm to proceed with centrifugal fans. ii) Axial fans can with static pressure upto 500Pa but due to higher static pressure, full capacity of fans cannot be utilized.	Tender condition prevails.	No
598	17		Cabinet (Box type) centrifugal or axial fans with necessary fixing arrangement and other accessories In Accordance with VAC Technical Specifications (Refer Part-2, Section VII, Sub section C, Unit 5) and drawings. Belt driven fans are not acceptable	Kindly confirm to proceed with cabinet (Box type) centrifugal fans with belt driven arrangement to achieve best possible selections considering the duty points	Tender condition prevails.	No
599	-	5.5.4 b	Forward curved fans shall be used for airflow less than 8 m3/s	Kindly confirm to proceed with backward curve fans above 500Pa st.pr irrespective of air volume due to non-overloading characteristics.	Tender condition prevails.	No
600	-	5.5.2.2 l	Motor bearings shall be designed for an average life of at least 1,00,000 hours (L10 life, ISO 281-2007 and Anti-Friction Bearing Manufacturer's Association) All the bearing shall self lubrications type.	Motor vendors are complying bearing life to a max of 50000 hours. Kindly check and confirm.	This can be reviewed at the time of Design Verification and Validation stage.	No
601	-	5.5.1 K	Optimal fan outlet velocity and blade angle shall be selected for Vane Axial Flow Fans and Mixed Flow Fan to reduce the velocity pressure, motor KW without affecting the efficiency and same shall be submitted to Employer/Engineer for NONO	Fan outlet velocity will be selected based upon fan applications but due to higher static pressure, Optimal outlet velocity cannot be achieved and full fan capacity cannot be utilised.Kindly confirm static pressure.	Tender condition prevails.	No
602	-	5.5.2.1 C	Vane Axial fan and Mixed flow axial fan shall have Minimum 72% fan total efficiency or fans shall be selected with an AMCA high-energy efficiency classifications fan whichever is higher	Fan having air volumes above 8cms with appropriate static pressure can comply efficiency above 72% whereas fan air volume below 8cms or with higher static pressure, Fan efficiency cannot be achieved	This can be reviewed at the time of Design Verification and Validation stage.	No
603	-	5.5.2.1 f	MS material with hot dip galvanization PR12 polyester powder coating or equivalent can be used for higher thickness casing and mounting feet subject to NONO Engineer/ Employer.	We can propose MS Casing with pr-12 coating Since the Clearance between Impeller & casing is very low, We can’t propose hot dip galvanization as it causes uneven deformation in casing.	Tender condition prevails.	No
604	-	5.5.2.2 e & 2.7.2	The motors shall be capable of accelerating the driven plant from standstill to rated speed with a terminal voltage of 80% of the nominal supply voltage at 50Hz in less than 4 seconds for low acceleration time application. The locked rotor withstand time at 110% rated voltage under HOT condition shall be at least 3 seconds more than the starting time at 80% of rated voltage for motors with acceleration time up to 20 second at rated voltage. All motors shall be capable of operating continuously at rated torque at any supply voltage between 90% and 110% of the nominal supply voltage at 50Hz	Motor vendors unable able to comply, from stand still to rated speed at 80% voltage required 17-20 seconds	Refer addendum - 01.	Yes
605	-	2.7.3	The Motor shall be capable of delivering the rated torque when running at 70% of the nominal voltage for a period of 10 seconds without injurious overheating and under these conditions the slip shall not exceed 10%.	Motor vendors unable able to comply, from stand still to rated speed at 80% voltage required 17-20 seconds	Tender condition prevails.	No
606	-	2.7.16	All fans shall be provided with a vibration sensor fixed on motor allowing the measurement of fan speed vibration with 4-20 mA analogue signals. Also, winding temperature sensor for each phase (R, Y and B) and bearing temperature sensor for driving and non-driving (in case of reversible fans) ends shall be provided with 4-20 mA analogue signals for Monitoring in SCADA	Motor frame size D160 & above can be provided with Temp sensor, Vibration sensor and winding sensor for class 'F' insulation in Kruger motor make whereas frame sizes below D160 cannot be provided with sensors as per manufacturing standards.	Tender condition prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
607	-	2.7.21.1	Motor shafts shall be supported by approved thrust bearings, suitable to handle both the static and dynamic loads.	Thrust bearing are applicable only for vertical mounted axial fans whereas for other mounting arrangements, thrust bearing is not applicable.	Tender condition prevails. Refer Part 2 Section - VII Clause 2.7.21 of same section.	No
608	-	2.7.21.5	The motor supports should have a minimum thickness of 10mm and must be securely welded to the fan casing	Welded type motor support is not applicable for MXC series and motor mounting plate thickness will vary from fan dia to dia as per manufacturing standards.	Refer addendum - 01.	Yes
609	-	5.5.4 C	Direct driven Centrifugal fan shall have the minimum 76% fan total efficiency or fans shall be selected with an AMCA high-energy efficiency classifications fan whichever is higher	Fan having higher air volumes above 10 CMS with appropriate static pressure can comply efficiency above 72% whereas fan having lower air volume or with higher static pressure, Fan efficiency cannot be achieved	This can be reviewed at the time of Design Verification and Validation stage.	No
610	-	5.5.4 n	All fans with an inlet eye diameter exceeding 300mm shall have a bolted access opening (inspection port) on the scroll for access purposes. The size of access panels shall be such as to facilitate cleaning and maintenance of the impeller.	Part of completely removable access door (Knob type) at adjacent sides of fans will be provided. Inspection port is not applicable.	Tender condition prevails.	No
611	-	5.5.4 aa. Ii)	High density Rockwool insulation shall be used as an acoustic material	Double skin cabinet fans will be provided with 25mm thick glass wool insulation with 32kg/m^3 density which acts as sound absorbent material.	This can be reviewed at the time of Design Verification and Validation stage.	No
612	-	5.5.7 d	The average motor bearing life shall be at least 1,00,000 hours,	Propeller fans can comply to a range of 40000hours.	This can be reviewed at the time of Design Verification and Validation stage.	No
613	-	5.5.7 e	Nominal motor nameplate rating shall be minimum of 15% higher than the fan brake power absorbed at design conditions	Not applicable for single phase fans.	This can be reviewed at the time of Design Verification and Validation stage.	No
614	<u>PRICE CENTRE E - VAC & TVS ELECTRICAL WORKS</u> LV POWER CABLES 7.1 & 7.2		Termination	Kindly specify the Type of compression of Gland in the termination	Tender Condition Prevails. Kindly refer clause 3.4.15 of part – 2 Section – VII Sub - Section D – Electrical works for VAC and TVS	No
615	LT PANELS 3.1 to 3.45.7		Individual Price for the individual Feeder / Bus Bar Chamber	Panel Builders are refusing to quote individual Feeder basis where the Bus Bar Chamber / Cable Chamber length may vary in detail engineering. Kindly permit us to rate quote per Panel basis.	Tender Condition Prevails.	No
616	-		LIST OF MAKES : SEIMENS - SIVACON	SIEPAN - SIEMENS Which meets your technical requirements with Indian Design. Hence, We request you to approve.	Tender Condition Prevails. The Likelihood Vendor List provided in Part-02, Section VI, Appendix-06 is tentative. However, for the non-listed vendors, please refer to the Notice of No Objection (NONO) Procedure provided in the last paragraph of Part-02, Section VI, Appendix-06.	No
617	<u>PRICE CENTRE - F (ISMS WORKS)</u> PART-2 EMPLOYER'S REQUIREMENTS SECTION-E SCADA		PLC Panel	The bidding documents specify that a Type test certificate is required for the LV (Low Voltage) panels' housing. However, it's unclear whether the same requirement applies to the housing of the PLC panel housing and the PLC panel after the assembly of accessories. Clarification is needed regarding whether a Type test certificate is necessary for these PLC panels and their housing, as the documents do not provide explicit instructions on this matter.	Refer addendum - 01.	Yes
618	BOQ ,Price centre F -ISMS Works Items 11.1.2.5		PLC Unit (Communication Module)	The quantity of Communication Modules (CM) in the PLC unit configuration is missing. There seems to be shortage of Serial Communication Modules. For example, Lighthouse Station (ST01) requires 5 ports of Communication Modules (CM), so wouldn't it be necessary to have 3 units? Since Serial Communication Modules require 5 ports, wouldn't 3 units be required?)	Tender Condition Prevails. Follow the BOQ.	No
619	PART-2 EMPLOYER'S REQUIREMENTS SECTION ISMS Requirements AI,AO and DI, DO(SIL-2)		PLC Configuration (SIL-2 AI DO modules)	In case of SIL-2 DI module and AO module., it has requirement of 8 ch, 16, 32, 64 per module. If we consider the PLC with SIL-2 DI and DO module which has only 16 ch per module. Do the Employer will consider of using the module of 16 ch only, which means 4 times in case of 64 ch and increased in number of modules?(If we consider Mitsubishi PLC)	Tender Condition Prevails.	No
620	PART-2 EMPLOYER'S REQUIREMENTS SECTION-E SCADA		SIL-2 and Non SIL-2 Configuration	In a setup that combines both SIL2 and NonSIL2 components, it's essential to maintain a distinct separation between SIL2 and NonSIL2 processing. To achieve this, it is recommended to use separate CPUs and to minimize the utilization of both SIL2 and NonSIL CPUs. Would it be acceptable?	Tender Condition Prevails.	No
621	-		SIL- 2 Quantity	Since it is a redundant system (duplexed system), I would like to kindly ask whether it would be acceptable to have twice the specified quantity of SIL2 units? It is better to clearly divide the base and power unit of the PLC into two. That way, it is possible to see clearly the operating system and it is easy to manage.	Tender Condition Prevails.	No
622	PART-2 EMPLOYER'S REQUIREMENTS SECTION IV SUB-SECTION B. APPENDICES 5.18		SCADA Engineer	SCADA engineers should possess a range of skills, including not only electrical and electronic expertise but also mechanical and IT knowledge. Therefore, It is possible to set the requirement as "Graduate in Engineering "?	This can be mutually agreed with the successful bidder at the time of signing the contract based on the candidate's experience and qualification. Tender Condition Prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
623	PART-2 EMPLOYER'S REQUIREMENTS SECTION-E SCADA-4.1.18		PLC Service Life	The useful life of PLC components shall be 15 years and It is clearly mentioned to provide the certificate. What does the Useful life specify. And also, the normally the OEM of PLC and components has 10 years of useful life (Example: Some of the likelihood vendors list of PLC (Mitsubishi)has service life less than 15 Years as specified requirements.)	Tender Condition Prevails.	No
624	PART-2 EMPLOYER'S REQUIREMENTS Sub - Section E – ISMS works PLC/RIO panel and Accessories 5.16.16		Control Panel	The useful life of Control panel (PLC and RIO) shall be 30 years. Useful life certificate is necessary's life span(useful life) of control panel is determined on the basis of accident failure, appropriate maintenance. On what basis and factors the the useful life certificate for 30 years is required? It could be difficult to get the manufacturer which can assured the 30 years of useful life of Control Panel?	Tender Condition Prevails.	No
625	PART-2 EMPLOYER'S REQUIREMENTS Sub - Section E – ISMS works PLC/RIO panel and Accessories 5.16.11		PLC& RIO Panel Enclosure	In our understanding, is a PLC enclosure the same as a panel board casing? If they are indeed similar, could you explain why an IP55 rating is required for the PLC panel enclosure? We assume it will be installed indoors, which might seem like an overspecification. Can you provide more details or clarification on this matter?	Tender Condition Prevails.	No
626	PART-2 EMPLOYER'S REQUIREMENTS SECTION-E SCADA		ISO 9001 and ISO 14001	Quality Management System (ISO 9001) and Environmental Management System (ISO 14001) standards apply to both the panel housing manufacturer and the panel assembly company?	Refer addendum - 01.	Yes
627	<u>COMMERCIAL</u> GENERAL	Payment Terms	S.No Item Description % of Payment Stage payment structure for each item of PRICE CENTRE C to F - Manufacture, Supply, Installation, Testing, Commissioning & DLP S1 Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) 3% S2 Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) 55% S3 Completion of installation works and Completion of Partial Acceptance Testing (KD-5) 17% S4 Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6) 13% S5 DLP 1st Year 6% S6 DLP 2nd Year 6% Total Percentage 100%	S.No. Item Description % of Payment Stage payment structure for each item of PRICECENTRE C to F - Manufacture, Supply, Installation, Testing, Commissioning & DLP S1 Completion Vendor Submission & Factory Visit andCompletion of RAMS & EMC analysis (KD-03) 3% (on Pro-rata basis) S2 Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) 77% (on Pro-rata basis) S3 Completion of installation works and Completion of Partial Acceptance Testing (KD-5) 10% (on Pro-rata basis) S4 Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6) 10% (on Pro-rata basis) S5 DLP 1st Year 0% (No Cash retention, please release against retention BG of value equivalent to 6%) S6 DLP 2nd Year 0% (No Cash retention, please release against retention BG of value equivalent to 6%) Total Percentage 100%	Tender Condition Prevails.	No
628	Part-3, Section – X Particular Conditions (Part A: Contract Data)	S. No. 25, Sub-Clause 14.2	Bank Guarantee issued by a public sector bank.	We request you to accept bank guarantee issued also by scheduled bank.	Refer addendum - 01.	Yes
629	Part-3, Section – X Particular Conditions (Part A: Contract Data)	S. No. 23, Sub-Clause 8.7	Maximum amount of delay damages - 10% of the Contract Price	We request you to limit the delay damages to a maximum of 5 % of the Contract Price	Tender Condition Prevails.	No
630	GENERAL	EOT	Extension of Time for tender submission	We request you to give 2 months’ time from the date of receipt of the RFI reply, for cost optimization	Tender Condition Prevails.	No
631	Part-1, Section-I, Instructions to Bidders (ITB)	21. Bid Security	The Bidder shall furnish as part of its Technical Bid, a Bid Security in the amount and currency specified in the BDS.	We understand that in case of an unconstituted/intended JV/Consortium for the subject bid, any member can submit the bid security on behalf of the JV/Consortium. Please Confirm.	Refer addendum - 01.	Yes
632	Part-1, Section-III, Evaluation and Qualification Criteria	2.3.1	The financial year as applicable in the country of origin of the bidders would be considered. The ‘last financial year’ will be the latest financial year that ended before the date of issue of NIT for this tender.	We understand if the bidder submits audited financial statement for Financial year 2017-18 ,2018-19, 2019-20, 2020-21, 2021-22, then the same shall be acceptable as the financial statement for 2022-23 are still under preparation and may take some time. Please confirm.	For latest financial statements which are under preparation, Provisional statements certified by a CA shall be acceptable. Regarding the years, Tender Condition Prevails.	No
633	Part-1, Section-III, Evaluation and Qualification Criteria	2.3.1	As the minimum requirement, the Bidder’s net worth for five financial years (in which the annual turnover is calculated) calculated as the difference between total assets and total liabilities should be positive for any 3 years out of last 5 financial years.	We understand that if a company has entered into Joint Venture arrangements, each having a separate legal existence with distinct PAN and separate GSTIN, and if the financial data of those projects is reflected in the consolidated financials, in such cases, the Net worth shall be evaluated from Consolidated balance sheet , wherein financial data in share of Bidder's participation in respective Joint Venture is accounted for. Please confirm.	Each member of the JV must meet the requirement mentioned in EQC 2.3.1.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
634	Part-1, Section-III, Evaluation and Qualification Criteria	2.3.2	Minimum average annual turnover of INR 210 Crores , calculated as total certified payments received for contracts in progress and/or completed, within the last 5 years divided by 5 years.	We understand that if a company has entered into Joint Venture arrangements, each having a separate legal existence with distinct PAN and separate GSTIN, and if the financial data of those projects is reflected in the consolidated financials, in such cases, the Annual Turnover shall be evaluated from Consolidated balance sheet , wherein financial data in share of Bidder's participation in respective Joint Venture is accounted for. Please confirm.	For JV's Annual Turnover Requirements Please refer to EQC 2.3.2.	No
635	Part-1, Section-III, Evaluation and Qualification Criteria	2.3.2	Minimum average annual turnover of INR 210 Crores or equivalent foreign currency, calculated as total certified payments received for Contracts in progress and/or completed, within the last FIVE (5) years divided by FIVE (5) .	We request you to amend the Clause as below: <i>"Minimum average annual turnover of INR, 210- 150 Crores or equivalent foreign currency, calculated as total certified payments received for Contracts in progress and/or completed, within the last FIVE (5) years divided by FIVE (5)."</i>	Tender Condition Prevails.	No
636	Part-1, Section-III, Evaluation and Qualification Criteria	2.3.2	Minimum average annual turnover of INR 210 Crores calculated as total certified payments received for Contracts in progress and/or completed, within the last FIVE (5) years divided by FIVE (5) .	As per Clause 2.3.2, If the bidder is a JV/Consortium, each member is to meet 25% of the subject requirement of Average Annual Turnover of INR 210 Cr. Herein, we propose that if any one member fulfils the subject requirement INR 210 Cr , calculated as total certified payments received for Contracts in progress and/or completed, within the last 05 (i) years divided by five (05)years, then the other members can fulfill the requirement of 25% of Average Annual Turnover through 'Payment received from contracts' and/or revenue from operations and/or Total Revenue which can be verified from their Audited Balance Sheet. Please confirm.	Please refer to Part-01, EQC-2.3.2 Average Annual Turnover is calculated as total certified payments received for contracts in progress and/or completed, within the last 5 years divided by 5 years.	No
637	Part-1, Section-III, Evaluation and Qualification Criteria	2.3.2	Minimum average annual turnover of INR 210 Crores or equivalent foreign currency, calculated as total certified payments received for Contracts in progress and/or completed, within the last FIVE (5) years divided by FIVE (5) .	Where the lead member is completely fulfilling the requirement of INR 210 Crores for the minimum average annual turnover for past 5 years, we request that the minimum requirement for the other JV member shall be 5% of the subject requirement. Please confirm.	Tender Condition Prevails.	No
638	Part-1, Section-III, Evaluation and Qualification Criteria	2.3.3	The Bidder shall demonstrate, to the satisfaction of the Employer that it currently (as of the Bid submission deadline), has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as INR 52 Cr for the subject contract(s) net of the Bidder’s all other commitments, both current and future.	We understand that if a company has entered into Joint Venture arrangements, each having a separate legal existence with distinct PAN and separate GSTIN, and if the financial data of those projects is reflected in the consolidated financials, in such cases, the Financial Capabilities shall be evaluated from Consolidated balance sheet, wherein financial data in share of Bidder's participation in respective Joint Venture is accounted for. Please confirm.	Tender Condition Prevails.	No
639	Part-1, Section-III, Evaluation and Qualification Criteria	2.3.3	BF-7: SAMPLE FORMAT FOR BANKING REFERENCE LIQUIDITY	We understand that the requirement of Banking certificate shall arise only in case the Bidder is not able to demonstrate access to financial means, sufficient to meet the construction cash flow requirements estimated as INR 52 Cr from either or aggregation of the following : 1. Liquid Assets as calculated from Audited Financial Statement and/or 2. Unencumbered Real Assets and/or 3. Other Financial Means Please Confirm.	Tender Condition Prevails. Please refer to EQC 2.3.3. Submission requirements include FIN-3, FIN-4 & BF7.	No
640	Part-1, Section-III, Evaluation and Qualification Criteria	2.3.3	BF-7: SAMPLE FORMAT FOR BANKING REFERENCE LIQUIDITY	In case of JV / Consortium, wherein the bidder have to demonstrate access to INR 52 Cr via Banking Reference Certificates due to unavailability of sufficient Liquid Assets and/or Un-encumbered Real Assets and/or other Financial means, than in such cases the requirered Banking Reference Certificate may be provided by any member of JV/Consortium, in the name of JV/Consortium on behalf of the Joint Venture. Please Confirm.	Tender Condition Prevails.	No
641	Part-3, Section-X, Particular Conditions (Part B: Specific Provisions)	4.2 Performance Security In case of JV/Consortium, the requirement of Performance Security shall be distributed between/among the members as per their percentage participation. The constituent members shall submit Performance Security (as per their percentage participation in JV / consortium) from their respective bank accounts. Performance Security executed from the bank accounts of JV/Consortium, or any other bank account shall not be accepted.	We request you to kindly amend the aforementioned Clause 25 as: “In case of JV/Consortium, the Performance Security can be submitted by any member of the JV/Consortium on behalf of the Joint Venture/Consortium.” Please confirm.	Refer addendum - 01.	Yes

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
642	Part-1, Section-III, Evaluation and Qualification Criteria	2.4.1	Experience under “Mechanical contract(xi)" in the role of prime contractor(i) (single firm or JV member) or subcontractor between 1st January 2013 and the Bid submission deadline.	<p>We request you to amend the Clause as below:</p> <p><i>"Experience under “Mechanical contractxi)" in the role of prime contractor(i) (single firm or JV member) or subcontractor between 1st January 2013 and the Bid submission deadline.</i></p> <p><i>In case of JV Consortium, any one member should have experience under “Mechanical contract(xi)" in the role of prime contractor(i) (single firm or JV member) or subcontractor between 1st January 2013 and the Bid submission deadline wherein other member should have experience under “Electrical/Mechanical contract " in the role of prime contractor(i) (single firm or JV member) or subcontractor between 1st January 2013 and the Bid submission</i></p> <p><i>Please confirm.</i></p>	Please refer to Part-01, EQC, 2.4.1 for compliance requirement of JV. Tender Condition Prevails.	No
643	Part-1, Section-III, Evaluation and Qualification Criteria	2.4.1	Experience under “Mechanical contract(xi)" in the role of prime contractor(i) (single firm or JV member) or subcontractor between 1st January 2013 and the Bid submission deadline.	<p>We request you to amend the Clause as below:</p> <p><i>"Experience under “Mechanical Contracts" in the role of prime contractor(i) (single firm or JV member) or subcontractor between 1st January 2013 and the Bid submission deadline.</i></p> <p><i>Please confirm.</i></p>	For definition of Mechanical Contracts please refer to Part-01, EQC, Notes for the Bidder (xi). Tender Condition Prevails.	No
644	General			<p>Please confirm what shall be the minimum percentage participation of a member if the Bidder is a Joint Venture/Consortium.</p> <p>Please confirm.</p>	Please refer to Part-01, EQC-2.1 to 2.4.	No
645	Part-1, Section – IV A Bidding Forms	Form CON: Historical Contract Non-Performance and Litigation	3. Litigation History In accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.2.3, since 1 January 2018:	<p>As per Clause 2.3.3, Section III, Evaluation and Qualification Criteria, Sub-Factor 2.2.3, <i>"No consistent history of court/arbitral award decisions orders against the Bidder since 1st January 2018. "</i></p> <p>We understand that the above criteria is applicable for last 5 years from the date of issuance of Tender i.e. 1st October 2018.</p> <p>Please confirm.</p>	Tender Condition Prevails.	No
646	Part-1, Section-IVB Pricing Schedule	1.7.11 Annexure 1 – Stage payment structure	S1. Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) - 3% S2. Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) - 55% S3. Completion of installation works and Completion of Partial Acceptance Testing (KD-5) - 17% S4. Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6) - 13% S5. DLP 1st Year- 6% S6. DLP 2nd Year - 6% Total Percentage- 100%	<p>We would like to mention that for Major items like Electrical Panels, Cable, Cable Trays, GI Structure, Light Fixture, Earthing, Pumps, Pipes, Valves, VAC, TVS Fans and BMS etc., the supply component of are substantially high as compared to the total payment of 58% upto their delivery. In this connection, it is pertinent to mention that the subject payment terms lead to generation of negative cash flow as a result of which there is a severe impact on the Project Execution.</p> <p>In view of the above we request to amend the Payment terms as follow, to ensure a healthy project cash flow:</p> <p>S1. Completion Vendor Submission & Factory Visit and Completion of RAMS & EMC analysis (KD-03) - 3 10% S2. Completion of Factory Acceptance test, Manufacture, Supply and Delivery (KD-04) - 55 80% S3.Completion of installation works and Completion of Partial Acceptance Testing (KD-5) - 47 5% S4. Completion of Integrated Testing & Commissioning/ Operational Acceptance Certificate for TVS/VAC systems. (KD-6) - 43 3% S5. DLP 1st Year- 6 1% S6. DLP 2nd Year - 6 1% Total Percentage- 100%</p> <p>Please confirm.</p>	Tender Condition Prevails.	No

CHENNAI METRO RAIL LIMITED CHENNAI METRO RAIL PROJECT PHASE 2, CORRIDOR 4 TENDER No. C4-VAC&TVS-12 e-procurement Tender Id- 2023_CMRL_775326_1 PRE-BID REPLY-ADDENDUM-01						
S.No.	Part / Section No.	CLAUSE No. / Sub Head / BOQ Sr. No.	Original Bid Condition	Bidder’s Query	CMRL Reply	Addendum Yes/ No
647	Part-II_Sec VI- Appindices	5.18	<p>i. Minimum Key Personnel:</p> <p>1. Chief Project Manager/ Contract Representative- 1 Nos</p> <p>2. Deputy Project Manager- 1 Nos</p> <p>3. Planning and Programme Manager - 1 Nos</p> <p>4. Design Manager- Mechanical - 1 Nos</p> <p>5. Design Manager –Electrical & SCADA - 1 Nos</p> <p>6. Interface Manager- 1 Nos</p> <p>7. Procurement Manager- 1 Nos</p> <p>8. ConstructionManager –Mechanical- 1 Nos</p> <p>9. Construction and T&C Manager – Electrical- 1 Nos</p> <p>10. Deputy ConstructionManager – Mechanical- 1 Nos</p> <p>11. Deputy Construction and T&C Manager – SCADA- 1 Nos</p> <p>12. BIM Manager- 1 Nos</p> <p>13. QA & QC Manager- 1 Nos</p> <p>14. OHSE Manager- 1 Nos</p> <p>15. Testing and Commissioning Manager for VAC- 1 Nos</p> <p>16. Testing and Commissionng Manager for TVS- 1 Nos</p> <p>17. Cost & Accounting Manager- 1 Nos</p> <p>18. Project Software Implementation Manager- 1 Nos</p> <p>ii. Key Consultant/Third Party :</p> <p>1. RAMS Consultant- 4 0 Nos</p> <p>2. EMC Consultant- 1 Nos</p> <p>3. TAB Specialist- 1 Nos</p> <p>4. Acoustic Consultant- 1 Nos</p> <p>Total Key Personnels Requirement- 22 Nos</p>	<p>We wish to mention that the requirement for key staff is substantially higher considering the works Volume. As per our past experience, following staff will be sufficient for the execution of the subject project :</p> <p>i. Minimum Key Personnel:</p> <p>1. Chief Project Manager/ Contract Representative- 1 Nos</p> <p>2. Deputy Project Manager- 1 Nos</p> <p>3. Planning and Programme Manager - 1 Nos</p> <p>4. Design Manager- Mechanical - 1 Nos</p> <p>5. Design Manager –Electrical & SCADA - 1 Nos</p> <p>6. Interface Manager- 4 0 Nos</p> <p>7. Procurement Manager- 4 0 Nos</p> <p>8. Construction Manager –Mechanical- 1 Nos</p> <p>9. Construction and T&C Manager – Electrical- 1 Nos</p> <p>10. Deputy ConstructionManager – Mechanical- 4 0 Nos</p> <p>11. Deputy Construction and T&C Manager – SCADA- 4 0 Nos</p> <p>12. BIM Manager- 1 Nos</p> <p>13. QA & QC Manager- 1 Nos</p> <p>14. OHSE Manager- 1 Nos</p> <p>15. Testing and Commissioning Manager for VAC- 4 0 Nos</p> <p>16. Testing and Commissionng Manager for TVS- 4 0 Nos</p> <p>17. Cost & Accounting Manager- 4 0 Nos</p> <p>18. Project Software Implementation Manager- 4 0 Nos</p> <p>ii. Key Consultant/Third Party :</p> <p>1. RAMS Consultant- 4 0 Nos</p> <p>2. EMC Consultant- 4 0 Nos</p> <p>3. TAB Specialist- 4 0 Nos</p> <p>4. Acoustic Consultant- 1 Nos</p>	Tender Condition Prevails.	No
648	Part-II_Sec VI-A Employer's Requirement	5.18 Chief Project Manager/ Contract Representative	Graduate in Mechanical Engineering with minimum 20 years of total experience, 7-year experience in the role of Project Manager in the execution of TVS and VAC works in Underground Metro Stations.	<p>We request you to kindly amend the requirement as per below which is inline with the current Personnel requirement for Various Metro Project :</p> <p>Graduate in Mechanical/ Electrical Engineering with minimum 20-10 years of total experience, 7-5- year experience in the role of Project Manager in the execution of TVS and VAC works in Underground Metro Stations.</p> <p>Please confirm.</p>	Tender Condition Prevails.	No
649	Part-II_Sec VI-A Employer's Requirement	5.18 Deputy Project Manager	Graduate in Mechanical Engineering with minimum 15 years of total experience, 5-year experience in the role of Deputy Project Manager in the execution of VAC and TVS works in Underground Metro Stations.	<p>We request you to kindly amend the requirement as per below which is inline with the current Personnel requirement for Various Metro Project :</p> <p>Graduate in Electrical/Mechanical Engineering with minimum 15 8 years of total experience, 5-year experience in the role of Deputy Project Manager in the execution of VAC and TVS works in Underground Metro Stations.</p> <p>Please confirm.</p>	Tender Condition Prevails.	No
650	Part-II_Sec VI-A Employer's Requirement	5.18 Others	-	<p>Graduate in Engineering with minimum 5 years total experience and 2-year experience in respective role in the execution of Underground Metro Stations.</p> <p>Please confirm.</p>	Tender Condition Prevails.	No
651	Part-II_Sec VII Employer Requirement	1.2 Intermediate Key Dates	Access Dates	<p>In case of delay in access, all Main key dates and intermidiate key dates shall be changed accordingly and compensation of overheads shall be dealt seprately.</p> <p>Please confirm.</p>	Tender Condition Prevails.	No
652	Part-II_Sec VII Employer Requirement	Fire Rated Ductwork	The applicable smoke temperature shall be 250 deg C. The ductwork system shall be fire-rated for two hours and shall maintain mechanical stability, fire resistant integrity, and thermal insulation criteria to BS 476: Part 24 ISO 6944 as per the ISO Cellulosic Fire Curve at temperature of 1029 °C, for both vertical and horizontal duct arrangements, for both inside and outside fire exposures. Restriction of the duct due to twisting or buckling after the fire test shall not cause 25 % or more reduction in crosssectional duct area	<p>As the fire rated ducts are used for smoke extraction only which is 250° for 2 hours, therefore the ISO Cellulosic Fire Curve at temperature of 1029 °C is not applicable, requesting you to please remove the same</p>	Tender Condition Prevails.	No