

"Design, Supply, Installation, Testing and Commissioning and CAMC for 3 years for Active Power Filter System/DSTATCOM for Power Factor Improvement in GMRCL Traction Network of Ahmedabad Metro Rail Phase-I & II".							
Tender No. GMRC/O&M/PF Improvement/R/2026							
SN	Vol	Section	Clause No.	Page No.	Tender Condition	Bidder's Query	GMRC's Clarification, dated: 20/08/2026
1	II	TS	Chapter-1 Cl. 1.4.2	6	The DRPC system shall be developed using the 3 level state of art IGBT devices complying to IEC standards. The IGBT shall be capable to operate up at high frequency in the range of 30kHz to 50 KHz using the PWM technique. The IGBT shall be minimum 5th Generation or latest product.	Will you accept 2 level IGBT device with switching range 10-15kHz. ?	Tender conditions are self explanatory. No Change in Tender Conditions Tender conditions prevails.
2	II	TS	Chapter-1 Cl. 1.4.6	6	The DRPC system will feature a modular design with 15% redundancy. If any unit of the DRPC system or the master unit fails, the remaining DRPC units will continue to operate. The entire DRPC system (all master and slave units) will achieve 100% compensation through dynamic reactive power control within 10 milliseconds (including the communication and/or transmission delays/latencies) from the time reactive power requirement is detected at the RSS location.	Please confirm if non-modular systems are acceptable. Dynamic reactive power compensation within 1 power cycle (20 ms) from local (ASS or RSS) detection.	Bidder may also submit the detailed design document covering this aspect and complying to tender specifications for approval of GMRCL during detailed design. GMRCL may accept/reject the same during the detailed design stage in line with tender requirement. Tender conditions are self explanatory. Tender conditions prevails.
3	II	TS	Chapter-1 Cl. 1.4.11	7	The ripple filtering circuit within the DRPC modules shall be designed be third-order L-C L free from damping resistors to prevent unnecessary and continuous heat loss. In the absence of resistive elements, the DRPC modules shall employ the active-damping algorithm to avoid resonance phenomena	Is L-C filter accepted?	No Change in tender condition Tender conditions prevails.
4	II	TS	Chapter-1 Cl.1.4.12	7	Considering the higher current harmonics to be injected by the DRPC modules, the inductors in the ripple filtering circuit shall be designed using highly efficient and low noise producing powdered iron cores instead of conventional CRGO based inductors with air-gaps.	Whether CRGO based inductors are accepted?	No Change in tender condition Tender conditions prevails.
5	II	TS	Chapter-1 1.4.13	7	Each DRPC unit should perform functions such as reactive power compensation, negative sequence current compensation, and current harmonic correction (2nd to 51st order).	5th, 7th, 11th & 13th order harmonics are readable. Balance couldn't be shown. Is that acceptable?	No Change in tender condition Tender conditions prevails.
6	II	TS	Chapter-1 Cl.1.4.15	7	The heat loss (in kW) together with the control and cooling power consumption in each DRPC unit shall not exceed more than 2 % of its rated capacity (in kVAR).	Is 2% - 3% loss acceptable?	The maximum losses shall be as per technical specifications clause no. 1.4.15. Bidder to follow tender conditions and supply the material accordingly.
7	II	TS	Chapter-1 Cl.1.4.16	7	Each DRPC unit shall feature intelligent control technology that minimizes internal heat loss under each operating condition (such as current grid voltage, DRPC loading, operating temperature, harmonics to be cancelled, etc.) in real time, ensuring the unit's internal heat loss remains as low as possible. Therefore, the resultant full-load efficiency shall be more than 98%.	Is 97% Efficiency acceptable?	No Change in tender condition Tender conditions prevails.
8	II	TS	Chapter-1 Cl.1.4.19	8	The HMI shall allow monitoring electrical network parameters, and DRPC parameters to have the following features: a) LCD with touch-screen interface b) Recording of 20,000 events. c) Start, Stop and Trip condition (with fault nature in English) of the DRPC unit d) Electrical parameters (phase-wise and three-phase Voltages, Currents, Active Powers, Reactive Powers, Apparent Powers, Displacement PF, and True PF etc.) in graphical as well as in tabular form. e) Power Quality Analysis (Voltage THDs, Current THDs, Individual Harmonic Spectrums etc.) f) Local control as well as monitoring features. g) Alarm and event logging. h) Display the Real-Time waveforms of Line Voltages, Incomer Currents, Load Currents, and DRPC Currents in a multi-color screen to discriminate them. i) Phasor and Sequence component analysis j) Percentage Unbalance of Voltage and Current as per IEEE Standard method. k) Network Frequency l) Percentage of DRPC unit loading in real-time m) IGBT/Heat sink temperatures n) Voltage present on the DC bus o) Operating hours of the DRPC unit p) Any other critical parameters as required for the successful operation of the DRPC system.	Do you require all the points mentioned? That will demand to add an advanced Power Analyzer in the panels resulting unnecessary cost increase. Do you accept without Graphical & Waveform displays?	No Change in tender condition Tender conditions prevails.

"Design, Supply, Installation, Testing and Commissioning and CAMC for 3 years for Active Power Filter System/DSTATCOM for Power Factor Improvement in GMRCL Traction Network of Ahmedabad Metro Rail Phase-I & II".							
Tender No. GMRC/O&M/PF Improvement/R/2026							
SN	Vol	Section	Clause No.	Page No.	Tender Condition	Bidder's Query	GMRC's Clarification, dated: 20/08/2026
9	II	TS	Chapter-1 Cl.1.4.20	9	The DRPC units located at RSS and ASS locations as a part of DRPC system shall take feedback from the CTs, PTs at the respective location, to achieve desired performance and to avoid overloading of transformer (beyond 80% of the installed capacity). A suitable number of current transformers (CTs), summation CTs of class 0.2 type shall be provided.	As present loading on the ASS and RSS transformers are not disclosed, overloading or assurance to keep below 80% cannot be given. Is that acceptable?	Loading on transformer is dynamic in nature. Identification of loading pattern of transformer is the part of Bidder's detailed design as per technical specification clause 1.2.10 and 1.2.11. Tender conditions are self explanatory. Tender conditions prevails.
10	II	TS	Chapter-1 Cl.1.4.27	9	Each DRPC unit shall have a minimum ingress protection rating of IP31 with the door closed, making it suitable for indoor installation.	Will you accept IP31 or above. Forces air cooling?	Bidder's suggesstion are acceptable for higher IP rating subject to compliance of other tender conditions.
11	II	TS	Chapter-1 Cl.1.4.28	9	Each DRPC unit/system shall have a compact modular design with vertical integration of DRPC modules to minimize the footprint.	Will You accept Non-modular design?	Bidder may also submit the detailed design document covering this aspect and complying to tender specifications for approval of GMRCL during detailed design. GMRCL may accept/reject the same during the detailed design stage in line with tender requirement. Tender conditions are self explanatory. Tender conditions prevails.
12	II	TS	Chapter-1 Cl.1.4.29	9	For ease of replacement and potential size enhancement at a later date, the DRPC system/unit shall strictly follow a draw-out type modular design.	Non-modular type to be offered. Hope you accept that.	No Change in tender condition Tender conditions prevails.
13	II	TS	Chapter-1 Cl.1.4.30	9	Each module of the DRPC unit/system shall have the same ampere/kVAR rating and shall offer enhanced capacity by increasing the height of the DRPC unit, rather than requiring additional floor area.	Non-modular type to be offered, is that acceptable?	No Change in tender condition Tender conditions prevails.
14	II	TS	Chapter-1 Cl.1.4.31	10	The current rating of each DRPC module shall be kept within the range of 100A to 150A, with the individual module weight limited to less than 100 kg. All DRPC modules, both within each unit and across the entire system, shall have the same current rating (between 100A and 150A).	Unit weight for 100 kVAR unit will be below 200 Kgs.	No Change in tender condition Tender conditions prevails.
15	II	TS	Chapter-1 Cl.1.4.36	10	The DRPC system shall provide the following protections to ensure the safe and secure operation of the system. Contractor shall provide the necessary digital protection relay to comply the following protections.:	What is meant by Digital protection relay? Do you require all of the mentioned protections?	Bidder to provide the DRPC system as per tender specifications. For More clarification refer tender conditions. Tender conditions are self explanatory. Tender conditions prevails.
					a. Over current		
					b. Input voltage surge		
					c. DC over voltage		
					d. IGBT short circuit (DESAT detection)		
					e. IGBT driver error (UVLO detection)		
					f. Over temperature		
					g. Heat-sink over temperature		
					h. IGBT stack failure		
					i. Supply over voltage/ under voltage		
					j. Switchgear acknowledgement feedback errors		
					k. Unstable grid detection		
					l. Any other protection required or deemed necessary as per guidelines.		
16	II	TS	Chapter-1 Cl.1.4.39	11	The DRPC system shall provide remote control of target settings and enable monitoring of critical parameters of both the network and the DRPC.	Target setting is not possible in our system from remote. Will you accept?	No Change in tender condition Tender conditions prevails.
17	II	TS	Chapter-1 Cl.1.4.41	11	The DRPC system shall be designed to enable complete access, monitoring, operation, and control of each DRPC unit's HMI from a centralized location through the existing fiber optic network connected to the RTU panel.	Monitoring is possible but operation & control from remote is not possible. Hope you will accept.	No Change in tender condition Tender conditions prevails.
18	II	TS	Chapter-1 Cl.1.4.43	11	There shall be no restriction on the number of DRPC unit HMIs monitored simultaneously, nor on the number of locations from which a single DRPC unit HMI can be monitored concurrently.	Need clarity. Multiple Master HMI at different locations?	Bidder to provide the DRPC system as per tender specifications. For More clarification refer tender conditions. Tender conditions are self explanatory. Tender conditions prevails.

"Design, Supply, Installation, Testing and Commissioning and CAMC for 3 years for Active Power Filter System/DSTATCOM for Power Factor Improvement in GMRL Traction Network of Ahmedabad Metro Rail Phase-I & II".							
Tender No. GMRC/O&M/PF Improvement/R/2026							
SN	Vol	Section	Clause No.	Page No.	Tender Condition	Bidder's Query	GMRC's Clarification, dated: 20/08/2026
19	II	TS	Chapter-1 Cl.1.4.47	12	In the complete DRPC system, each DRPC unit shall be remotely switchable ON/OFF from the centralized location, with the ability to monitor ON/OFF status, identify the number of faulty modules and fault reasons, reset faults, change target settings, and modify the feedback point at any time by the user.	Not available in our system.	No Change in tender condition Tender conditions prevails.
20	II	TS	Chapter-1 Cl.1.4.49	12	In the DRPC system, operating in either master-slave or master-master configuration, if one or more DRPC units are down or offline, the remaining DRPC units (at RSS and ASS locations) shall adjust their outputs to compensate for the offline unit(s). This adjustment shall occur within milliseconds. The functionality shall be demonstrated during both factory inspection and on-site testing, considering the criticality of this feature in maintaining a near-unity power factor at the RSS location.	Subject to available balance capacity in the remaining working DPRC units. This is contradictory with the working principle of DPRC.	No Change in tender condition Tender conditions prevails.
21	II	TS	Chapter-1 Cl.1.4.51	12	To minimize the cost of spares and reduce maintenance costs the DRPC module shall be designed such that all major components, including the 3 IGBT modules, 3 IGBT Gate Driver Cards, Master Control Card, AC Filtering Capacitors, DC Bus Capacitors, Current Sensors, Ripple Filtering Inductors, Contactors, Pre-charging Circuit, etc., are separately mounted (not soldered) to prevent a cascaded failure in the event of a minor fault in any one part or component.	Our design is soldered mounted system but separated for easy access to individual PCBs. Is that accepted?	No Change in tender condition Tender conditions prevails.
22	II	TS	Chapter-1 Cl.1.4.52.	12	In each DRPC unit, if one or more DRPC modules are faulty or offline, the remaining DRPC modules shall adjust their total output to compensate for the offline module(s).	Non-modular type. Is that accepted?	No Change in tender condition Tender conditions prevails.
23	II	TS	Chapter-1 Cl.1.4.55	13	Suitable earthing to be provided and integrated with existing substation. Dual Earthing to be provided for each DRPC panel and to be connected with MET/Earth Mat.	Earthing with existing system earth. Is that Accepted?	No Change in tender condition Tender conditions prevails.
24	II	TS	Chapter-1 Cl.1.4.57	13	The operator interface shall allow for the setting up of programmable warnings and alarms that may be associated with a selection of network parameters.	Not available in our system. Only factory setting available. Is that accepted?	No Change in tender condition Tender conditions prevails.
25	II	TS	Chapter-1 Cl.1.4.63	14	All the required LV power and control cable from DRPC system to LT MDB panel and 33kV Breaker system for measurement, control, supply and monitoring shall be in the contractor's scope. The cables are in accordance with IEC 60502-1. The cable shall conform to IS specification No:7098 Pt-I/ 1985 or latest and shall be applied in the manner altered, amended or supplemented by the latest version of these specifications and also the relevant provisions of the latest Indian electricity rules wherever applicable.	Please indicate maximum distance available from LT MDB / 33KV Breaker to the DPRC panel. Please provide a standard layout drawing for panel room.	The distance is depend upon the location of installation of DRPC system in room which is the part of detailed design stage.Refer Tender Documents However, bidder may visit the site for further clarifications.
26	III	Bill of Quantities	Cl.1.1.2.4	5	The Type testing in NABL accredited LAB, in-plant testing, and acceptance tests	InPhase clarifies that all type testing should be conducted in accordance with the applicable IEC standards for Power Electronics Panels from reputed institutions such as CPRI and TUV.	Type test to be performed in NABL accredited Laboratory; Refer Tender Document Tender conditions are self explanatory. Tender conditions prevails.
27	II	TS	Chapter-1 Cl. 1.2	3	1.2 The brief scope of the works includes Design, Detailed Engineering, Supply, Erection, Testing and Commissioning of 33kV/0.415kV Reactive Power Compensation and power quality Improvement device (D-STATCOM) along with other associated equipments & integration with existing protection and SCADA system for Ahmedabad metro rail projects Phase-1 & 2.	—	Access to existing SCADA system of Traction shall not be permitted. Bidder shall be permitted to use only spare core of existing OFC cables for communication establishment from station and RSS to OCC for remote monitoring and operation. Necessary ports and ethernet switches as required to be provided at DRPC system as well as at TER room shall be under the contractor's scope. Tender conditions are self explanatory. Tender conditions prevails.
28	II	TS	Chapter-1 Cl. 1.2.4	3	1.2.4. To arrange inspection by GMRL officials for routine test, Type test, Factory Acceptance Test and Site test for various items used in the subject work.	—	Acceptance of type test report shall be subject to compliance of following: a) The type test report should not be less than 5 years from the date of NIT b) Type test report shall match the requirements stipulated in Clause 2.2 of Technical specifications and relavent standard IEEE/IEC. c) The type test report should be from NABL accredited Third Party NABL.

"Design, Supply, Installation, Testing and Commissioning and CAMC for 3 years for Active Power Filter System/DSTATCOM for Power Factor Improvement in GMRCL Traction Network of Ahmedabad Metro Rail Phase-I & II".							
Tender No. GMRC/O&M/PF Improvement/R/2026							
SN	Vol	Section	Clause No.	Page No.	Tender Condition	Bidder's Query	GMRC's Clarification, dated: 20/08/2026
29	II	TS	Chapter-1 Cl. 1.4.37	11	1.4.37 Contractor shall ensure that the due to the fault in the DRPC system it should not trip the LV MDB of E&M system as well as 33kV System of Traction system. Necessary incoming and outgoing breakers in DRPC system to be provided to disconnect the DRPC system in case of fault and avoid the transmission of fault in the another E&M and Traction working network.	—	In MDB Panel, GMRCL shall typically allow the use of spare breakers of 250A/160A rating in each section of bus-bar. For interchange station, UG station and Depot the CB rating shall be different which shall be provided at the time of detailed design. However, as an preliminary reference, the Auxiliary Transformer rating of each station is provided in Technical Specification. Supply, Installation, Testing, commissioning and integration of all other required accessories, contactors, cables, terminals, etc. required to complete the successful connection from DRPC unit to MDB Panel shall be under the bidder's scope and is already covered in the BOQ.